TLK-Thermo GmbH
Engineering Services and Software for Thermal Systems

TILMedia

Additional Medium Information

Version 3.14.0

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Contents

1 Introduction

In this document are all available substance names listed with addition information like literature references, min- and max-values etc.

2 Gas

2.1 TILMedia Gases

Tabelle 1: TILMedia-Gasnames

Medium Name:	ASH
Library Name:	TILMedia
Library Literature Reference:	unpublished
Literature Reference:	unpublished
T_min:	100.0 K
T_max:	10000.0 K
Medium Name:	DIESELEXHAUSTGAS
Library Name:	TILMedia
Library Literature Reference:	unpublished
Literature Reference:	unpublished
T_min:	253.15 K
T_max:	1323.15 K
Medium Name:	DRYAIR
Library Name:	TILMedia
Library Literature Reference:	unpublished
Literature Reference:	unpublished
T_min:	213.15 K
T_max:	473.15 K
Medium Name:	EXHAUSTGAS_LAMBDA_1
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Intended for gasoline/petrol exhaust gas with lambda value equal one
Literature Reference:	unpublished
T_min:	253.15 K
T_max:	1323.15 K
Medium Name:	SIMPLEDRYAIR
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Constant/linear model (cp = 1003.7 J/kg)
Literature Reference:	unpublished
T_min:	1.0 K

T_max:	4000.0 K
Medium Name:	SIMPLEWATER
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Constant/linear model (cp = 1920 J/kg)
Literature Reference:	unpublished
T_min:	200.0 K
T_max:	700.0 K
Medium Name:	SimpleWater2
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Constant/linear model (cp = 1863 J/kg)
Literature Reference:	unpublished
T_min:	1.0 K
T_max:	4000.0 K
Medium Name:	AMMONIA
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Ammonia
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. Helmholtz equation of state for ammonia of Tillner-Roth et al. (1993).
T_min:	40.54 K
T_max:	3000.0 K
T_data_min:	195.5 K
T_data_max:	862.4374419 K
Medium Name:	ARGON
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Argon
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. Helmholtz equation of state for argon of Tegeler et al. (1999).
T_min:	15.0687 K
T_max:	3000.0 K
T_data_min:	83.806 K
T_data_max:	3000.0 K
Medium Name:	CARBON_DIOXIDE
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Carbon dioxide
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. Helmholtz equation of state for carbon dioxide of Span and Wagner (1996).
T_min:	141.0 K
T_max:	3000.0 K

T_data_min:	216.6 K
T_data_max:	3000.0 K
Medium Name:	CARBON_MONOXIDE
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Carbon monoxide
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. short Helmholtz equation of state for carbon monoxide of Lemmon and Span (2006).
T_min:	13.286 K
T_max:	3000.0 K
T_data_min:	68.63928525 K
T_data_max:	1477.744582 K
Medium Name:	DRYAIR
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Dry air
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. Nitrogen 75.518%m, oxygen 23.135%m, argon 1.288%m, carbon dioxide 0.058%m, each using a standard reference multiparameter equation of state
T_min:	13.28950539 K
T_max:	3000.0 K
T_data_min:	59.75 K
T_data_max:	3000.0 K
Medium Name:	HYDROGEN
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Hydrogen
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. Helmholtz equation of state for normal hydrogen of Leachman et al. (2009).
T_min:	3.3145 K
T_max:	3000.0 K
T_data_min:	59.75 K
T_data_max:	3000.0 K
Medium Name:	METHANE
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Methane
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. Helmholtz equation of state for methane of Setzmann and Wagner (1991).
T_min:	19.0564 K
T_max:	3000.0 K
T_data_min:	90.6941 K
T_data_max:	3000.0 K

Medium Name:	NITROGEN
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Nitrogen
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. Helmholtz equation of state for nitrogen of Span et al. (2000).
T_min:	12.6192 K
T_max:	3000.0 K
T_data_min:	50.0 K
T_data_max:	3000.0 K
Medium Name:	NITROUS_OXIDE
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Nitrous oxide
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. short Helmholtz equation of state for nitrous oxide of Lemmon and Span (2006).
T_min:	30.952 K
T_max:	3000.0 K
T_data_min:	182.33 K
T_data_max:	780.2828619 K
Medium Name:	OXYGEN
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Oxygen
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. Helmholtz equation of state for oxygen of Schmidt and Wagner (1985).
T_min:	15.4581 K
T_max:	3000.0 K
T_data_min:	55.0 K
T_data_max:	3000.0 K
Medium Name:	SULFUR_DIOXIDE
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Sulfur dioxide
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. short Helmholtz equation of state for sulfur dioxide of Lemmon and Span (2006).
T_min:	43.064 K
T_max:	3000.0 K
T_data_min:	197.7 K
T_data_max:	779.5996229 K
Medium Name:	WATER
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished

Description:	Water
Literature Reference:	Reference data from Refprop (dew line properties), fit by TLK. Helmholtz equation of state for water of Wagner and Pruss (2002).
T_min:	64.7096 K
T_max:	3000.0 K
T_data_min:	252.0 K
T_data_max:	2015.165366 K

2.2 VDI4670 Gases

Tabelle 2: VDI4670-Gasnames

Medium Name:	ARGON
Library Name:	Ideal gas properties from VDI4670 and NASA Glenn Coefficients.
Library Literature Reference:	VDI-Guideline 4670 and 'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'. Dissociation effects are not implemented.
T_min:	200.0 K
T_max:	3000.0 K
Medium Name:	CARBON DIOXIDE
Library Name:	Ideal gas properties from VDI4670 and NASA Glenn Coefficients.
Library Literature Reference:	VDI-Guideline 4670 and 'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'. Dissociation effects are not implemented.
T_min:	200.0 K
T_max:	3000.0 K
Medium Name:	CARBON MONOXIDE
Library Name:	Ideal gas properties from VDI4670 and NASA Glenn Coefficients.
Library Literature Reference:	VDI-Guideline 4670 and 'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'. Dissociation effects are not implemented.
T_min:	200.0 K
T_max:	3000.0 K
Medium Name:	DRYAIR
Library Name:	Ideal gas properties from VDI4670 and NASA Glenn Coefficients.
Library Literature Reference:	VDI-Guideline 4670 and 'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'. Dissociation effects are not implemented.
T_min:	200.0 K
T_max:	3000.0 K
Medium Name:	NEON
Library Name:	Ideal gas properties from VDI4670 and NASA Glenn Coefficients.
Library Literature Reference:	VDI-Guideline 4670 and 'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'. Dissociation effects are not implemented.
T_min:	200.0 K
T_max:	3000.0 K

Medium Name:	NITROGEN
Library Name:	Ideal gas properties from VDI4670 and NASA Glenn Coefficients.
Library Literature Reference:	VDI-Guideline 4670 and 'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'. Dissociation effects are not implemented.
T_min:	200.0 K
T_max:	3000.0 K
Medium Name:	OXYGEN
Library Name:	Ideal gas properties from VDI4670 and NASA Glenn Coefficients.
Library Literature Reference:	VDI-Guideline 4670 and 'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'. Dissociation effects are not implemented.
T_min:	200.0 K
T_max:	3000.0 K
Medium Name:	SULFUR DIOXIDE
Library Name:	Ideal gas properties from VDI4670 and NASA Glenn Coefficients.
Library Literature Reference:	VDI-Guideline 4670 and 'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'. Dissociation effects are not implemented.
T_min:	200.0 K
T_max:	3000.0 K
Medium Name:	WATER
Library Name:	Ideal gas properties from VDI4670 and NASA Glenn Coefficients.
Library Literature Reference:	VDI-Guideline 4670 and 'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'. Dissociation effects are not implemented.
T_min:	200.0 K
T_max:	3000.0 K

2.3 VDIWA Gases

Tabelle 3: VDIWA2006-Gasnames

Medium Name:	1,1,1-Trichloroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H3Cl3
T_min:	1.0 K
T_max:	3875.0 K
Medium Name:	1,1,1-Trifluoroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H3F3
T_min:	1.0 K

T_max:	3621.0 K
Medium Name:	1,1,2,2-tetrachlorodifluoroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2Cl4F2
T_min:	2.0 K
T_max:	2588.0 K
Medium Name:	1,1,2,2-Tetrachloroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H2Cl4
T_min:	1.0 K
T_max:	4031.0 K
Medium Name:	1,1,2-trichloro-1,2,2-trifluoroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2Cl3F3
T_min:	2.0 K
T_max:	3800.0 K
Medium Name:	1,1-dichloroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4Cl2
T_min:	2.0 K
T_max:	4185.0 K
Medium Name:	1,1-dichloroethene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H2Cl2
T_min:	1.0 K
T_max:	4093.0 K
Medium Name:	1,2,3,4-tetramethylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H14
T_min:	2.0 K
T_max:	5740.0 K
Medium Name:	1,2,3,5-tetramethylbenzene
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H14
T_min:	2.0 K
T_max:	5416.0 K
Medium Name:	1,2,3-trimethylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H12
T_min:	1.0 K
T_max:	5914.0 K
Medium Name:	1,2,4,5-tetramethylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H14
T_min:	1.0 K
T_max:	1865.0 K
Medium Name:	1,2,4-trimethylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H12
T_min:	2.0 K
T_max:	2060.0 K
Medium Name:	1,2-butadiene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H6
T_min:	2.0 K
T_max:	4500.0 K
Medium Name:	1,2-dibromoethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4Br2
T_min:	2.0 K
T_max:	4571.0 K
Medium Name:	1,2-dichloro-1,1,2,2-tetrafluoroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2Cl2F4
T_min:	1.0 K

T_max:	3555.0 K
Medium Name:	1,2-dichloroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4Cl2
T_min:	2.0 K
T_max:	4476.0 K
Medium Name:	1,2-pentadiene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H8
T_min:	1.0 K
T_max:	5491.0 K
Medium Name:	1,3,5-trimethylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H12
T_min:	26.0 K
T_max:	4787.0 K
Medium Name:	1,3-butadiene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H6
T_min:	15.0 K
T_max:	3836.0 K
Medium Name:	1,3-pentadiene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H8
T_min:	1.0 K
T_max:	5275.0 K
Medium Name:	1,3-Propylenglycol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H8O2
T_min:	1.0 K
T_max:	3714.0 K
Medium Name:	1,4-dioxane
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O2
T_min:	72.0 K
T_max:	4343.0 K
Medium Name:	1,4-pentadiene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H8
T_min:	2.0 K
T_max:	4150.0 K
Medium Name:	1-butene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8
T_min:	2.0 K
T_max:	1940.0 K
Medium Name:	1-chlorobutane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H9Cl
T_min:	2.0 K
T_max:	4891.0 K
Medium Name:	1-chloropentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H11Cl
T_min:	2.0 K
T_max:	4401.0 K
Medium Name:	1-chloropropane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H7Cl
T_min:	1.0 K
T_max:	5581.0 K
Medium Name:	1-ethylnaphthalene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H12
T_min:	57.0 K

T_max:	4045.0 K
Medium Name:	1-heptene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H14
T_min:	77.0 K
T_max:	4661.0 K
Medium Name:	1-hexene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12
T_min:	14.0 K
T_max:	4250.0 K
Medium Name:	1-methylnaphthalene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H10
T_min:	133.0 K
T_max:	1963.0 K
Medium Name:	1-Octene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H16
T_min:	21.0 K
T_max:	4219.0 K
Medium Name:	1-pentene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10
T_min:	2.0 K
T_max:	2019.0 K
Medium Name:	1-phenylethanone
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H8O
T_min:	74.0 K
T_max:	4494.0 K
Medium Name:	2,2-dimethylbutane
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14
T_min:	2.0 K
T_max:	5815.0 K
Medium Name:	2,2-dimethylpropane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12
T_min:	22.0 K
T_max:	4290.0 K
Medium Name:	2,3-dimethylbutane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14
T_min:	31.0 K
T_max:	4309.0 K
Medium Name:	2,3-pentadiene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H8
T_min:	1.0 K
T_max:	1910.0 K
Medium Name:	2,4,6-trimethyl-1,3,5-trioxane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12O3
T_min:	126.0 K
T_max:	2999.0 K
Medium Name:	2-ethylnaphthalene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H12
T_min:	51.0 K
T_max:	4108.0 K
Medium Name:	2-hydroxybenzaldehyde
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H6O2
T_min:	40.0 K

T_max:	4077.0 K
Medium Name:	2-methylbutane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12
T_min:	1.0 K
T_max:	5523.0 K
Medium Name:	2-methylnaphthalene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H10
T_min:	59.0 K
T_max:	4075.0 K
Medium Name:	2-methylpentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14
T_min:	7.0 K
T_max:	4784.0 K
Medium Name:	2-methylpropan-1-ol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10O
T_min:	2.0 K
T_max:	4759.0 K
Medium Name:	2-methylpropane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10
T_min:	301.0 K
T_max:	1550.0 K
Medium Name:	3-methylpentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14
T_min:	10.0 K
T_max:	5045.0 K
Medium Name:	acetaldehyde
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4O
T_min:	2.0 K
T_max:	1753.0 K
Medium Name:	acetic anhydride
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H6O3
T_min:	31.0 K
T_max:	4125.0 K
Medium Name:	acetonitrile
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H3N
T_min:	1.0 K
T_max:	1816.0 K
Medium Name:	acetylene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H2
T_min:	1.0 K
T_max:	3605.0 K
Medium Name:	Ammonia
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	NH3
T_min:	1.0 K
T_max:	1905.0 K
Medium Name:	Argon
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Ar
T_min:	2.0 K
T_max:	10000.0 K
Medium Name:	benzaldehyde
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H6O
T_min:	48.0 K

T_max:	3981.0 K
Medium Name:	benzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H6
T_min:	90.0 K
T_max:	3763.0 K
Medium Name:	benzonitrile
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H5N
T_min:	5.0 K
T_max:	4541.0 K
Medium Name:	benzophenone
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C13H10O
T_min:	72.0 K
T_max:	4231.0 K
Medium Name:	biphenyl
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H10
T_min:	108.0 K
T_max:	3691.0 K
Medium Name:	Bromine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Br2
T_min:	1.0 K
T_max:	5872.0 K
Medium Name:	bromobenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H5Br
T_min:	33.0 K
T_max:	4068.0 K
Medium Name:	Bromocyanide
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	BrCN
T_min:	2.0 K
T_max:	2554.0 K
Medium Name:	bromoethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H5Br
T_min:	1.0 K
T_max:	4300.0 K
Medium Name:	bromomethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH3Br
T_min:	2.0 K
T_max:	1914.0 K
Medium Name:	butan-1-amine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H11N
T_min:	2.0 K
T_max:	5295.0 K
Medium Name:	butane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10
T_min:	2.0 K
T_max:	1785.0 K
Medium Name:	butanenitrile
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H7N
T_min:	2.0 K
T_max:	4788.0 K
Medium Name:	butanoic acid
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O2
T_min:	2.0 K

T_max:	4599.0 K
Medium Name:	butanol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10O
T_min:	2.0 K
T_max:	5365.0 K
Medium Name:	butylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H14
T_min:	47.0 K
T_max:	4302.0 K
Medium Name:	butylcyclohexane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H20
T_min:	64.0 K
T_max:	4302.0 K
Medium Name:	butylcyclopentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H18
T_min:	37.0 K
T_max:	5369.0 K
Medium Name:	Carbomethene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H2O
T_min:	2.0 K
T_max:	5674.0 K
Medium Name:	carbon dioxide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CO2
T_min:	2.0 K
T_max:	7938.0 K
Medium Name:	carbon disulfide
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CS2
T_min:	2.0 K
T_max:	3771.0 K
Medium Name:	carbon monoxide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CO
T_min:	1.0 K
T_max:	2001.0 K
Medium Name:	carbon suboxide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3O2
T_min:	1.0 K
T_max:	4525.0 K
Medium Name:	carbonyl sulfide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	COS
T_min:	2.0 K
T_max:	3924.0 K
Medium Name:	Chlorine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Cl2
T_min:	1.0 K
T_max:	4535.0 K
Medium Name:	chloroacetic acid
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H3ClO2
T_min:	2.0 K
T_max:	4261.0 K
Medium Name:	chlorobenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H5Cl
T_min:	32.0 K

T_max:	3911.0 K
Medium Name:	Chlorocyanide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	ClCN
T_min:	1.0 K
T_max:	4894.0 K
Medium Name:	chlorodifluoromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CHClF2
T_min:	2.0 K
T_max:	3667.0 K
Medium Name:	chloroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H5Cl
T_min:	2.0 K
T_max:	4346.0 K
Medium Name:	Chloroethylene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H3Cl
T_min:	2.0 K
T_max:	4767.0 K
Medium Name:	chloromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH3Cl
T_min:	2.0 K
T_max:	1994.0 K
Medium Name:	chloromethylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H7Cl
T_min:	34.0 K
T_max:	4097.0 K
Medium Name:	chlorotrifluoroethylene
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2ClF3
T_min:	1.0 K
T_max:	3928.0 K
Medium Name:	chlorotrifluoromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CClF3
T_min:	2.0 K
T_max:	3132.0 K
Medium Name:	Cyanogen
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2N2
T_min:	2.0 K
T_max:	5037.0 K
Medium Name:	cyclobutane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8
T_min:	65.0 K
T_max:	1631.0 K
Medium Name:	cyclohexane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12
T_min:	81.0 K
T_max:	1470.0 K
Medium Name:	cyclohexanol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12O
T_min:	63.0 K
T_max:	1484.0 K
Medium Name:	cyclohexene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H10
T_min:	69.0 K

T_max:	4687.0 K
Medium Name:	cyclopentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10
T_min:	100.0 K
T_max:	4623.0 K
Medium Name:	cyclopentene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H8
T_min:	67.0 K
T_max:	4561.0 K
Medium Name:	cyclopropane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H6
T_min:	73.0 K
T_max:	3795.0 K
Medium Name:	decane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H22
T_min:	22.0 K
T_max:	4364.0 K
Medium Name:	dibromomethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH2Br2
T_min:	1.0 K
T_max:	4423.0 K
Medium Name:	dichloroacetic acid
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H2Cl2O2
T_min:	2.0 K
T_max:	4628.0 K
Medium Name:	dichlorodifluoromethane
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CCl2F2
T_min:	2.0 K
T_max:	3826.0 K
Medium Name:	dichlorofluoromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CHCl2F
T_min:	2.0 K
T_max:	3901.0 K
Medium Name:	dichloromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH2Cl2
T_min:	2.0 K
T_max:	4525.0 K
Medium Name:	diethyl ketone
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10O
T_min:	2.0 K
T_max:	1751.0 K
Medium Name:	diethyl sulfide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10S
T_min:	2.0 K
T_max:	4771.0 K
Medium Name:	diethylamine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H11N
T_min:	2.0 K
T_max:	5090.0 K
Medium Name:	difluoromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH2F2
T_min:	2.0 K

T_max:	1991.0 K
Medium Name:	dimethyl sulfide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6S
T_min:	2.0 K
T_max:	1806.0 K
Medium Name:	dimethylacetylene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H6
T_min:	2.0 K
T_max:	6705.0 K
Medium Name:	dimethylamine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H7N
T_min:	2.0 K
T_max:	4880.0 K
Medium Name:	dimethylenemethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H4
T_min:	1.0 K
T_max:	4327.0 K
Medium Name:	Dinitrogen tetroxide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	N2O4
T_min:	1.0 K
T_max:	3850.0 K
Medium Name:	diphenylamine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H11N
T_min:	88.0 K
T_max:	3869.0 K
Medium Name:	diphenylmethane
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C13H12
T_min:	76.0 K
T_max:	4005.0 K
Medium Name:	dodecane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H26
T_min:	2.0 K
T_max:	4801.0 K
Medium Name:	DryAir
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	DryAir
T_min:	1.0 K
T_max:	1046.0 K
Medium Name:	ethanamine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H7N
T_min:	2.0 K
T_max:	5164.0 K
Medium Name:	ethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6
T_min:	1.0 K
T_max:	1890.0 K
Medium Name:	ethanethiol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6S
T_min:	2.0 K
T_max:	952.0 K
Medium Name:	ethanoic acid
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4O2
T_min:	1.0 K

T_max:	1429.0 K
Medium Name:	ethanol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6O
T_min:	2.0 K
T_max:	4680.0 K
Medium Name:	ethene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4
T_min:	2.0 K
T_max:	1698.0 K
Medium Name:	ethoxyethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10O
T_min:	2.0 K
T_max:	1813.0 K
Medium Name:	ethoxypropane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12O
T_min:	2.0 K
T_max:	5008.0 K
Medium Name:	ethyl-acetate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O2
T_min:	1.0 K
T_max:	5377.0 K
Medium Name:	ethyl-benzoate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H10O2
T_min:	81.0 K
T_max:	3780.0 K
Medium Name:	ethyl-butanoate
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12O2
T_min:	30.0 K
T_max:	3404.0 K
Medium Name:	ethyl-formate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H6O2
T_min:	2.0 K
T_max:	1693.0 K
Medium Name:	ethyl-propionate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10O2
T_min:	34.0 K
T_max:	3315.0 K
Medium Name:	ethylacetylene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H6
T_min:	1.0 K
T_max:	3643.0 K
Medium Name:	ethylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H10
T_min:	64.0 K
T_max:	3994.0 K
Medium Name:	ethylcyclepentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H14
T_min:	75.0 K
T_max:	4213.0 K
Medium Name:	ethylcyclohexane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H16
T_min:	69.0 K

T_max:	4641.0 K
Medium Name:	ethylene oxide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4O
T_min:	39.0 K
T_max:	4060.0 K
Medium Name:	Ethylenglycol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6O2
T_min:	2.0 K
T_max:	4962.0 K
Medium Name:	Fluorine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	F2
T_min:	1.0 K
T_max:	4717.0 K
Medium Name:	fluorobenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H5F
T_min:	58.0 K
T_max:	3791.0 K
Medium Name:	Fluorocyanide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CFN
T_min:	1.0 K
T_max:	3066.0 K
Medium Name:	fluoroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H5F
T_min:	2.0 K
T_max:	4573.0 K
Medium Name:	fluoromethane
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH3F
T_min:	2.0 K
T_max:	1803.0 K
Medium Name:	furan
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H4O
T_min:	82.0 K
T_max:	3521.0 K
Medium Name:	furan-2-carbaldehyde
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H4O2
T_min:	13.0 K
T_max:	4230.0 K
Medium Name:	glycerin
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H8O3
T_min:	2.0 K
T_max:	3525.0 K
Medium Name:	Helium
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	He
T_min:	2.0 K
T_max:	10000.0 K
Medium Name:	heptadecane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C17H36
T_min:	19.0 K
T_max:	4332.0 K
Medium Name:	heptane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H16
T_min:	16.0 K

T_max:	4388.0 K
Medium Name:	heptanol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H16O
T_min:	24.0 K
T_max:	4207.0 K
Medium Name:	hexachloroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2Cl6
T_min:	2.0 K
T_max:	3887.0 K
Medium Name:	hexadecane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C16H34
T_min:	19.0 K
T_max:	4336.0 K
Medium Name:	hexamethylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H13
T_min:	1.0 K
T_max:	5094.0 K
Medium Name:	hexane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14
T_min:	13.0 K
T_max:	4436.0 K
Medium Name:	hexanoic acid
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12O2
T_min:	1.0 K
T_max:	4361.0 K
Medium Name:	hexanol
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14O
T_min:	21.0 K
T_max:	4221.0 K
Medium Name:	hexylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H18
T_min:	46.0 K
T_max:	4238.0 K
Medium Name:	hexylcyclohexane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H24
T_min:	44.0 K
T_max:	4690.0 K
Medium Name:	hexylcyclopentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H22
T_min:	37.0 K
T_max:	4600.0 K
Medium Name:	Hydrogen
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	H2
T_min:	1.0 K
T_max:	6130.0 K
Medium Name:	Hydrogen bromide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	HBr
T_min:	1.0 K
T_max:	2317.0 K
Medium Name:	Hydrogen chloride
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	HCl
T_min:	1.0 K

T_max:	2519.0 K
Medium Name:	Hydrogen cyanide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	HCN
T_min:	2.0 K
T_max:	4581.0 K
Medium Name:	Hydrogen fluoride
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	HF
T_min:	1.0 K
T_max:	10000.0 K
Medium Name:	Hydrogen Iodide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	HI
T_min:	1.0 K
T_max:	2025.0 K
Medium Name:	Hydrogen sulfide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	H2S
T_min:	2.0 K
T_max:	1849.0 K
Medium Name:	icosane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C20H42
T_min:	2.0 K
T_max:	6028.0 K
Medium Name:	Iodine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	I2
T_min:	1.0 K
T_max:	3791.0 K
Medium Name:	iodinecyanide
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	ICN
T_min:	2.0 K
T_max:	2594.0 K
Medium Name:	iodobenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H5I
T_min:	30.0 K
T_max:	4029.0 K
Medium Name:	isopentyl alcohol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12O
T_min:	13.0 K
T_max:	4373.0 K
Medium Name:	isopropyl alcohol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H8O
T_min:	1.0 K
T_max:	4300.0 K
Medium Name:	Isopropylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H12
T_min:	55.0 K
T_max:	4120.0 K
Medium Name:	Krypton
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Kr
T_min:	2.0 K
T_max:	10000.0 K
Medium Name:	m-chlorotoluene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H7Cl
T_min:	54.0 K

T_max:	3527.0 K
Medium Name:	m-cresol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H8O
T_min:	31.0 K
T_max:	4198.0 K
Medium Name:	m-nitrotoluene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H7NO2
T_min:	1.0 K
T_max:	4564.0 K
Medium Name:	m-xylene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H10
T_min:	31.0 K
T_max:	5060.0 K
Medium Name:	methanal
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH2O
T_min:	1.0 K
T_max:	1455.0 K
Medium Name:	methanamide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH3NO
T_min:	2.0 K
T_max:	4942.0 K
Medium Name:	methane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH4
T_min:	1.0 K
T_max:	1760.0 K
Medium Name:	methanethiol
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH4S
T_min:	1.0 K
T_max:	1476.0 K
Medium Name:	methanoic acid
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH2O2
T_min:	1.0 K
T_max:	1681.0 K
Medium Name:	methanol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH4O
T_min:	2.0 K
T_max:	1835.0 K
Medium Name:	methoxymethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6O
T_min:	2.0 K
T_max:	1712.0 K
Medium Name:	methoxypropane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10O
T_min:	2.0 K
T_max:	1682.0 K
Medium Name:	methyl ethyl ketone
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O
T_min:	1.0 K
T_max:	1841.0 K
Medium Name:	methyl-acetate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H6O2
T_min:	1.0 K

T_max:	5744.0 K
Medium Name:	methyl-benzoate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H8O2
T_min:	85.0 K
T_max:	3630.0 K
Medium Name:	methyl-butanoate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10O2
T_min:	19.0 K
T_max:	3386.0 K
Medium Name:	methyl-formate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4O2
T_min:	2.0 K
T_max:	4237.0 K
Medium Name:	METHYL-PROPIONATE
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O2
T_min:	26.0 K
T_max:	3128.0 K
Medium Name:	methyl-salicylate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H8O3
T_min:	54.0 K
T_max:	3860.0 K
Medium Name:	methylacetylene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H4
T_min:	2.0 K
T_max:	3697.0 K
Medium Name:	methylamine
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH5N
T_min:	2.0 K
T_max:	4765.0 K
Medium Name:	methylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H8
T_min:	47.0 K
T_max:	4573.0 K
Medium Name:	methylcyclohexane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H14
T_min:	77.0 K
T_max:	4661.0 K
Medium Name:	methylcyclopentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12
T_min:	88.0 K
T_max:	4104.0 K
Medium Name:	N,N-diethyl-anilin
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H15N
T_min:	80.0 K
T_max:	3934.0 K
Medium Name:	N,N-dimethyl-anilin
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H11N
T_min:	86.0 K
T_max:	4113.0 K
Medium Name:	n-methyl-anilin
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H9N
T_min:	67.0 K

T_max:	3899.0 K
Medium Name:	n-propyl-propionate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12O2
T_min:	39.0 K
T_max:	3251.0 K
Medium Name:	naphthalene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H8
T_min:	68.0 K
T_max:	4222.0 K
Medium Name:	Neon
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Ne
T_min:	2.0 K
T_max:	10000.0 K
Medium Name:	Nitric oxide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	NO
T_min:	1.0 K
T_max:	1657.0 K
Medium Name:	nitrobenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H5NO2
T_min:	1.0 K
T_max:	4412.0 K
Medium Name:	Nitrogen
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	N2
T_min:	1.0 K
T_max:	2094.0 K
Medium Name:	Nitrogen dioxide
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	NO2
T_min:	1.0 K
T_max:	7885.0 K
Medium Name:	nitromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH3NO2
T_min:	38.0 K
T_max:	1942.0 K
Medium Name:	Nitrous oxide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	N2O
T_min:	2.0 K
T_max:	4690.0 K
Medium Name:	nonadecane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C19H40
T_min:	15.0 K
T_max:	4487.0 K
Medium Name:	nonane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H20
T_min:	21.0 K
T_max:	4339.0 K
Medium Name:	o-cresol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H8O
T_min:	13.0 K
T_max:	4428.0 K
Medium Name:	o-nitrotoluene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H7NO2
T_min:	1.0 K

T_max:	4552.0 K
Medium Name:	o-xylene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H10
T_min:	31.0 K
T_max:	4431.0 K
Medium Name:	octadecane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C18H38
T_min:	16.0 K
T_max:	4467.0 K
Medium Name:	octane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H18
T_min:	18.0 K
T_max:	4408.0 K
Medium Name:	octanol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H18O
T_min:	25.0 K
T_max:	4206.0 K
Medium Name:	Oxygen
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	O2
T_min:	1.0 K
T_max:	1932.0 K
Medium Name:	p-cresol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H8O
T_min:	42.0 K
T_max:	3988.0 K
Medium Name:	p-nitrotoluene
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H7NO2
T_min:	1.0 K
T_max:	4572.0 K
Medium Name:	p-xylene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H10
T_min:	32.0 K
T_max:	5068.0 K
Medium Name:	pentachloroethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2HCl5
T_min:	2.0 K
T_max:	3766.0 K
Medium Name:	pentadecane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C15H32
T_min:	18.0 K
T_max:	4346.0 K
Medium Name:	pentamethylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H16
T_min:	1.0 K
T_max:	5661.0 K
Medium Name:	pentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12
T_min:	3.0 K
T_max:	4829.0 K
Medium Name:	pentanoic acid
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10O2
T_min:	1.0 K

T_max:	4375.0 K
Medium Name:	pentanol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12O
T_min:	2.0 K
T_max:	5292.0 K
Medium Name:	pentylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H16
T_min:	47.0 K
T_max:	4240.0 K
Medium Name:	pentylcyclohexane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H22
T_min:	50.0 K
T_max:	4632.0 K
Medium Name:	pentylcyclopentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H20
T_min:	45.0 K
T_max:	4530.0 K
Medium Name:	phenol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H6O
T_min:	45.0 K
T_max:	3896.0 K
Medium Name:	phenylamine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H7N
T_min:	31.0 K
T_max:	4098.0 K
Medium Name:	phenylhydrazine
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H8N2
T_min:	52.0 K
T_max:	3918.0 K
Medium Name:	phenylmethanol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H8O
T_min:	86.0 K
T_max:	3723.0 K
Medium Name:	phosgene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CCl2O
T_min:	1.0 K
T_max:	3986.0 K
Medium Name:	piperidine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H11N
T_min:	74.0 K
T_max:	3822.0 K
Medium Name:	propane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H8
T_min:	1.0 K
T_max:	1783.0 K
Medium Name:	propanenitrile
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H5N
T_min:	1.0 K
T_max:	5375.0 K
Medium Name:	propanoic acid
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H6O2
T_min:	2.0 K

T_max:	4298.0 K
Medium Name:	propanol
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H8O
T_min:	2.0 K
T_max:	1932.0 K
Medium Name:	propanone
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H6O
T_min:	2.0 K
T_max:	1738.0 K
Medium Name:	propanoyl propanoate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H10O3
T_min:	6.0 K
T_max:	4291.0 K
Medium Name:	propene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H6
T_min:	2.0 K
T_max:	1604.0 K
Medium Name:	propoxypropane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14O
T_min:	1.0 K
T_max:	5444.0 K
Medium Name:	propyl ketone
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H14O
T_min:	2.0 K
T_max:	1740.0 K
Medium Name:	propyl-acetate
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10O2
T_min:	2.0 K
T_max:	5009.0 K
Medium Name:	propyl-formate
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O2
T_min:	10.0 K
T_max:	3822.0 K
Medium Name:	propylamine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H9N
T_min:	2.0 K
T_max:	5030.0 K
Medium Name:	propylbenzene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H12
T_min:	41.0 K
T_max:	4228.0 K
Medium Name:	propylcyclohexane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H18
T_min:	56.0 K
T_max:	4623.0 K
Medium Name:	propylcyclopentane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H16
T_min:	61.0 K
T_max:	4345.0 K
Medium Name:	pyridine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H5N
T_min:	81.0 K

T_max:	3836.0 K
Medium Name:	styrene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H8
T_min:	29.0 K
T_max:	4301.0 K
Medium Name:	Sulfur
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	S
T_min:	1.0 K
T_max:	2504.0 K
Medium Name:	sulfur dioxide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	SO2
T_min:	1.0 K
T_max:	6889.0 K
Medium Name:	sulfur hexafluoride
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	SF6
T_min:	3.0 K
T_max:	2666.0 K
Medium Name:	sulfur trioxide
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	SO3
T_min:	2.0 K
T_max:	3935.0 K
Medium Name:	sulfury chloride
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Cl2SO2
T_min:	2.0 K
T_max:	3949.0 K
Medium Name:	tetrabromomethane
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CBr4
T_min:	2.0 K
T_max:	3577.0 K
Medium Name:	tetrachlorocarbon
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CCl4
T_min:	1.0 K
T_max:	3832.0 K
Medium Name:	tetrachloroethene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2Cl4
T_min:	1.0 K
T_max:	3328.0 K
Medium Name:	tetradecane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C14H30
T_min:	18.0 K
T_max:	4354.0 K
Medium Name:	tetrafluoromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CF4
T_min:	1.0 K
T_max:	3268.0 K
Medium Name:	tetraphenylmethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C25H20
T_min:	84.0 K
T_max:	4109.0 K
Medium Name:	thiophene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H4S
T_min:	33.0 K

T_max:	944.0 K
Medium Name:	tribromomethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CHBr3
T_min:	2.0 K
T_max:	3961.0 K
Medium Name:	trichloroacetic acid
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2HCl3O2
T_min:	1.0 K
T_max:	2934.0 K
Medium Name:	trichloroethylene
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2HCl3
T_min:	1.0 K
T_max:	3825.0 K
Medium Name:	trichlorofluoromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CCl3F
T_min:	1.0 K
T_max:	3062.0 K
Medium Name:	trichloromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CHCl3
T_min:	2.0 K
T_max:	3757.0 K
Medium Name:	tridecane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C13H23
T_min:	16.0 K
T_max:	4404.0 K
Medium Name:	triethylamine
Library Name:	Ideal gas properties from VDIWA2006

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H15N
T_min:	2.0 K
T_max:	5357.0 K
Medium Name:	trifluoromethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CHF3
T_min:	2.0 K
T_max:	4065.0 K
Medium Name:	trimethylamine
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H9N
T_min:	7.0 K
T_max:	4898.0 K
Medium Name:	triphenylmethane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H16
T_min:	78.0 K
T_max:	4110.0 K
Medium Name:	undecane
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H24
T_min:	2.0 K
T_max:	4802.0 K
Medium Name:	Water
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	H2O
T_min:	1.0 K
T_max:	2569.0 K
Medium Name:	Xenon
Library Name:	Ideal gas properties from VDIWA2006
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Xe
T_min:	2.0 K

T_max:	10000.0 K

2.4 NASA Gases

Tabelle 4: NASA-Gasnames

Medium Name:	Ag
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Moore,1971. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Ag+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ag-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ag(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Ref-Elm. Cox,1989 p228.
T_min:	200.0 K
T_max:	1235.08 K
Medium Name:	Ag(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p228.
T_min:	1235.08 K
T_max:	6000.0 K
Medium Name:	Air
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Mole%:N2 78.084,O2 20.9476,Ar .9365,CO2 .0319.Gordon,1982.Rea
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Kaufman,1991b. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	AL+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Kaufman,1991b. Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	AL-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p65 6/83. EA:Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	AL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p118 pt2 p95.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL2Br6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p190 pt2 p152.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL2C2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p206 pt2 p167.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	AL2CL6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p175 pt2 p135.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL2F6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p160 pt2 p122.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL2I6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p196 pt2 p157.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p129 pt2 p101.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL2O+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p151 12/79.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	AL2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p131 pt2 p102.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL2O2+
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p153 12/79.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	AL2O3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p137 pt2 p105.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL2O3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,corundum. Gurvich,1996a pt1 p134 pt2 p103.
T_min:	200.0 K
T_max:	2327.0 K
Medium Name:	AL2O3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p134 pt2 p103.
T_min:	2327.0 K
T_max:	6000.0 K
Medium Name:	AL2S
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p199 pt2 p160.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL2S2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p200 pt2 p161.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL2S3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal alpha. Gurvich,1996a pt1 p201 pt2 p162.
T_min:	100.0 K

T_max:	1273.0 K
Medium Name:	AL2S3(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombohedral gamma. Gurvich,1996a pt1 p201 pt2 p162.
T_min:	1273.0 K
T_max:	1373.0 K
Medium Name:	AL2S3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p201 pt2 p162.
T_min:	1373.0 K
T_max:	6000.0 K
Medium Name:	AL2SiO5(an)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Andalusite. Chase,1998 p160.
T_min:	200.0 K
T_max:	3000.0 K
Medium Name:	AL4C3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p207 pt2 p168.
T_min:	100.0 K
T_max:	2500.0 K
Medium Name:	ALBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p184 pt2 p148.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p186 pt2 p149.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALBr3
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p188 pt2 p151.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALBr3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1996a pt1 p187 pt2 p150.
T_min:	200.0 K
T_max:	371.16 K
Medium Name:	ALBr3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p187 pt2 p150.
T_min:	371.16 K
T_max:	6000.0 K
Medium Name:	ALC
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p205 pt2 p165.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALC2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p206 pt2 p166.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p168 pt2 p131.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALCL+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p73.
T_min:	298.15 K

T_max:	6000.0 K
Medium Name:	ALCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p171 pt2 p132.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p173 pt2 p134.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALCL3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1996a pt1 p172 pt2 p133.
T_min:	200.0 K
T_max:	465.7 K
Medium Name:	ALCL3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p172 pt2 p133.
T_min:	465.7 K
T_max:	6000.0 K
Medium Name:	ALF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p151 pt2 p116.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALF+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p92.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	ALF2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p153 pt2 p117.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALF2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p154 pt2 p118.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	ALF2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p182 pt2 p145.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p157 pt2 p120.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALF3(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p156 pt2 p119.
T_min:	100.0 K
T_max:	728.0 K
Medium Name:	ALF3(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1996a pt1 p156 pt2 p119.
T_min:	728.0 K
T_max:	2100.0 K
Medium Name:	ALF4-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p159 pt2 p121.
T_min:	298.15 K

T_max:	6000.0 K
Medium Name:	ALFCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p182 pt2 p144.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALFCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p183 pt2 p146.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p139 pt2 p106.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALH2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p142 pt2 p107.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALH2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p179 pt2 p139.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALH2F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p165 pt2 p126.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALH3
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p145 pt2 p109.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALH3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,hexagonal. Gurvich,1996a pt1 p144 pt2 p108.
T_min:	200.0 K
T_max:	500.0 K
Medium Name:	ALHCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p178 pt2 p138.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALHCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p179 pt2 p140.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALHF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p164 pt2 p125.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALHF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p166 pt2 p127.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALHFCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p184 pt2 p147.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	ALI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p191 pt2 p153.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p193 pt2 p154.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALI3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p195 pt2 p156.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALI3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p193 pt2 p155.
T_min:	298.15 K
T_max:	461.47 K
Medium Name:	ALI3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p193 pt2 p155.
T_min:	461.47 K
T_max:	6000.0 K
Medium Name:	ALN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p204 pt2 p164.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALN(cr)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p202 pt2 p163.
T_min:	100.0 K
T_max:	1800.0 K
Medium Name:	ALN(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p202 pt2 p163.
T_min:	1800.0 K
T_max:	6000.0 K
Medium Name:	ALO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p122 pt2 p96.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	ALO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p133.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	ALO-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p125 pt2 p98.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	ALO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p126 pt2 p99.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALO2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p128 pt2 p100.
T_min:	298.15 K

T_max:	6000.0 K
Medium Name:	ALOCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p176 pt2 p136.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALOCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p178 pt2 p137.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALOF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p163 pt2 p123.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALOF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p164 pt2 p124.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALOF2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p98 6/76.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	ALOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p146 pt2 p110.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALOHCL
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p180 pt2 p141.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALOHCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p181 pt2 p143.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALOHF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p166 pt2 p128.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALOHF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p168 pt2 p130.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p197 pt2 p158.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ALS2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p198 pt2 p159.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Ref-Elm. Cox,1989 p217.
T_min:	200.0 K

T_max:	933.61 K
Medium Name:	AL(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p217.
T_min:	933.61 K
T_max:	6000.0 K
Medium Name:	AL(OH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p149 pt2 p113.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL(OH)2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p181 pt2 p142.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL(OH)2F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p167 pt2 p129.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL(OH)3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p150 pt2 p115.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	AL(OH)3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gibbsite. Gurvich,1996a pt1 p150 pt2 p114.
T_min:	100.0 K
T_max:	500.0 K
Medium Name:	Ar
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ref-Elm. Moore,1971. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Ar+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. IP:Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	B
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Martin,J.M.L.,1998. Odintzova,1979. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	B+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. IP:Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	B-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	B2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p8 pt2 p7.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2C
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p110 pt2 p88.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	B2CL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p77 pt2 p54.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2F4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p64 pt2 p41.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2H
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Adams,1989. Yu,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2H2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Curtiss,1989a. Yu,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2H3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Adams,1989. Yu,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2H3,db
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	2-Bridges. Adams,1989. Yu,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2H4
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	1-Bridge. Ruscic,1989b. Curtiss,1989b.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2H4,db
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	2-Bridges.Ruscic,1989b. Curtiss,1989b.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2H5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	1-Bridge. Ruscic,1989a. Trachtman,1990.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2H5,db
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	2-Bridges. Ruscic,1989a. Trachtman,1990.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2H6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1996a pt1 p37. Yu,1998. Duncan,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p19 pt2 p14.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p19 pt2 p15.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	B2O3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p25 pt2 p18.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2O3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p21 pt2 p16.
T_min:	100.0 K
T_max:	723.0 K
Medium Name:	B2O3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p21 pt2 p16.
T_min:	723.0 K
T_max:	6000.0 K
Medium Name:	B2S
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p100,pt2 p78.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2S2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p100 pt2 p79.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2S3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p102 pt2 p81.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B2S3(cr)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1996a pt1 p101 pt2 p80.
T_min:	298.15 K
T_max:	840.0 K
Medium Name:	B2S3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p101 pt2 p80.
T_min:	840.0 K
T_max:	6000.0 K
Medium Name:	B2(OH)4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p52 pt2 p33.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B3H7,C2v
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	C2v symmetry. Stanton,1989b.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B3H7,Cs
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cs symmetry. Stanton,1989b.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B3H9
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:McKee,1990. Stanton,1989a.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B3N3H6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Borazole. Gurvich,1996a pt1 p107 pt2 p85.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	B3O3CL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p80 pt2 p57.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B3O3F2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p89 pt2 p67.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B3O3F3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p67 pt2 p44.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B3O3FCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p89 pt2 p68.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B3O3H3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p287.
T_min:	298.15 K
T_max:	2000.0 K
Medium Name:	B4C(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p111 pt2 p89
T_min:	200.0 K
T_max:	2743.0 K
Medium Name:	B4C(L)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 pp556-8.
T_min:	2743.0 K
T_max:	6000.0 K
Medium Name:	B4H10
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Wagman,1982 p123. McKee,1990. Dain,1981.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B4H12
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Shen,1993. Yu,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B4H4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Yu,1998. Mach,1994.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B5H9
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Chase,1998 p303 3/65.McKee,1990.Beaudet,1988.Yu,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ba
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Ba+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K

T_max:	20000.0 K
Medium Name:	Ba2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p545 pt2 p417.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p576 pt2 p437.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p579 pt2 p439.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaBr2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1996a pt1 p578 pt2 p438.
T_min:	298.0 K
T_max:	1130.0 K
Medium Name:	BaBr2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p578 pt2 p438.
T_min:	1130.0 K
T_max:	6000.0 K
Medium Name:	BaCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p570 pt2 p433.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaCL+
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p572 pt2 p434.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	BaCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p575 pt2 p436.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaCL2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,rhombic. Gurvich,1996a pt1 p574 pt2 p435.
T_min:	100.0 K
T_max:	1198.0 K
Medium Name:	BaCL2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,cubic. Gurvich,1996a pt1 p574 pt2 p435.
T_min:	1198.0 K
T_max:	1234.0 K
Medium Name:	BaCL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p574 pt2 p435.
T_min:	1234.0 K
T_max:	6000.0 K
Medium Name:	BaCO3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrIII,rhombic. Gurvich,1996a pt1 p588 pt2 p446.
T_min:	200.0 K
T_max:	1083.0 K
Medium Name:	BaCO3(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,hexagonal. Gurvich,1996a pt1 p588 pt2 p446.
T_min:	1083.0 K

T_max:	1233.0 K
Medium Name:	BaCO3(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,cubic. Gurvich,1996a pt1 p588 pt2 p446.
T_min:	1233.0 K
T_max:	1828.0 K
Medium Name:	BaCO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p588 pt2 p446.
T_min:	1828.0 K
T_max:	6000.0 K
Medium Name:	BaF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p562 pt2 p429.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaF+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p566 pt2 p430.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	BaF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p569 pt2 p432.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaF2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrIII,cubic. Gurvich,1996a pt1 p567 pt2 p431.
T_min:	100.0 K
T_max:	1240.0 K
Medium Name:	BaF2(b)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII. Gurvich,1996a pt1 p567 pt2 p431.
T_min:	1240.0 K
T_max:	1480.0 K
Medium Name:	BaF2(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI. Gurvich,1996a pt1 p567 pt2 p431.
T_min:	1480.0 K
T_max:	1641.0 K
Medium Name:	BaF2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p567 pt2 p431.
T_min:	1641.0 K
T_max:	6000.0 K
Medium Name:	BaH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p554 pt2 p423.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaH2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,rhombic Gurvich,1996a pt1 p556 pt2 p424.
T_min:	298.15 K
T_max:	871.0 K
Medium Name:	BaH2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,rhombic Gurvich,1996a pt1 p556 pt2 p424.
T_min:	871.0 K
T_max:	1473.0 K
Medium Name:	BaH2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p556 pt2 p424.
T_min:	1473.0 K

T_max:	6000.0 K
Medium Name:	BaI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p581 pt2 p440.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p584 pt2 p442.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaI2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1996a pt1 p582 pt2 p441.
T_min:	100.0 K
T_max:	984.0 K
Medium Name:	BaI2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p582 pt2 p441.
T_min:	984.0 K
T_max:	6000.0 K
Medium Name:	BaO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p550 pt2 p419.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	BaO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p552 pt2 p421.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	BaOH
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p557 pt2 p425.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaOH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p558 pt2 p426.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	BaO(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic Gurvich,1996a pt1 p547 pt2 p418.
T_min:	200.0 K
T_max:	2246.0 K
Medium Name:	BaO(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p547 pt2 p418.
T_min:	2246.0 K
T_max:	6000.0 K
Medium Name:	BaS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p585 pt2 p444.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BaSO4(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,rhombic. Gurvich,1996a pt1 p587 pt2 p445.
T_min:	200.0 K
T_max:	1423.0 K
Medium Name:	BaSO4(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,cubic. Gurvich,1996a pt1 p587 pt2 p445.
T_min:	1423.0 K

T_max:	1853.0 K
Medium Name:	BaSO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p587 pt2 p435.
T_min:	1853.0 K
T_max:	6000.0 K
Medium Name:	BaS(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1996a pt1 p584 pt2 p443.
T_min:	200.0 K
T_max:	2500.0 K
Medium Name:	BaS(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p584 pt2 p443.
T_min:	2500.0 K
T_max:	6000.0 K
Medium Name:	Ba(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Ref-Elm. Alcock,1993.
T_min:	80.0 K
T_max:	1000.0 K
Medium Name:	Ba(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Alcock,1993.
T_min:	1000.0 K
T_max:	6000.0 K
Medium Name:	Ba(OH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p561 pt2 p428.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ba(OH)2(a)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,rhombic Gurvich,1996a pt1 p558 pt2 p427.
T_min:	519.0 K
T_max:	681.0 K
Medium Name:	Ba(OH)2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,rhombic Gurvich,1996a pt1 p558 pt2 p427.
T_min:	100.0 K
T_max:	519.0 K
Medium Name:	Ba(OH)2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p558 pt2 p427.
T_min:	681.0 K
T_max:	6000.0 K
Medium Name:	BBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p91 pt2 p70.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p92 pt2 p71.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BBr3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p93 pt2 p72.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BC
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p108 pt2 p86.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	BC2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p109 pt2 p87.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p73 pt2 p51.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BCL+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p198.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	BCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p74 pt2 p52.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BCL2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p203 12/79.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	BCL2OH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p86 pt2 p63.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BCL3
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p76 pt2 p53.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BCLOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p83 pt2 p61.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BCL(OH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p85 pt2 p62.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Be
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Kramida,1997. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Be+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Be++
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Be2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p346 pt2 p277.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	Be2CL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p374 pt2 p299.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Be2C(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Barin,1989. Barin,1973.
T_min:	298.15 K
T_max:	2400.0 K
Medium Name:	Be2C(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Barin,1989. Barin,1973.
T_min:	2400.0 K
T_max:	6000.0 K
Medium Name:	Be2F4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p368 pt2 p294.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Be2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p353 pt2 p282.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Be2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p354 pt2 p283.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Be2OF2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p417.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Be3N2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,cubic. Gurvich,1996a pt1 p384 pt2 p309.
T_min:	200.0 K
T_max:	1673.0 K
Medium Name:	Be3N2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,hexagonal. Gurvich,1996a pt1 p384 pt2 p309.
T_min:	1673.0 K
T_max:	2473.0 K
Medium Name:	Be3N2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p384 pt2 p309.
T_min:	2473.0 K
T_max:	6000.0 K
Medium Name:	Be3O3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p355 pt2 p284.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Be4O4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p356 pt2 p285.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeAL2O4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp139-41.
T_min:	200.0 K

T_max:	2146.0 K
Medium Name:	BeAL2O4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp139-41.
T_min:	2146.0 K
T_max:	6000.0 K
Medium Name:	BeBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p374 pt2 p300.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p377 pt2 p302.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeBr2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cr,rhombic. Gurvich,1996a pt1 p376 pt2 p301.
T_min:	298.15 K
T_max:	781.0 K
Medium Name:	BeBr2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid.Gurvich,1996a pt1 p376 pt2 p301.
T_min:	781.0 K
T_max:	6000.0 K
Medium Name:	BeCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p369,pt2 p295.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeCL2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p373 pt2 p298.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeCL2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cr,rhombic. Gurvich,1996a pt1 p370 pt2 p296.
T_min:	200.0 K
T_max:	676.0 K
Medium Name:	BeCL2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI. Gurvich,1996a pt1 p370 pt2 p296.
T_min:	676.0 K
T_max:	688.0 K
Medium Name:	BeCL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid.Gurvich,1996a pt1 p370 pt2 p296.
T_min:	688.0 K
T_max:	6000.0 K
Medium Name:	BeCO3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p385 pt2 p310.
T_min:	298.0 K
T_max:	6000.0 K
Medium Name:	BeF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p363,pt2 p291.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p366 pt2 p293.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	BeF2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,hexagonal.Gurvich,1996a pt1 p364 pt2 p292.
T_min:	200.0 K
T_max:	493.0 K
Medium Name:	BeF2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,hexagonal.Gurvich,1996a pt1 p364 pt2 p292.
T_min:	493.0 K
T_max:	823.0 K
Medium Name:	BeF2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid.Gurvich,1996a pt1 p364 pt2 p292.
T_min:	823.0 K
T_max:	6000.0 K
Medium Name:	BeH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p356,pt2 p286.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p391 9/66.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	BeH2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Martin,J.M.L.,1992. Martin,J.M.L.,1997.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeI
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p378,pt2 p303.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p380 pt2 p305.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeI2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cr,rhombic. Gurvich,1996a pt1 p379 pt2 p304.
T_min:	298.15 K
T_max:	763.0 K
Medium Name:	BeI2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid.Gurvich,1996a pt1 p379 pt2 p304.
T_min:	763.0 K
T_max:	6000.0 K
Medium Name:	BeN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p403.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p351,pt2 p280.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	BeOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p358 pt2 p288.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	BeOH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p393.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	BeO(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,hexagonal. Gurvich,1996a pt1 p348 pt2 p278.
T_min:	200.0 K
T_max:	2373.0 K
Medium Name:	BeO(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,tetragonal. Gurvich,1996a pt1 p348 pt2 p278.
T_min:	2373.0 K
T_max:	2851.0 K
Medium Name:	BeO(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p348 pt2 p278.
T_min:	2851.0 K
T_max:	6000.0 K
Medium Name:	BeS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p381 pt2 p307.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BeSO4(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrIII,tetr. Gurvich,1996a pt1 p383 pt2 p308.
T_min:	200.0 K
T_max:	861.0 K
Medium Name:	BeSO4(b)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,rhombic. Gurvich,1996a pt1 p383 pt2 p308.
T_min:	861.0 K
T_max:	912.0 K
Medium Name:	BeSO4(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,cubic. Gurvich,1996a pt1 p383 pt2 p308.
T_min:	912.0 K
T_max:	1400.0 K
Medium Name:	BeSO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p383 pt2 p308.
T_min:	1400.0 K
T_max:	6000.0 K
Medium Name:	BeS(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cr,cubic. Gurvich,1996a pt1 p381 pt2 p306.
T_min:	298.0 K
T_max:	6000.0 K
Medium Name:	Be(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Alcock,1993.
T_min:	100.0 K
T_max:	1543.0 K
Medium Name:	Be(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Alcock,1993.
T_min:	1543.0 K
T_max:	1563.0 K
Medium Name:	Be(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Alcock,1993.
T_min:	1563.0 K

T_max:	6000.0 K
Medium Name:	Be(OH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p360 pt2 p290.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Be(OH)2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic,beta.Gurvich,1996a pt1 p359 pt2 p289.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p56 pt2 p36.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p58 pt2 p37.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BF2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p211.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	BF2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p60 pt2 p38.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	BF2CL
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p87 pt2 p65.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BF2OH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p72 pt2 p50.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p62 pt2 p39.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BF4-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p63 pt2 p40.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	BFCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p86 pt2 p64.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BFCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p88 pt2 p66.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BFOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p71 pt2 p48.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	BF(OH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p71 pt2 p49.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Bauschlicher,1990. Gurvich,1996a pt1 p28 pt2 p19.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BH2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Jacox,1994. Kolbuszewski,1996. Gurvich,1996a p32.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BH2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p82 pt2 p59.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BH2F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p69 pt2 p46.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BH3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Allendorf,1997. Jacox,1998 p212. Martin,J.M.L.,1992.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BH3NH3
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p106 pt2 p84.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BH4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Radical. Saxon,1993. Yu,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BH5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Schreiner,1994.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BHCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p81 pt2 p58.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BHCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p82 pt2 p60.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BHF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p68 pt2 p45.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BHF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p69 pt2 p47.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	BHFCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p90 pt2 p69.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p94 pt2 p73.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p95 pt2 p74.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BI3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p96 pt2 p75.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p104 pt2 p83.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BN(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p103 pt2 p82.
T_min:	200.0 K
T_max:	3240.0 K
Medium Name:	BN(L)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p103 pt2 p82.
T_min:	3240.0 K
T_max:	6000.0 K
Medium Name:	BO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p10 pt2 p8.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	BO-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p13 pt2 p10.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	BO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p14 pt2 p11.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BO2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p16 pt2 p13.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	BOCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p79 pt2 p55.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BOCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p79 pt2 p56.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	BOF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p65 pt2 p42.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BOF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p66 pt2 p43.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p41 pt2 p24.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Br
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Br+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Br-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Br2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p200 pt2 p104.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Br2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1989 pt2 p314. Chase,1998 p471 (6/82).
T_min:	200.0 K
T_max:	265.9 K
Medium Name:	Br2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liq.Ref-Elm.Gurvich,1989 pt2 p314.Chase,1998 p471(6/82).
T_min:	265.9 K
T_max:	6000.0 K
Medium Name:	BrBrO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1996a.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BrCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p213 pt2 p112.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BrF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p208 pt2 p109.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BrF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p211 pt2 p110.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	BrF5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p212 pt2 p111.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BrO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1996a.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BrO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1996a.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BrOBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1996a.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BrOO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1996a.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p97 pt2 p76.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	BS2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p99 pt2 p77.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	B(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Chase,1998 p177-180. McBride,1993a.
T_min:	200.0 K
T_max:	2350.0 K
Medium Name:	B(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 p177-180. McBride,1993a.
T_min:	2350.0 K
T_max:	6000.0 K
Medium Name:	B(OH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p46 pt2 p28.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Douglas,1955. Moore,1970b. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	C+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1970b. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	C-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K

T_max:	20000.0 K
Medium Name:	C10H21,n-decyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(10/83) tuvw1930.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C10H8,naphthale
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Naphthalene. Chen,1979.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C12H10,biphenyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Burcat,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C12H9,o-bipheny
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	o-Biphenyl radical. Burcat,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p9 pt2 p8.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	C2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p14 pt2 p10.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	C2-
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p15 pt2 p12.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	C2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p112 pt2 p85.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Manion,2002. Gurvich,1991 pt1 p114 pt2 p86.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2CL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p114 pt2 p87.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2CL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Manion,2002. Gurvich,1991 pt1 p115 pt2 p88.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2CL6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Manion,2002. Gurvich,1991 pt1 p117 pt2 p90.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p81 pt2 p59.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	C2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p82 pt2 p60.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2F2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p143 pt2 p115. Eql mixture of isomers.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2F3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p83 pt2 p61.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2F3CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p142 pt2 p114.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2F4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p84 pt2 p62.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2F6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p86 pt2 p64.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2FCL
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p141 pt2 p113.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2FCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p145 pt2 p119.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ervin,1990. Jacox,1998. Peric,1990. Kanamori,1988.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p130 pt2 p101. 1,1 cis & trans in equil.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p101 pt2 p75. 1,1 cis & trans in equil.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H2FCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p150 pt2 p125. 1,1 cis & trans in equil.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H2,acetylene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[10/93] w-3040. Gurvich,1991 pt1 p47 pt2 p39.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	C2H2,vinylidene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chen,1989. Osamura,1981.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H3CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Manion,2002. Gurvich,1991 pt1 p129 pt2 p100.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H3F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p100 pt2 p74.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H3,vinyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Radical. Ervin,1990.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[4/88] w2600. Chao,1975. Knippers,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H4O,ethylen-o
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ethylene Oxide. Shimanouchi,1972. Chase,1998 9/65.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H5
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chen,1990.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H5Br
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Bromoethane. TRC[6/79] tuvw7650.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H5OH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(6/87) w5030. Chao,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2H6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ethane. Pamidimukkala,1982.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2HCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Manion,2002. Gurvich,1991 pt1 p129 pt2 p99.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2HCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Manion,2002. Gurvich,1991 pt1 p134 pt2 p105.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2HF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p99 pt2 p73.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	C2HF2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p153 pt2 p129. 1,1 cis & trans in equil.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2HF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p105 pt2 p79.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2HFCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p155 pt2 p133. Eql mixture of isomers.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2N2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1979 pt1 p195 pt2 p220.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991 pt1 p31. Jacox,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C2S2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(6/01) p8150,tuvw-8150.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1979 pt2 p23.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	C3H3,1-propynl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[4/98] tuvw3140.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H3,2-propynl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(4/98) tuvw3140.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H4,allene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[4/84] w2750. Shimanouchi,1972 p115. Butcher,1973a.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H4,cyclo-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Dorofeeva,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H4,propyne
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(10/93) w3040. Trambarulo,1950. Shimanouchi,1972.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H5,allyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Radical. Burcat,2001 p58.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	C3H6O,acetone
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chao,1986. Chao,1976.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H6O,propanal
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[6/78] w5300. Chao,1986. Frankiss,1974.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H6O,propylox
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(6/84) w6150. Swalen,1957. Oetting,1964. Villarreal,1975.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H6,cyclo-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Dorofeeva,1986. Butcher,1973b.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H6,propylene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[4/88] w2600. Chao,1975.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H7,i-propyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Radical. Tsang,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H7,n-propyl
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Radical. Tsang,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H8
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(10/85) w1350. Chao,1973.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H8O,1propanol
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[6/87] w5030. Chao,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3H8O,2propanol
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(6/87) w5030. Chao,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Chase,1998 p690 6/68. Shimanouchi,1977 p1083.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3OS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[6/01] p8150,tuvw-8150.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C3S2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(6/01) p8150,tuvw-8150.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	C4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p18 pt2 p16.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	C4H10,isobutane
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[10/85] w1350. Chen,1975.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H10,n-butane
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(10/85) w1350. Chen,1975.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H2,butadiyne
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	1,3-Butadiyne. Dorofeeva,1991.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H4,1,3-cyclo-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	1,3-Cyclobutadiene. Dorofeeva,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H6,1butyne
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[10/93] tuvw3040.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H6,2butyne
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(10/93) tuvw3040.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H6,butadiene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	1,3-butadiene. TRC(10/92) tuvw2820.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H6,cyclo-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cyclobutene. Dorofeeva,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H8,1-butene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[4/88] tuvw2600.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H8,cis2-buten
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cis2-butene TRC(4/88) tuvw2600.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H8,cyclo-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cyclobutane. Dorofeeva,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H8,isobutene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(4/88) tuvw2600.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	C4H8,tr2-butene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[4/88] tuvw-2600.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H9,i-butyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	2-methylpropyl. TRC[10/84] tuvw1940.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H9,n-butyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(10/84) tuvw1940.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H9,s-butyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	1-methylpropyl radical. Tsang,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4H9,t-butyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	1,1dimethylethyl radical. Tsang,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C4N2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(12/93) w8992. Khanna,1987. Brown,1989.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C5
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p20 pt2 p18.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	C5H10,1-pentene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(4/87) tuvw2500.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C5H10,cyclo-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cyclopentane. Dorofeeva,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C5H11,pentyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Radical. TRC[10/84] tuvw1941.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C5H11,t-pentyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	1,1-dimethylpropyl radical. Tsang,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C5H12,i-pentane
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	2-Methylbutane. TRC[10/85] tuvw1350.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C5H12,n-pentane
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(10/85) tuvw1350.
T_min:	200.0 K
T_max:	—

T_max:	6000.0 K
Medium Name:	C5H6,1,3cyclo-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	1,3-Cyclopentadiene. Pedley,1986 p90. Dorofeeva,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C5H8,cyclo-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cyclopentene. Hf:TRC[10/92] w2840. Dorofeeva,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6D5,phenyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Radical-d5. Burcat,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6D6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Benzene-d6. Burcat,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6H10,cyclo-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cyclohexene. Dorofeeva,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6H12,1-hexene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(4/87) tuvw2500.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6H12,cyclo-
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cyclohexane. Dorofeeva,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6H13,n-hexyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[10/83] tuvw1930.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6H14,n-hexane
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(4/85) tuvw1440.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6H2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Dorofeeva,1991.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6H5OH,phenol
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Burcat,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6H5O,phenoxy
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Phenoxy radical. Burcat,1985.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C6H5,phenyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Radical.Hf:TRC(10/89) w4270. Jacox,1998. NASA ab initio.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	C6H6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[10/86]w3200. Pliva,1982,1983,1984. Shimanouchi,1972.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C7H14,1-heptene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(4/87) tuvw2500.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C7H15,n-heptyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[10/83] tuvw1930.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C7H16,2-methylh
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	2-methylhexane. TRC[10/85] tuvw1460.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C7H16,n-heptane
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(10/85) tuv1460. TRC(10/84) ptuv1010.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C7H7,benzyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Radical. Brouwer,1988. Hippler,1990.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C7H8
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[4/98] w3510. Hitchcock,1975. Rudolph,1967.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C7H8O,cresol-mx
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Eql. mixture of isomers. Kudchadker,1978.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C8H10,ethylbenz
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ethylbenzene. TRC[10/86] tuvw3200.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C8H16,1-octene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(4/87) tuvw2500.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C8H17,n-octyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[10/83] tuvw1930.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C8H18,isooctane
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	2,2,4-Trimethylpentane. TRC(4/85) tuvw1490.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C8H18,n-octane
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(4/85) tuvw1490.
T_min:	200.0 K
T_max:	6000.0 K

T_max:	6000.0 K
Medium Name:	C8H8,styrene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ethenylbenzene. TRC(4/89) tuvw4490.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	C9H19,n-nonyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC [10/83] tuvw1930.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ca
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Sugar,1985. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Ca+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ca2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p439 pt2 p347.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p471 pt2 p367.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaBr2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p474 pt2 p369.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaBr2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic Gurvich,1996a pt1 p473 pt2 p368.
T_min:	298.15 K
T_max:	1015.0 K
Medium Name:	CaBr2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p473 pt2 p368.
T_min:	1015.0 K
T_max:	6000.0 K
Medium Name:	CaCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p464 pt2 p363.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaCL+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p466 pt2 p364.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	CaCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p470 pt2 p366.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaCL2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1996a pt1 p467 pt2 p365.
T_min:	100.0 K

T_max:	1048.0 K
Medium Name:	CaCL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p467 pt2 p365.
T_min:	1048.0 K
T_max:	6000.0 K
Medium Name:	CaCO3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal Gurvich,1996a pt1 p483 pt2 p376.
T_min:	200.0 K
T_max:	1603.0 K
Medium Name:	CaCO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p483 pt2 p376.
T_min:	1603.0 K
T_max:	6000.0 K
Medium Name:	CaF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p456 pt2 p359.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaF+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p460 pt2 p360.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	CaF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p462 pt2 p362.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaF2(a)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,cubic.Gurvich,1996a pt1 p461 pt2 p361.
T_min:	200.0 K
T_max:	1424.0 K
Medium Name:	CaF2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,cubic.Gurvich,1996a pt1 p461 pt2 p361.
T_min:	1424.0 K
T_max:	1691.0 K
Medium Name:	CaF2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid.Gurvich,1996a pt1 p461 pt2 p361.
T_min:	1691.0 K
T_max:	6000.0 K
Medium Name:	CaH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p447 pt2 p353.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaH2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,rhombic Gurvich,1996a pt1 p449 pt2 p354.
T_min:	298.15 K
T_max:	1053.0 K
Medium Name:	CaH2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,cubic Gurvich,1996a pt1 p449 pt2 p354.
T_min:	1053.0 K
T_max:	1273.0 K
Medium Name:	CaH2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p449 pt2 p354.
T_min:	1273.0 K

T_max:	6000.0 K
Medium Name:	CaI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p474 pt2 p370.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p477 pt2 p372.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaI2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal Gurvich,1996a pt1 p476 pt2 p371.
T_min:	200.0 K
T_max:	1056.0 K
Medium Name:	CaI2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p476 pt2 p371.
T_min:	1056.0 K
T_max:	6000.0 K
Medium Name:	CaO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p443 pt2 p349.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	CaO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p445 pt2 p351.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	CaOH
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p451 pt2 p355.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaOH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p452 pt2 p356.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	CaO(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic Gurvich,1996a pt1 p442 pt2 p348.
T_min:	200.0 K
T_max:	3172.0 K
Medium Name:	CaO(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p442 pt2 p348.
T_min:	3172.0 K
T_max:	6000.0 K
Medium Name:	CaS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p480 pt2 p374.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CaSO4(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic Gurvich,1996a pt1 p481 pt2 p375.
T_min:	200.0 K
T_max:	1473.0 K
Medium Name:	CaSO4(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic Gurvich,1996a pt1 p481 pt2 p375.
T_min:	1473.0 K

T_max:	1733.0 K
Medium Name:	CaSO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p481 pt2 p375.
T_min:	1733.0 K
T_max:	6000.0 K
Medium Name:	CaS(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic Gurvich,1996a pt1 p478 pt2 p373.
T_min:	200.0 K
T_max:	2800.0 K
Medium Name:	CaS(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p478 pt2 p373.
T_min:	2800.0 K
T_max:	6000.0 K
Medium Name:	Ca(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Alcock,1993.
T_min:	200.0 K
T_max:	716.0 K
Medium Name:	Ca(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Alcock,1993.
T_min:	716.0 K
T_max:	1115.0 K
Medium Name:	Ca(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Alcock,1993.
T_min:	1115.0 K
T_max:	6000.0 K
Medium Name:	Ca(OH)2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p455 pt2 p358.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ca(OH)2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal Gurvich,1996a pt1 p454 pt2 p357.
T_min:	100.0 K
T_max:	1023.0 K
Medium Name:	Ca(OH)2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p454 pt2 p357.
T_min:	1023.0 K
T_max:	6000.0 K
Medium Name:	CBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p157 pt2 p137.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p159 pt2 p138.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CBr3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p160 pt2 p139.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CBr4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Kudchadker,1975.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	CCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Kumaran,1997. Gurvich,1991 pt1 p106 pt2 p81.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Kumaran,1997. Jacox,1994. Shin,1990.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CCL2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p170 pt2 p151.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Hudgens,1991. TRC(12/93) tuv7270.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CCL3Br
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p169 pt2 p150.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CCL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p111 pt2 p84.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CCLBr3
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p171 pt2 p152.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CCN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991 pt1 p222. Jacox,1998 p173.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cd
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Moore,1971. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Cd+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Cd(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Ref-Elm. Cox,1989 p223.
T_min:	100.0 K
T_max:	594.258 K
Medium Name:	Cd(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p223.
T_min:	594.258 K
T_max:	6000.0 K
Medium Name:	CF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[6/88] w6950. Gurvich,1991 pt1 p74 pt2 p55.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	CF+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p579 12/70.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	CF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[6/88] w6950. Jacox,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CF2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p583 12/70. Jacox,1994.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	CF2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p166 pt2 p145.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CF2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p136 pt2 p108.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CF2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(6/89) w7350.Gurvich,1991 pt1 p139 pt2 p111.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CF2CLBr
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p173 pt2 p156.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[6/88] w6950. Jacox,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CF3+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p583 12/71. Jacox,1998.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	CF3Br
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p165 pt2 p144.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CF3CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(6/89) w7350. Gurvich,1991 pt1 p137 pt2 p109.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[12/94] w6520. Gurvich,1991 pt1 p79 pt2 p58.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CFBr3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p166 pt2 p146.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	CFCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991 pt1 p135 pt2 p107. Jacox,1994.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CFCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p138 pt2 p110.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CFCL2Br
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p175 pt2 p157.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CFCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(6/89) w7350. Gurvich,1991 pt1 p140 pt2 p112.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CFCLBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p175 pt2 p158.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1979 pt1 p37 pt2 p39.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	CH+
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p38 pt2 p32.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	CH2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	D0[H2C-H]: Ruscic,1999. Bunker,1983. Jacox,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2Br-COOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Bromoacetic Acid. Dorofeeva,2001.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Kudchadker,1975.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(12/93) w7270. Gurvich,1991 pt1 p122. Jacox,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2CL-COOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chloroacetic Acid. Dorofeeva,2001.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p125 pt2 p97.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	CH2CLBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p171 pt2 p153.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2CO,ketene
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	D0(H2C=CO): Ruscic,1999. Duncan,1987.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[6/88] tuvw6950.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[12/89] w6880. Gurvich,1991 pt1 p96 pt2 p71.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2FBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p167 pt2 p147.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2FCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(6/89) w7350. Gurvich,1991 pt1 p147 pt2 p122.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2I2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Kudchadker,1975. Kudchadker,1976.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2OH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hydroxymethyl Radical. Johnson,1996.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH2OH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hydroxymethyl Cation. Johnson,1996.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	CH3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	D0(H3C-H): Ruscic,1999. Jacox,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3Br
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Kudchadker,1975.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3CHO,ethanal
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC (6/78) w5300. Chao,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p122 pt2 p95.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	CH3CN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Acetonitrile. TRC(6/93) w9270. Koga,1984. Pavone,1990.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3COOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Acetic Acid. Chao,1978.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3CO,acetyl
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Radical. Hf:Niiranen,1992. Nimlos,1989.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3C(CH3)2CH3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	2,2-Dimethylpropane (neopentane). TRC(10/85) tuvw1350.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[12/89] w6880. Gurvich,1991 pt1 p93 pt2 p69.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3I
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Kudchadker,1975.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3N2CH3
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Azomethane. Pamidumukkala,1982.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991 pt1 p67. Jacox,1998 p271.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3O2CH3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Dimethyl peroxide,CH3-O-O-CH3. Dorofeeva,2001.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3OCH3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Dimethyl ether. Hf:TRC[6/91] w6040. Chao,1986.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3OH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(6/87) w5030. Chen,1977.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH3OOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Methyl Hydroperoxide,CH3-O-O-H. Dorofeeva,2001.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CH4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p44 pt2 p36.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	CHBr3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Kudchadker,1975.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(12/93) w7270.Gurvich,1991. Jacox,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC[12/93] tuvw7270.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHCL2Br
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p172 pt2 p154.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p127 pt2 p98.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHCLBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p173 pt2 p155.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHF
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(6/88) w695. Jacox,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	TRC(6/88) tuvw6950.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHF2Br
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p168 pt2 p148.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHF2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[6/89] w7350. Gurvich,1991 pt1 p148 pt2 p123.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(12/89) w6880. Gurvich,1991 pt1 p97 pt2 p72.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHFBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p168 pt2 p149.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHFCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p147 pt2 p121.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	CHFCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC[6/89] w7350. Gurvich,1991 pt1 p149 pt2 p124.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHFCLBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p176 pt2 p159.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CHI3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Kudchadker,1975.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p176 pt2 p160.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p178 pt2 p161.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CI3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p178 pt2 p162.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CI4
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Kudchadker,1975. Kudchadker,1976.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	CL+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	CL-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ref-Elm. Gurvich,1989 pt1 p177 pt2 p88.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CL2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p184 pt2 p92.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CLCN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p230 pt2 p218
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	CLF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p190 pt2 p97.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CLF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p193 pt2 p98.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CLF5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p194 pt2 p99.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CLO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p180 pt2 p90.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CLO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p182 pt2 p91.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf: Huang,1992. Gurvich,1979 pt1 p212 pt2 p210.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	CN+
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p215 pt2 p203.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	CN-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p218 pt2 p205.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	CNC
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CNC radical. Gurvich,1991 pt1 p221 pt2 p209.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CNCOCN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Oxopropanedinitrile,NC-CO-CN. Dorofeeva,2001.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CNN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p220 pt2 p208. Jacox,1994.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1979 pt1 p25 pt2 p29.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	CO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1979 pt1 p25 pt2 p29.
T_min:	200.0 K

T_max:	20000.0 K
Medium Name:	CO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p26 pt2 p22.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	CO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p26 pt2 p22.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Co-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	CO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p27 pt2 p24.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	CO2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p30 pt2 p26.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	COCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p118 pt2 p91.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	COCL2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p119 pt2 p92.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	COF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p89 pt2 p66.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	COFCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p146 pt2 p120.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	COHCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p134 pt2 p106.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	COHF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p106 pt2 p80.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	COOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p60 pt2 p46.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	COS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p211 pt2 p200.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	Co(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Chase,1998 pp943-6.
T_min:	200.0 K
T_max:	700.1 K
Medium Name:	Co(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta.Ref-Elm.Below Lambda trans. Chase,1998 pp943-6.
T_min:	700.1 K
T_max:	1394.0 K
Medium Name:	Co(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta.Ref-Elm.Below Lambda trans. Chase,1998 pp943-6.
T_min:	700.1 K
T_max:	1394.0 K
Medium Name:	Co(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp943-6.
T_min:	1768.0 K
T_max:	6000.0 K
Medium Name:	CP
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p231 pt2 p219.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Chase,1998 p963 6/79. Sugar,1985. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Cr+
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Cr-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Cr2N(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p971.
T_min:	298.15 K
T_max:	2500.0 K
Medium Name:	Cr2O3(I')
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p18 pt2 p22.
T_min:	200.0 K
T_max:	306.0 K
Medium Name:	Cr2O3(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p18 pt2 p22.
T_min:	306.0 K
T_max:	310.0 K
Medium Name:	Cr2O3(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p18 pt2 p22.
T_min:	306.0 K
T_max:	310.0 K
Medium Name:	Cr2O3(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p18 pt2 p22.
T_min:	306.0 K

T_max:	310.0 K
Medium Name:	Cr2O3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p18 pt2 p22.
T_min:	2705.0 K
T_max:	6000.0 K
Medium Name:	CrN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p967.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CrN(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p966.
T_min:	200.0 K
T_max:	2500.0 K
Medium Name:	CrO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p13 pt2 p17.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	CrO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p16 pt2 p19.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CrO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p17 pt2 p20.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CrO3-
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p18 pt2 p21.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	Cr(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Below lambda trans. Ref-Elm. Chase,1998 pp959-62.
T_min:	200.0 K
T_max:	311.5 K
Medium Name:	Cr(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Below lambda trans. Ref-Elm. Chase,1998 pp959-62.
T_min:	200.0 K
T_max:	311.5 K
Medium Name:	Cr(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp959-62.
T_min:	2130.0 K
T_max:	6000.0 K
Medium Name:	CS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Prinslow,1991. Gurvich,1991 pt1 p206 pt2 p198.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Prinslow,1991. Gurvich,1991 pt1 p206 pt2 p198.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K

T_max:	20000.0 K
Medium Name:	Cs-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	CS2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p209 pt2 p199.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CS2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p209 pt2 p199.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p491 pt2 p513.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p487 pt2 p510.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs2CO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p503 pt2 p524.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs2CO3(cr)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p502 pt2 p523.
T_min:	200.0 K
T_max:	1066.0 K
Medium Name:	Cs2CO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 502 pt2 p523.
T_min:	1066.0 K
T_max:	6000.0 K
Medium Name:	Cs2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p484 pt2 p507.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs2I2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p495 pt2 p516.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p473 pt2 p496.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs2O+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p474 pt2 p497.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	Cs2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p476 pt2 p499.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	Cs2O2H2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1997.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs2O2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic Gurvich,1982 pt1 p475 pt2 p498.
T_min:	298.15 K
T_max:	867.0 K
Medium Name:	Cs2O2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p475 pt2 p498.
T_min:	867.0 K
T_max:	6000.0 K
Medium Name:	Cs2O(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p472 pt2 p495.
T_min:	200.0 K
T_max:	768.0 K
Medium Name:	Cs2O(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p472 pt2 p495.
T_min:	768.0 K
T_max:	6000.0 K
Medium Name:	Cs2SO4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p497 pt2 p518.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs2SO4(a)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombohedral. Gurvich,1982 pt1 p496 pt2 p517.
T_min:	200.0 K
T_max:	920.0 K
Medium Name:	Cs2SO4(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p496 pt2 p517.
T_min:	920.0 K
T_max:	1000.0 K
Medium Name:	Cs2SO4(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p496 pt2 p517.
T_min:	1000.0 K
T_max:	1288.0 K
Medium Name:	Cs2SO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p496 pt2 p517.
T_min:	1288.0 K
T_max:	6000.0 K
Medium Name:	CsBO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p505 pt2 p526.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsBO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p504 pt2 p525.
T_min:	200.0 K
T_max:	1005.0 K
Medium Name:	CsBO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p504 pt2 p525.
T_min:	1005.0 K

T_max:	6000.0 K
Medium Name:	CsBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p490 pt2 p512.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsBr(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p488 pt2 p511.
T_min:	200.0 K
T_max:	910.0 K
Medium Name:	CsBr(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p488 pt2 p511.
T_min:	910.0 K
T_max:	6000.0 K
Medium Name:	CsCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p487 pt2 p509.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsCL(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p485 pt2 p508.
T_min:	200.0 K
T_max:	743.0 K
Medium Name:	CsCL(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p485 pt2 p508.
T_min:	743.0 K
T_max:	919.0 K
Medium Name:	CsCL(L)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p485 pt2 p508.
T_min:	919.0 K
T_max:	6000.0 K
Medium Name:	CsF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p483 pt2 p506.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsF(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p481 pt2 p505.
T_min:	200.0 K
T_max:	976.0 K
Medium Name:	CsF(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p481 pt2 p505.
T_min:	976.0 K
T_max:	6000.0 K
Medium Name:	CsH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p477 pt2 p501.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsH(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p476 pt2 p500.
T_min:	298.15 K
T_max:	801.0 K
Medium Name:	CsH(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p476 pt2 p500.
T_min:	801.0 K

T_max:	6000.0 K
Medium Name:	CsI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p494 pt2 p515.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsI(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p492 pt2 p514.
T_min:	200.0 K
T_max:	905.0 K
Medium Name:	CsI(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p492 pt2 p514.
T_min:	905.0 K
T_max:	6000.0 K
Medium Name:	CsLi
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p505 pt2 p527.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsNa
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p506 pt2 p528.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsNO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p499 pt2 p520.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsNO2(I)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p498 pt2 p519.
T_min:	298.15 K
T_max:	679.0 K
Medium Name:	CsNO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p498 pt2 p519.
T_min:	679.0 K
T_max:	6000.0 K
Medium Name:	CsNO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p501 pt2 p522.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsNO3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p500 pt2 p521.
T_min:	200.0 K
T_max:	427.0 K
Medium Name:	CsNO3(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p500 pt2 p521.
T_min:	427.0 K
T_max:	682.0 K
Medium Name:	CsNO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p500 pt2 p521.
T_min:	682.0 K
T_max:	6000.0 K
Medium Name:	CsO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p471 pt2 p493.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	CsO2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1982 pt1 p472 pt2 p494.
T_min:	298.15 K
T_max:	403.0 K
Medium Name:	CsO2(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p472 pt2 p494.
T_min:	403.0 K
T_max:	723.0 K
Medium Name:	CsO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p472 pt2 p494.
T_min:	723.0 K
T_max:	6000.0 K
Medium Name:	CsOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1997.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CsOH(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Gurvich,1997.
T_min:	100.0 K
T_max:	498.2 K
Medium Name:	CsOH(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Gurvich,1997.
T_min:	498.2 K
T_max:	615.5 K
Medium Name:	CsOH(L)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1997.
T_min:	615.5 K
T_max:	6000.0 K
Medium Name:	CsRb
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p508 pt2 p530.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cs(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Ref-Elm. Cox,1989 p263.
T_min:	100.0 K
T_max:	301.59 K
Medium Name:	Cs(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p263.
T_min:	301.59 K
T_max:	2000.0 K
Medium Name:	Cu
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Sugar,1990. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Cu+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1990. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Cu-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K

T_max:	20000.0 K
Medium Name:	Cu2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1022.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Cu2O(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. King,1973 p60.
T_min:	200.0 K
T_max:	1516.7 K
Medium Name:	Cu2O(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. King,1973 p60.
T_min:	1516.7 K
T_max:	6000.0 K
Medium Name:	Cu2S(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Pankratz,1987 p101.
T_min:	298.15 K
T_max:	376.0 K
Medium Name:	Cu2S(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Pankratz,1987 p101.
T_min:	376.0 K
T_max:	720.0 K
Medium Name:	Cu2S(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Pankratz,1987 p101.
T_min:	720.0 K
T_max:	1400.0 K
Medium Name:	Cu2S(L)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Pankratz,1987 p101.
T_min:	1400.0 K
T_max:	6000.0 K
Medium Name:	Cu3CL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p874.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CuBr2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Pankratz,1984 p181.
T_min:	298.15 K
T_max:	800.0 K
Medium Name:	CuBr(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Pankratz,1984 p177.
T_min:	298.15 K
T_max:	657.0 K
Medium Name:	CuBr(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Pankratz,1984 p177.
T_min:	657.0 K
T_max:	741.0 K
Medium Name:	CuBr(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Pankratz,1984 p177.
T_min:	741.0 K
T_max:	759.0 K
Medium Name:	CuBr(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Pankratz,1984 p177.
T_min:	759.0 K

T_max:	1500.0 K
Medium Name:	CuCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p748.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CuCL2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Pankratz,1984 p185.
T_min:	298.15 K
T_max:	675.0 K
Medium Name:	CuCL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Pankratz,1984 p185.
T_min:	675.0 K
T_max:	6000.0 K
Medium Name:	CuCL(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Pankratz,1984 p182.
T_min:	298.15 K
T_max:	685.0 K
Medium Name:	CuCL(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Pankratz,1984 p182.
T_min:	685.0 K
T_max:	696.0 K
Medium Name:	CuCL(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Pankratz,1984 p182.
T_min:	696.0 K
T_max:	1700.0 K
Medium Name:	CuF
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1013.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CuF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1017.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CuF2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Pankratz,1984 p188.
T_min:	298.15 K
T_max:	1109.0 K
Medium Name:	CuF2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Pankratz,1984 p188.
T_min:	1109.0 K
T_max:	6000.0 K
Medium Name:	CuF(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Pankratz,1984 p186.
T_min:	298.15 K
T_max:	1300.0 K
Medium Name:	CuI(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	King,1973. Pankratz,1984 p190.
T_min:	200.0 K
T_max:	642.0 K
Medium Name:	CuI(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Pankratz,1984 p190.
T_min:	642.0 K

T_max:	680.0 K
Medium Name:	CuI(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Pankratz,1984 p190.
T_min:	680.0 K
T_max:	868.0 K
Medium Name:	CuI(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Pankratz,1984 p190.
T_min:	868.0 K
T_max:	1600.0 K
Medium Name:	CuO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1020.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CuOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Jacox,1994. Nu1:Whitham,2000. Hf:V.N.Belyaev,1978.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	CuO(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. King,1973 p56.
T_min:	200.0 K
T_max:	1400.0 K
Medium Name:	CuSO4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. King,1973 p68.
T_min:	200.0 K
T_max:	1500.0 K
Medium Name:	CuS(cr)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Pankratz,1987 p99.
T_min:	298.15 K
T_max:	717.824 K
Medium Name:	Cu(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Ref-Elm.Cox,1989 p226.
T_min:	200.0 K
T_max:	1358.0 K
Medium Name:	Cu(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm.Cox,1989 p226.
T_min:	1358.0 K
T_max:	6000.0 K
Medium Name:	Cu(OH)2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. King,1973 p62.
T_min:	298.15 K
T_max:	2000.0 K
Medium Name:	C(gr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Graphite. Ref-Elm. TRC[4/83] vc,uc,tc1000-1002.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	D
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	D0(D2): Herzberg,1970. Moore,1972. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	D+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1972. Gordon,1999.
T_min:	298.15 K

T_max:	20000.0 K
Medium Name:	D-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	D2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ref-Species. Gurvich,1989 pt1 p134 pt2 p45.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	D2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1041.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	D2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1042.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	D2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p142 pt2 p51.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	D2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p142 pt2 p52.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	D2S
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Miller,1967. H2S data.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	DBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p206 pt2 p107.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	DCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p188 pt2 p95.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	DF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p172 pt2 p80.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	DO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p138 pt2 p49.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	DO2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p139 pt2 p50.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	DOCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	D0 estimated from HOCL. Jacox,1998 p155.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	e-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ref-Species. Chase,1998 3/82.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	F+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	F-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ref-Elm. Gurvich,1989. pt1 p157 pt2 p73.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	F2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p161 pt2 p76.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	F2O2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	FOOF. Chase,1996b p585.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	FCN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p229 pt2 p217.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	FCO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991 pt1 p87. Jacox,1998 p193.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Fe
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Hultgren,1973. Sugar,1985. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Fe+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Fe-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Fe.947O(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Wustite. Pankratz,1983 p155.
T_min:	298.15 K

T_max:	1652.0 K
Medium Name:	Fe.947O(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Wustite Liquid. Pankratz,1983 p155.
T_min:	1652.0 K
T_max:	6000.0 K
Medium Name:	Fe2CL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p891.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Fe2CL6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p928.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Fe2O3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hematite below Curie pt. Pankratz,1983 p158.
T_min:	298.15 K
T_max:	960.0 K
Medium Name:	Fe2O3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hematite below Curie pt. Pankratz,1983 p158.
T_min:	298.15 K
T_max:	960.0 K
Medium Name:	Fe2(SO4)3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1249.
T_min:	298.15 K
T_max:	2000.0 K
Medium Name:	Fe3O4(cr)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Magnetite. Pankratz,1983 p160. Westrum,1969.
T_min:	200.0 K
T_max:	850.0 K
Medium Name:	Fe3O4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Magnetite. Pankratz,1983 p160. Westrum,1969.
T_min:	200.0 K
T_max:	850.0 K
Medium Name:	Fe3O4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 p1250 6/65.
T_min:	1870.0 K
T_max:	6000.0 K
Medium Name:	FeCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p761.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	FeCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p822.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	FeCL2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Chase,1998 pp819-21.
T_min:	200.0 K
T_max:	950.0 K
Medium Name:	FeCL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 pp819-21.
T_min:	950.0 K

T_max:	6000.0 K
Medium Name:	FeCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p879.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	FeCL3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Pankratz,1984 p228. Stuve,1980.
T_min:	200.0 K
T_max:	577.0 K
Medium Name:	FeCL3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Pankratz,1984 p228. Stuve,1980.
T_min:	577.0 K
T_max:	6000.0 K
Medium Name:	FeO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1239.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	FeOCL(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Stuve,1980.
T_min:	200.0 K
T_max:	700.0 K
Medium Name:	FeS2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Pyrite. Chase,1998 p1246.
T_min:	200.0 K
T_max:	1400.0 K
Medium Name:	FeSO4(cr)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1240.
T_min:	200.0 K
T_max:	2000.0 K
Medium Name:	FeS(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Pankratz,1987. Chase,1998 pp1241-3 9/77.
T_min:	200.0 K
T_max:	411.0 K
Medium Name:	FeS(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Pankratz,1987. Chase,1998 pp1241-3 9/77.
T_min:	411.0 K
T_max:	598.0 K
Medium Name:	FeS(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Pankratz,1987. Chase,1998 pp1241-3 9/77.
T_min:	598.0 K
T_max:	1465.0 K
Medium Name:	FeS(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Pankratz,1987. Chase,1998 pp1241-3 9/77.
T_min:	1465.0 K
T_max:	6000.0 K
Medium Name:	Fe(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm.Below Lambda trans. Chase,1998 p1221.
T_min:	200.0 K
T_max:	1042.0 K
Medium Name:	Fe(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm.Below Lambda trans. Chase,1998 p1221.
T_min:	200.0 K

T_max:	1042.0 K
Medium Name:	Fe(CO)5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p698.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Fe(CO)5(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 p697.
T_min:	253.1 K
T_max:	6000.0 K
Medium Name:	Fe(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Ref-Elm. Chase,1998 pp1221-5.
T_min:	1184.0 K
T_max:	1665.0 K
Medium Name:	Fe(d)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Delta. Ref-Elm. Chase,1998 pp1221-5.
T_min:	1665.0 K
T_max:	1809.0 K
Medium Name:	Fe(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp1221-5.
T_min:	1809.0 K
T_max:	6000.0 K
Medium Name:	Fe(OH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1230.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Fe(OH)2(cr)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Chase,1998 p1229.
T_min:	298.15 K
T_max:	1500.0 K
Medium Name:	Fe(OH)3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Chase,1998 p1231.
T_min:	298.15 K
T_max:	1500.0 K
Medium Name:	FO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1996b p582.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	FO2,FOO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1996b p582.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	FO2,OFO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1996b p583.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	FS2F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Difluorodisulfane. Chase,1998 p1146.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1996a. Moore,1971. Johansson,1967. Gordon,1999.
T_min:	200.0 K

T_max:	20000.0 K
Medium Name:	Ga+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	IP:Johansson,1967. Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ga2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p244 pt2 p197.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2Br4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p245 pt2 p198.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2Br6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p246 pt2 p199.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p237 pt2 p190.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2CL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p237 pt2 p191.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2CL6
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p238 pt2 p192.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p228 pt2 p183.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2F4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p228 pt2 p184.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2F6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p230 pt2 p185.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2I2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p252 pt2 p204.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2I4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p253 pt2 p205.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2I6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p253 pt2 p206.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	Ga2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p216 pt2 p175.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga2O3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1996a pt1 p219 pt2 p176.
T_min:	200.0 K
T_max:	2080.0 K
Medium Name:	Ga2O3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p219 pt2 p176.
T_min:	2080.0 K
T_max:	6000.0 K
Medium Name:	GaBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p239 pt2 p193
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p241 pt2 p194.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaBr3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p243 pt2 p196.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaBr3(cr)
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p242 pt2 p195.
T_min:	298.15 K
T_max:	397.0 K
Medium Name:	GaBr3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p242 pt2 p195.
T_min:	397.0 K
T_max:	6000.0 K
Medium Name:	GaCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p231 pt2 p186
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p232 pt2 p187.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p235 pt2 p189.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaCL3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Triclinic. Gurvich,1996a pt1 p234 pt2 p188.
T_min:	298.15 K
T_max:	351.0 K
Medium Name:	GaCL3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p234 pt2 p188.
T_min:	351.0 K

T_max:	6000.0 K
Medium Name:	GaF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p224 pt2 p179
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p225 pt2 p180.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p226 pt2 p182.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaF3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p226 pt2 p181.
T_min:	298.15 K
T_max:	2000.0 K
Medium Name:	GaH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p220 pt2 p177
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p247 pt2 p200
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaI2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p249 pt2 p201.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaI3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p250 pt2 p203.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaI3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1996a pt1 p249 pt2 p202.
T_min:	298.15 K
T_max:	485.0 K
Medium Name:	GaI3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p249 pt2 p202.
T_min:	485.0 K
T_max:	6000.0 K
Medium Name:	GaO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p214 pt2 p174
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GaOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p222 pt2 p178.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ga(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Ref-Elm. Gurvich,1996a pt1 p209 pt2 p169.
T_min:	100.0 K

T_max:	302.92 K
Medium Name:	Ga(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Gurvich,1996a pt1 p209 pt2 p169.
T_min:	302.92 K
T_max:	6000.0 K
Medium Name:	Ge
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991 pt1 p311. Sugar,1993. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Ge+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1993. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ge-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ge2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p313 pt2 p273.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p333 pt2 p287.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeBr2
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p334 pt2 p288.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeBr3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p335 pt2 p289.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeBr4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p336 pt2 p290.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p328 pt2 p283.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p330 pt2 p284.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991 pt1 p331. Gurvich,1979 pt2 p287.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeCL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p332 pt2 p286.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	GeF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p324 pt2 p279.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p326 pt2 p280.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991 pt1 p327. Gurvich,1979 v2 pt2 p283.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p328 pt2 p282.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeH4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Barin,1989 pt1 p628.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	GeI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p337 pt2 p291.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeO
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p315 pt2 p274.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p323 pt2 p278.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeO2(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal Rutile,Gurvich,1991 pt1 p319 pt2 p275.
T_min:	100.0 K
T_max:	1308.0 K
Medium Name:	GeO2(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal alpha-quartz,Gurvich,1991 pt1 p319 pt2 p275.
T_min:	1308.0 K
T_max:	1388.0 K
Medium Name:	GeO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal liquid,Gurvich,1991 pt1 p319 pt2 p275.
T_min:	1388.0 K
T_max:	6000.0 K
Medium Name:	GeS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p344 pt2 p297.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	GeS2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p347 pt2 p299.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	GeS2(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal II. Gurvich,1991 pt1 p345 pt2 p298.
T_min:	100.0 K
T_max:	1113.0 K
Medium Name:	GeS2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p345 pt2 p298.
T_min:	1113.0 K
T_max:	6000.0 K
Medium Name:	GeS(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal[II]. Gurvich,1991 pt1 p342 pt2 p296.
T_min:	100.0 K
T_max:	931.0 K
Medium Name:	GeS(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p342 pt2 p296.
T_min:	931.0 K
T_max:	6000.0 K
Medium Name:	Ge(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Ref-Elm. Gurvich,1991 pt1 p308 pt2 p268.
T_min:	200.0 K
T_max:	1211.4 K
Medium Name:	Ge(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Gurvich,1991 pt1 p308 pt2 p268.
T_min:	1211.4 K
T_max:	6000.0 K
Medium Name:	H
Library Name:	NASA coefficients and calculation rules

Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	D0(H2):Herzberg,1970. Moore,1972. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	H+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	IP[H]: Moore,1972. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	H-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	H2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'and 'Transport Coefficients for the NASA Lewis Chemical Equilibrium Program (NASA/TM-4647)'
Literature Reference:	Ref-Elm. Gurvich,1978 pt1 p103 pt2 p31.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	H2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1978 pt1 p107 pt2 p33.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	H2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1312.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	H2BOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p46 pt2 p29.
T_min:	200.0 K

T_max:	6000.0 K
Medium Name:	H2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 v1 pt1 p164 pt2 p308.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'and 'Transport Coefficients for the NASA Lewis Chemical Equilibrium Program (NASA/TM-4647)'
Literature Reference:	Hf:Cox,1989. Woolley,1987. TRC(10/88) tuv25.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H2O+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p125 pt2 p38.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	H2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1989 pt1 p127. Gurvich,1978 pt1 p121.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H2O(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ice. Gordon,1982.
T_min:	200.0 K
T_max:	273.15 K
Medium Name:	H2O(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Cox,1989. Haar,1984. Keenan,1984. Stimson,1969.
T_min:	273.15 K
T_max:	600.0 K
Medium Name:	H2S

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p298 pt2 p181.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H2SO4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p300 pt2 p182.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H2SO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1335.
T_min:	283.456 K
T_max:	1000.0 K
Medium Name:	H3B3O3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p53 pt2 p34.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H3B3O6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p55 pt2 p35.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H3BO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p50 pt2 p32.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H3BO3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Triclinic,orthoboric acid. Gurvich,1996a pt1 p48 pt2 p31.

T_min:	200.0 K
T_max:	444.1 K
Medium Name:	H3BO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid,orthoboric acid. Gurvich,1996a pt1 p48 pt2 p31.
T_min:	444.1 K
T_max:	6000.0 K
Medium Name:	H3F3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p166 pt2 p309.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H3O+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p130 pt2 p41.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	H3PO4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal,Phosphoric acid. Chase,1998 p1345-7.
T_min:	200.0 K
T_max:	315.5 K
Medium Name:	H3PO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid,Phosphoric acid. Chase,1998 pp1345-7.
T_min:	315.5 K
T_max:	1000.0 K
Medium Name:	H4F4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p167 pt2 p310.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H5F5

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p168 pt2 p311.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H6F6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p169 pt2 p312.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	H7F7
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p170 pt2 p313.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HALO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p147 pt2 p111.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HALO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p148 pt2 p112.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HBO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Boron oxide-hydride Gurvich,1996a pt1 p39,pt2 p23.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HBO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p223 12/75.

T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	HBO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p42 pt2 p26.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HBO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal,metaboric acid. Gurvich,1996a pt1 p41 pt2 p25.
T_min:	298.15 K
T_max:	509.0 K
Medium Name:	HBO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid,metaboric acid. Gurvich,1996a pt1 p41 pt2 p25.
T_min:	509.0 K
T_max:	6000.0 K
Medium Name:	HBOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p44 pt2 p27.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p205 pt2 p106.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HBS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p227 12/75. Jacox,1994.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HBS+

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p228 12/75. Jacox,1998 p141.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	HB(OH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p47 pt2 p30.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HCCN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p228 pt2 p216.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HCCO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ketenyl rad. Osborn,1997. Szalay,1996. Jacox,1998 p156.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HCHO,formaldehy
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:TRC(6/78) w-5300. Gurvich,1991 pt1 p62 pt2 p47.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p186 pt2 p93.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HCN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf: East,1993. Gurvich,1991 pt1 p226.

T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HCO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Terentis,1996. Jacox,1998 p146.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HCO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Formyl ion. Hf:Chase,1998 p603 12/70. Jacox,1998 p145.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	HCOOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Formic acid. Chao,1978.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HD
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p144 pt2 p53.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	HD+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1034.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	HDO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p145 pt2 p55.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HDO2

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p146 pt2 p56.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	He
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ref-Elm. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	He+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971; Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	HF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p162 pt2 p77.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Hg
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Moore,1971. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Hg+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	HgBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf: Pankratz,1984. Chase,1998 p485 3/62.

T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HgBr2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p482 3/62. Pankratz,1984 p302.
T_min:	298.15 K
T_max:	514.0 K
Medium Name:	HgBr2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp482-4 3/62.
T_min:	514.0 K
T_max:	6000.0 K
Medium Name:	HgO(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1382.
T_min:	200.0 K
T_max:	1000.0 K
Medium Name:	Hg(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Ref-Elm. Chase,1998 pp1373-4.
T_min:	100.0 K
T_max:	234.29 K
Medium Name:	Hg(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp1373-4.
T_min:	234.29 K
T_max:	2000.0 K
Medium Name:	HI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1265.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HNC

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991 pt1 p227. Jacox,1998 p145.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HNCO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:East,1993. Jacox,1998 p236.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HNO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p362 pt2 p227. Jacox,1998 p151.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HNO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cis-trans. Gurvich,1989 pt1 p363 pt2 p228.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HNO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p367 pt2 p231.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Hills,1984 & NASA data. Jacox,1998 p153.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HO2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	B3LYP. EA: Oakes,1985.

T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	HOCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1989 pt1 p187. Jacox,1998 p155.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HOF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p171 pt2 p79.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HO(CO)2OH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Oxalic Acid,HO-CO-CO-OH. Dorofeeva,2001.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HPO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1989 pt1 p424. Jacox,1994 p46.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	HSO3F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1057.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	I
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	I+

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	I-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	I2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p220 pt2 p117.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	I2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Ref-Elm. Gurvich,1989 pt1 p219 pt2 p315.
T_min:	200.0 K
T_max:	386.75 K
Medium Name:	I2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Gurvich,1989 pt1 p219 pt2 p315.
T_min:	386.75 K
T_max:	6000.0 K
Medium Name:	IF5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p232 pt2 p123.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	IF7
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p234 pt2 p124.

T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1996a. Johansson,1967. Moore,1971. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	In+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	IP:Johansson,1967. Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	In2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p294 pt2 p237.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2Br4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p295 pt2 p238.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2Br6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p296 pt2 p239.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p287 pt2 p229.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2CL4

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p287 pt2 p230.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2CL6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p288 pt2 p231.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p276 pt2 p221.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2F4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p277 pt2 p222.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2F6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p279 pt2 p223.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2I2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p303 pt2 p246.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2I4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p304 pt2 p247.

T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2I6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p305 pt2 p248.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p264 pt2 p213.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In2O3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1996a pt1 p267 pt2 p214.
T_min:	200.0 K
T_max:	2186.0 K
Medium Name:	In2O3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p267 pt2 p214.
T_min:	2186.0 K
T_max:	6000.0 K
Medium Name:	InBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p291 pt2 p233
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p292 pt2 p234.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InBr3

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p292 pt2 p236.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InBr3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p292 pt2 p235.
T_min:	298.15 K
T_max:	693.0 K
Medium Name:	InBr3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p292 pt2 p235.
T_min:	693.0 K
T_max:	6000.0 K
Medium Name:	InBr(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic Gurvich,1996a pt1 p289 pt2 p232.
T_min:	298.15 K
T_max:	558.0 K
Medium Name:	InBr(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p289 pt2 p232
T_min:	558.0 K
T_max:	6000.0 K
Medium Name:	InCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p281 pt2 p225
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p283 pt2 p226.

T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p286 pt2 p228.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InCL3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic Gurvich,1996a pt1 p284 pt2 p227.
T_min:	298.15 K
T_max:	856.0 K
Medium Name:	InCL3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p284 pt2 p227.
T_min:	856.0 K
T_max:	6000.0 K
Medium Name:	InCL(crII)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic Gurvich,1996a pt1 p280 pt2 p224.
T_min:	298.15 K
T_max:	387.0 K
Medium Name:	InCL(crI)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic Gurvich,1996a pt1 p280 pt2 p224.
T_min:	387.0 K
T_max:	484.0 K
Medium Name:	InCL(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p280 pt2 p224
T_min:	484.0 K
T_max:	6000.0 K
Medium Name:	InF

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p272 pt2 p217.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p274 pt2 p218.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p276 pt2 p220.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InF3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal Gurvich,1996a pt1 p274 pt2 p219.
T_min:	298.15 K
T_max:	1445.0 K
Medium Name:	InF3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p274 pt2 p219.
T_min:	1445.0 K
T_max:	6000.0 K
Medium Name:	InH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p269 pt2 p215
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p298 pt2 p241.

T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p300 pt2 p243.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InI2(crII)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p299 pt2 p242.
T_min:	200.0 K
T_max:	428.0 K
Medium Name:	InI2(crI)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p299 pt2 p242.
T_min:	428.0 K
T_max:	497.0 K
Medium Name:	InI2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p299 pt2 p242.
T_min:	497.0 K
T_max:	6000.0 K
Medium Name:	InI3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p301 pt2 p245.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InI3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic Gurvich,1996a pt1 p301 pt2 p244.
T_min:	296.0 K
T_max:	480.0 K
Medium Name:	InI3(L)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p301 pt2 p244.
T_min:	480.0 K
T_max:	6000.0 K
Medium Name:	InI(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic Gurvich,1996a pt1 p296 pt2 p240
T_min:	200.0 K
T_max:	637.5 K
Medium Name:	InI(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p296 pt2 p240
T_min:	637.5 K
T_max:	6000.0 K
Medium Name:	InO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p261 pt2 p212
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	InOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p271 pt2 p216.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	In(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Ref-Elm. Gurvich,1996a pt1 255 pt2 p207.
T_min:	100.0 K
T_max:	429.784 K
Medium Name:	In(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Gurvich,1996a pt1 255 pt2 p207.

T_min:	429.784 K
T_max:	6000.0 K
Medium Name:	K
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Sugar,1985. Gordon 1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	K+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1985. Gordon 1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	K-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon 1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	K2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p370 pt2 p402.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p374 pt2 p403.
T_min:	298.15 K
T_max:	3000.0 K
Medium Name:	K2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p397 pt2 p424.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2C2N2

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p678.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p393 pt2 p421.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2CO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p411 pt2 p435.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2CO3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1982 pt1 p410 pt2 p434.
T_min:	200.0 K
T_max:	693.0 K
Medium Name:	K2CO3(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p410 pt2 p434.
T_min:	693.0 K
T_max:	1173.0 K
Medium Name:	K2CO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p410 pt2 p434.
T_min:	1173.0 K
T_max:	6000.0 K
Medium Name:	K2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p389 pt2 p418.

T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2I2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p401 pt2 p427.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p377 pt2 p407.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2O+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p379 pt2 p408.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	K2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p381 pt2 p410.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2O2H2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1997.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2O2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p379 pt2 p409.
T_min:	298.15 K
T_max:	818.0 K
Medium Name:	K2O2(L)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p379 pt2 p409.
T_min:	818.0 K
T_max:	6000.0 K
Medium Name:	K2O(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	I Tetragonal. Gurvich,1982 pt1 p377 pt2 p406.
T_min:	645.0 K
T_max:	1013.0 K
Medium Name:	K2O(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	II Cubic. Gurvich,1982 pt1 p377 pt2 p406.
T_min:	590.0 K
T_max:	645.0 K
Medium Name:	K2O(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	III Cubic. Gurvich,1982 pt1 p377 pt2 p406.
T_min:	298.15 K
T_max:	590.0 K
Medium Name:	K2O(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p377 pt2 p406.
T_min:	1013.0 K
T_max:	6000.0 K
Medium Name:	K2Si2O5(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	III. Gurvich,1982 pt1 p413 pt2 p437.
T_min:	200.0 K
T_max:	510.0 K
Medium Name:	K2Si2O5(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	II. Gurvich,1982 pt1 p413 pt2 p437.

T_min:	510.0 K
T_max:	867.0 K
Medium Name:	K2Si2O5(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	I. Gurvich,1982 pt1 p413 pt2 p437.
T_min:	867.0 K
T_max:	1318.0 K
Medium Name:	K2Si2O5(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p413 pt2 p437.
T_min:	1318.0 K
T_max:	6000.0 K
Medium Name:	K2SiO3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p412 pt2 p436.
T_min:	200.0 K
T_max:	1249.0 K
Medium Name:	K2SiO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p412 pt2 p436.
T_min:	1249.0 K
T_max:	6000.0 K
Medium Name:	K2SO4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p404 pt2 p429.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	K2SO4(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p402 pt2 p428.
T_min:	200.0 K
T_max:	857.0 K
Medium Name:	K2SO4(I)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p402 pt2 p428.
T_min:	857.0 K
T_max:	1342.0 K
Medium Name:	K2SO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p402 pt2 p428.
T_min:	1342.0 K
T_max:	6000.0 K
Medium Name:	K2S(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Below lambda. Chase,1998 pp1486-8.
T_min:	298.15 K
T_max:	1050.0 K
Medium Name:	K2S(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Below lambda. Chase,1998 pp1486-8.
T_min:	298.15 K
T_max:	1050.0 K
Medium Name:	K2S(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1486-8.
T_min:	1221.0 K
T_max:	6000.0 K
Medium Name:	K3ALF6(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1982 pt1 p418 pt2 p442.
T_min:	298.15 K
T_max:	600.0 K
Medium Name:	K3ALF6(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p418 pt2 p442.

T_min:	600.0 K
T_max:	1273.0 K
Medium Name:	K3ALF6(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p418 pt2 p442.
T_min:	1273.0 K
T_max:	6000.0 K
Medium Name:	KALF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p417 pt2 p441.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KALO2(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic Gurvich,1982 pt1 p416 pt2 p440.
T_min:	200.0 K
T_max:	810.0 K
Medium Name:	KALO2(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic Gurvich,1982 pt1 p416 pt2 p440.
T_min:	810.0 K
T_max:	1986.0 K
Medium Name:	KALO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p416 pt2 p440.
T_min:	1986.0 K
T_max:	6000.0 K
Medium Name:	KBO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p415 pt2 p439.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KBO2(cr)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p414 pt2 p438.
T_min:	200.0 K
T_max:	1220.0 K
Medium Name:	KBO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p414 pt2 p438.
T_min:	1220.0 K
T_max:	6000.0 K
Medium Name:	KBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p396 pt2 p423.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KBr(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p394 pt2 p422.
T_min:	200.0 K
T_max:	1007.0 K
Medium Name:	KBr(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p394 pt2 p422.
T_min:	1007.0 K
T_max:	6000.0 K
Medium Name:	KCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p393 pt2 p420.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KCL(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p390 pt2 p419.

T_min:	200.0 K
T_max:	1044.0 K
Medium Name:	KCL(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p390 pt2 p419.
T_min:	1044.0 K
T_max:	6000.0 K
Medium Name:	KCN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p620.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KCN(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp617-9.
T_min:	168.3 K
T_max:	895.0 K
Medium Name:	KCN(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp617-9.
T_min:	895.0 K
T_max:	6000.0 K
Medium Name:	KF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p389 pt2 p417.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KF(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p387 pt2 p416.
T_min:	200.0 K
T_max:	1131.0 K
Medium Name:	KF(L)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p387 pt2 p416.
T_min:	1131.0 K
T_max:	6000.0 K
Medium Name:	KH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p383 pt2 p412.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KH(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p381 pt2 p411.
T_min:	298.15 K
T_max:	892.0 K
Medium Name:	KH(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p381 pt2 p411.
T_min:	892.0 K
T_max:	6000.0 K
Medium Name:	KI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p400 pt2 p426.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KI(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p398 pt2 p425.
T_min:	200.0 K
T_max:	954.0 K
Medium Name:	KI(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p398 pt2 p425.

T_min:	954.0 K
T_max:	6000.0 K
Medium Name:	KLi
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p419 pt2 p444.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KNa
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p420 pt2 p445.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KNO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p406 pt2 p431.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KNO2(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p404 pt2 p430.
T_min:	200.0 K
T_max:	314.7 K
Medium Name:	KNO2(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p404 pt2 p430.
T_min:	314.7 K
T_max:	711.0 K
Medium Name:	KNO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p404 pt2 p430.
T_min:	711.0 K
T_max:	6000.0 K
Medium Name:	KNO3

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p409 pt2 p433.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KNO3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p407 pt2 p432.
T_min:	200.0 K
T_max:	402.0 K
Medium Name:	KNO3(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p407 pt2 p432.
T_min:	402.0 K
T_max:	607.7 K
Medium Name:	KNO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p407 pt2 p432.
T_min:	607.7 K
T_max:	6000.0 K
Medium Name:	KO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p375 pt2 p404.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KO2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p375 pt2 p405.
T_min:	422.0 K
T_max:	808.0 K
Medium Name:	KO2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1982 pt1 p375 pt2 p405.

T_min:	200.0 K
T_max:	422.0 K
Medium Name:	KO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p375 pt2 p405.
T_min:	808.0 K
T_max:	6000.0 K
Medium Name:	KOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1997.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	KOH(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,beta. Gurvich,1997 p1031.
T_min:	100.0 K
T_max:	298.15 K
Medium Name:	KOH(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Gurvich,1997 p1031.
T_min:	298.15 K
T_max:	517.0 K
Medium Name:	KOH(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Gurvich,1997 p1031.
T_min:	517.0 K
T_max:	679.0 K
Medium Name:	KOH(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1997 p1031.
T_min:	679.0 K
T_max:	6000.0 K
Medium Name:	Kr

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ref-Elm. Sugar,1991.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Kr+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1991. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	K(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Ref-Elm. Cox,1989 p257.
T_min:	200.0 K
T_max:	336.86 K
Medium Name:	K(HF2)(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Chase,1998 pp1104-6.
T_min:	200.0 K
T_max:	469.85 K
Medium Name:	K(HF2)(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Chase,1998 pp1104-6.
T_min:	469.85 K
T_max:	511.95 K
Medium Name:	K(HF2)(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 pp1104-6.
T_min:	511.95 K
T_max:	6000.0 K
Medium Name:	K(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p257.

T_min:	336.86 K
T_max:	2200.0 K
Medium Name:	Li
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Moore,1971. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Li+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Li-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Li2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1505.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p249 pt2 p292.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	Li2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p286 pt2 p319.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li2CL2

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p282 pt2 p315.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li2CO3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1982 pt1 p297 pt2 p330.
T_min:	200.0 K
T_max:	1005.0 K
Medium Name:	Li2CO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p297 pt2 p330.
T_min:	1005.0 K
T_max:	6000.0 K
Medium Name:	Li2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p276 pt2 p311.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li2I2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p290 pt2 p323.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p259 pt2 p296.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li2O+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p260 pt2 p297.

T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	Li2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p262 pt2 p299.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li2O2H2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996b.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li2O2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p261 pt2 p298.
T_min:	298.15 K
T_max:	1000.0 K
Medium Name:	Li2O(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p257 pt2 p295.
T_min:	200.0 K
T_max:	1726.0 K
Medium Name:	Li2O(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p257 pt2 p295.
T_min:	1726.0 K
T_max:	6000.0 K
Medium Name:	Li2SO4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1522.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li2SO4(a)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Gurvich,1982 pt1 p291 pt2 p325.
T_min:	200.0 K
T_max:	848.0 K
Medium Name:	Li2SO4(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Gurvich,1982 pt1 p291 pt2 p325.
T_min:	848.0 K
T_max:	1131.0 K
Medium Name:	Li2SO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p291 pt2 p325.
T_min:	1131.0 K
T_max:	6000.0 K
Medium Name:	Li3+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p251 pt2 p293.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	Li3ALF6(III)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1982 pt1 p301 pt2 p334.
T_min:	788.0 K
T_max:	873.0 K
Medium Name:	Li3ALF6(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p301 pt2 p334.
T_min:	873.0 K
T_max:	978.0 K
Medium Name:	Li3ALF6(IV)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p301 pt2 p334.

T_min:	200.0 K
T_max:	788.0 K
Medium Name:	Li3ALF6(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Gurvich,1982 pt1 p301 pt2 p334.
T_min:	978.0 K
T_max:	1058.0 K
Medium Name:	Li3ALF6(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p301 pt2 p334.
T_min:	1058.0 K
T_max:	6000.0 K
Medium Name:	Li3Br3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p287 pt2 p320.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li3CL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p283 pt2 p316.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li3F3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p278 pt2 p312.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li3I3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p290 pt2 p324.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li3N(cr)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1526.
T_min:	200.0 K
T_max:	1300.0 K
Medium Name:	LiALF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p300 pt2 p333.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiALO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp126-8.
T_min:	200.0 K
T_max:	1973.0 K
Medium Name:	LiALO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp126-8.
T_min:	1973.0 K
T_max:	6000.0 K
Medium Name:	LiBO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p299 pt2 p332.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiBO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1982 pt1 p298 pt2 p331.
T_min:	200.0 K
T_max:	1122.0 K
Medium Name:	LiBO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p298 pt2 p331.

T_min:	1122.0 K
T_max:	6000.0 K
Medium Name:	LiBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p285 pt2 p318.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiBr(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p284 pt2 p317.
T_min:	200.0 K
T_max:	823.0 K
Medium Name:	LiBr(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p284 pt2 p317.
T_min:	823.0 K
T_max:	6000.0 K
Medium Name:	LiCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p281 pt2 p314.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiCL(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p279 pt2 p313.
T_min:	200.0 K
T_max:	883.0 K
Medium Name:	LiCL(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p279 pt2 p313.
T_min:	883.0 K
T_max:	6000.0 K
Medium Name:	LiF

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p275 pt2 p310.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiF(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p273 pt2 p309.
T_min:	200.0 K
T_max:	1122.0 K
Medium Name:	LiF(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p273 pt2 p309.
T_min:	1122.0 K
T_max:	6000.0 K
Medium Name:	LiH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p265 pt2 p301.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiH(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p263 pt2 p300.
T_min:	200.0 K
T_max:	965.0 K
Medium Name:	LiH(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p263 pt2 p300.
T_min:	965.0 K
T_max:	6000.0 K
Medium Name:	LiI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p289 pt2 p322.

T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiI(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p287 pt2 p321.
T_min:	200.0 K
T_max:	742.0 K
Medium Name:	LiI(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p287 pt2 p321.
T_min:	742.0 K
T_max:	6000.0 K
Medium Name:	LiN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1500.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiNO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p294 pt2 p327.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiNO2(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Gurvich,1982 pt1 p292 pt2 p326.
T_min:	298.15 K
T_max:	369.0 K
Medium Name:	LiNO2(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p292 pt2 p326.
T_min:	369.0 K
T_max:	495.0 K
Medium Name:	LiNO2(L)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p292 pt2 p326.
T_min:	495.0 K
T_max:	6000.0 K
Medium Name:	LiNO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p296 pt2 p329.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiNO3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p294 pt2 p328.
T_min:	298.15 K
T_max:	526.0 K
Medium Name:	LiNO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p294 pt2 p328.
T_min:	525.0 K
T_max:	6000.0 K
Medium Name:	LiO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p256 pt2 p294.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiOF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1069.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996b.

T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	LiOH(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1996b.
T_min:	200.0 K
T_max:	746.0 K
Medium Name:	LiOH(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996b.
T_min:	746.0 K
T_max:	6000.0 K
Medium Name:	LiON
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1501.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Li(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Ref-Elm. Gurvich,1982 pt1 p245 pt2 p286.
T_min:	200.0 K
T_max:	453.69 K
Medium Name:	Li(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Gurvich,1982 pt1 p245 pt2 p286.
T_min:	453.69 K
T_max:	6000.0 K
Medium Name:	Mg
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Kaufman,1991a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Mg+

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Kaufman,1991a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Mg2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p393 pt2 p316.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Mg2F4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1178.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Mg2SiO4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1556-8 12/67.
T_min:	200.0 K
T_max:	2171.0 K
Medium Name:	Mg2SiO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1556-8 12/67
T_min:	2170.0 K
T_max:	6000.0 K
Medium Name:	Mg2TiO4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1559-61 6/67.
T_min:	200.0 K
T_max:	2013.0 K
Medium Name:	Mg2TiO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1559-61 6/67.

T_min:	2013.0 K
T_max:	6000.0 K
Medium Name:	Mg3N2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1996a pt1 p427 pt2 p340.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	MgAL2O4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Chase,1998 pp147-9.
T_min:	200.0 K
T_max:	2408.0 K
Medium Name:	MgAL2O4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 pp147-9.
T_min:	2408.0 K
T_max:	6000.0 K
Medium Name:	MgBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p417 pt2 p331.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p420 pt2 p333.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgBr2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p418 pt2 p332.
T_min:	298.15 K
T_max:	984.0 K
Medium Name:	MgBr2(L)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p418 pt2 p332.
T_min:	984.0 K
T_max:	6000.0 K
Medium Name:	MgCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p412 pt2 p328.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgCL+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p786 6/68.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	MgCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p416 pt2 p330.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgCL2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p413 pt2 p329.
T_min:	200.0 K
T_max:	987.0 K
Medium Name:	MgCL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p413 pt2 p329.
T_min:	987.0 K
T_max:	6000.0 K
Medium Name:	MgCO3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p429 pt2 p341.

T_min:	200.0 K
T_max:	1263.0 K
Medium Name:	MgCO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p429 pt2 p341.
T_min:	1263.0 K
T_max:	6000.0 K
Medium Name:	MgF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p408 pt2 p325.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgF+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1071 12/75.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	MgF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p411 pt2 p327.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgF2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1122 12/75.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	MgF2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1996a pt1 p410 pt2 p326.
T_min:	200.0 K
T_max:	1536.0 K
Medium Name:	MgF2(L)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p410 pt2 p326.
T_min:	1536.0 K
T_max:	6000.0 K
Medium Name:	MgH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p401 pt2 p320.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgH2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,tetragonal. Gurvich,1996a pt1 p402 pt2 p321.
T_min:	200.0 K
T_max:	600.0 K
Medium Name:	MgH2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p402 pt2 p321.
T_min:	600.0 K
T_max:	6000.0 K
Medium Name:	MgI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p420 pt2 p334.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p423 pt2 p336.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgI2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p422 pt2 p335.

T_min:	298.15 K
T_max:	906.0 K
Medium Name:	MgI2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p422 pt2 p335.
T_min:	906.0 K
T_max:	6000.0 K
Medium Name:	MgN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1535.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p398 pt2 p318.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	MgOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p404 pt2 p322.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgOH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1285 12/75.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	MgO(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic Gurvich,1996a pt1 p397 pt2 p317.
T_min:	200.0 K
T_max:	3100.0 K
Medium Name:	MgO(L)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1996a pt1 p397 pt2 p317.
T_min:	3100.0 K
T_max:	6000.0 K
Medium Name:	MgS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p425 pt2 p338.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MgSiO3(III)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1540-2.
T_min:	1258.0 K
T_max:	1850.0 K
Medium Name:	MgSiO3(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1540-2.
T_min:	903.0 K
T_max:	1258.0 K
Medium Name:	MgSiO3(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1540-2.
T_min:	200.0 K
T_max:	903.0 K
Medium Name:	MgSiO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1540-2.
T_min:	1850.0 K
T_max:	6000.0 K
Medium Name:	MgSO4(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrII,rhombic. Gurvich,1996a pt1 p426 pt2 p339.

T_min:	200.0 K
T_max:	1283.0 K
Medium Name:	MgSO4(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,rhombic. Gurvich,1996a pt1 p426 pt2 p339.
T_min:	1283.0 K
T_max:	1410.0 K
Medium Name:	MgSO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p426 pt2 p339.
T_min:	1410.0 K
T_max:	6000.0 K
Medium Name:	MgS(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1996a pt1 p424 pt2 p337.
T_min:	200.0 K
T_max:	2500.0 K
Medium Name:	MgS(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p424 pt2 p337.
T_min:	2500.0 K
T_max:	6000.0 K
Medium Name:	MgTi2O5(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Todd,1952. Chase,1998 pp1550-1552 6/67.
T_min:	200.0 K
T_max:	1963.0 K
Medium Name:	MgTi2O5(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Todd,1952. Chase,1998 pp1550-1552 6/67.
T_min:	1963.0 K
T_max:	6000.0 K
Medium Name:	MgTiO3(cr)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1543-5.
T_min:	200.0 K
T_max:	1953.0 K
Medium Name:	MgTiO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1543-5.
T_min:	1953.0 K
T_max:	6000.0 K
Medium Name:	Mg(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Ref-Elm. Alcock,1993.
T_min:	100.0 K
T_max:	923.0 K
Medium Name:	Mg(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Alcock,1993.
T_min:	923.0 K
T_max:	6000.0 K
Medium Name:	Mg(OH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p407 pt2 p324.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Mg(OH)2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1996a pt1 p405 pt2 p323.
T_min:	200.0 K
T_max:	1000.0 K
Medium Name:	Mg(OH)2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p405 pt2 p323.

T_min:	1100.0 K
T_max:	6000.0 K
Medium Name:	Mn
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Desai,1987. Sugar,1985. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Mn+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Mn(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Chase,1998 pp1571-4.
T_min:	200.0 K
T_max:	980.0 K
Medium Name:	Mn(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Chase,1998 pp1571-4.
T_min:	980.0 K
T_max:	1361.0 K
Medium Name:	Mn(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Ref-Elm. Chase,1998 pp1571-4.
T_min:	1361.0 K
T_max:	1412.0 K
Medium Name:	Mn(d)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Delta. Ref-Elm. Chase,1998 pp1571-4.
T_min:	1412.0 K
T_max:	1519.0 K
Medium Name:	Mn(L)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp1571-4.
T_min:	1519.0 K
T_max:	6000.0 K
Medium Name:	Mo
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Desai,1987. Sugar,1988. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Mo+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1988. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Mo-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Mo2O6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p33 pt2 p37.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Mo3O9
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p34 pt2 p38.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Mo4O12
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p36 pt2 p39.

T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Mo5O15
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p38 pt2 p40.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MoO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p25 pt2 p30.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	MoO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p28 pt2 p33.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MoO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1982 pt1 p27 pt2 p32.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MoO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p31 pt2 p35.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	MoO3-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p32 pt2 p36.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	MoO3(cr)

Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p30 pt2 p34.
T_min:	200.0 K
T_max:	1075.0 K
Medium Name:	MoO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p30 pt2 p34.
T_min:	1075.0 K
T_max:	6000.0 K
Medium Name:	Mo(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Ref-Elm. Chase,1998 pp1577-80.
T_min:	200.0 K
T_max:	2896.0 K
Medium Name:	Mo(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp1577-80.
T_min:	2896.0 K
T_max:	6000.0 K
Medium Name:	N
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Moore,1975. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	N+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1975. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	N-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Chase,1998 p1602. Gordon,1999.

T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	N2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'and 'Transport Coefficients for the NASA Lewis Chemical Equilibrium Program (NASA/TM-4647)'
Literature Reference:	Ref-Elm. Gurvich,1978 pt1 p280 pt2 p207.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	N2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p323 pt2 p200.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	N2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1623.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	N2D2,cis
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Use NASA data for N2H2,H,&D. Chase,1998 p1044 6/77.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	N2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p377 pt2 p237.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	N2F4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p380 pt2 p240.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	N2H2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p356.Trans,cis,& 1,1 in equilibrium.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	N2H4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p360 pt2 p225.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	N2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p337 pt2 p210.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	N2O+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1625.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	N2O3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p338 pt2 p211.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	N2O4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p342 pt2 p212.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	N2O5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1989 pt1 p343 pt2 p213.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	N3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p325 pt2 p202.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	N3H
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p362 pt2 p226.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Martin,W.C.,1981. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Na+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Martin,W.C.,1981. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Na-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Na2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p314 pt2 p357.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	Na2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p342 pt2 p380.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p338 pt2 p376.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na2CO3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,monoclinic. Gurvich,1982 pt1 p356 pt2 p390.
T_min:	200.0 K
T_max:	623.0 K
Medium Name:	Na2CO3(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,monoclinic. Gurvich,1982 pt1 p356 pt2 p390.
T_min:	623.0 K
T_max:	752.0 K
Medium Name:	Na2CO3(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma,hexagonal. Gurvich,1982 pt1 p356 pt2 p390.
T_min:	752.0 K
T_max:	1131.0 K
Medium Name:	Na2CO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p356 pt2 p390.
T_min:	1131.0 K
T_max:	6000.0 K
Medium Name:	Na2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1982 pt1 p333 pt2 p372.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na2I2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p346 pt2 p383.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p321 pt2 p361.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na2O+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p322 pt2 p362.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	Na2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p324 pt2 p364.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na2O2H2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996b.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na2O2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Gurvich,1982 pt1 p323 pt2 p363.
T_min:	785.0 K
T_max:	948.0 K

Medium Name:	Na2O2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Gurvich,1982 pt1 p323 pt2 p363.
T_min:	200.0 K
T_max:	785.0 K
Medium Name:	Na2O2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p323 pt2 p363.
T_min:	948.0 K
T_max:	6000.0 K
Medium Name:	Na2O(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Gurvich,1982 pt1 p320 pt2 p360.
T_min:	1243.0 K
T_max:	1405.0 K
Medium Name:	Na2O(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Gurvich,1982 pt1 p320 pt2 p360.
T_min:	1023.0 K
T_max:	1243.0 K
Medium Name:	Na2O(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Gurvich,1982 pt1 p320 pt2 p360.
T_min:	200.0 K
T_max:	1023.0 K
Medium Name:	Na2O(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p320 pt2 p360.
T_min:	1405.0 K
T_max:	6000.0 K
Medium Name:	Na2SO3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Crystal. Barin,1989 pt2 p1002.
T_min:	298.15 K
T_max:	1184.0 K
Medium Name:	Na2SO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Barin,1989 pt2 p1002.
T_min:	1184.0 K
T_max:	6000.0 K
Medium Name:	Na2SO4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p349 pt2 p385.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na2SO4(IV)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p346 pt2 p384.
T_min:	458.0 K
T_max:	514.0 K
Medium Name:	Na2SO4(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p346 pt2 p384.
T_min:	514.0 K
T_max:	1157.0 K
Medium Name:	Na2SO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p346 pt2 p384.
T_min:	1157.0 K
T_max:	6000.0 K
Medium Name:	Na2SO4(V)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p346 pt2 p384.
T_min:	200.0 K
T_max:	458.0 K

Medium Name:	Na2S(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Below lambda trans. Chase,1998 pp1667-9.
T_min:	298.15 K
T_max:	1276.0 K
Medium Name:	Na2S(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Below lambda trans. Chase,1998 pp1667-9.
T_min:	298.15 K
T_max:	1276.0 K
Medium Name:	Na2S(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1667-9.
T_min:	1445.0 K
T_max:	6000.0 K
Medium Name:	Na3ALF6(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1982 pt1 p361 pt2 p394.
T_min:	200.0 K
T_max:	838.0 K
Medium Name:	Na3ALF6(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p361 pt2 p394.
T_min:	838.0 K
T_max:	1286.0 K
Medium Name:	Na3ALF6(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p361 pt2 p394.
T_min:	1286.0 K
T_max:	6000.0 K
Medium Name:	Na3CL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1982 pt1 p339 pt2 p377.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na3F3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p334 pt2 p373.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Na5AL3F14(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1982 pt1 p362 pt2 p395.
T_min:	200.0 K
T_max:	1010.0 K
Medium Name:	Na5AL3F14(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p362 pt2 p395.
T_min:	1010.0 K
T_max:	6000.0 K
Medium Name:	NaALF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p359 pt2 p393.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaALO2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha.Chase,1998 p131.
T_min:	200.0 K
T_max:	740.0 K
Medium Name:	NaALO2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Chase,1998 p131.
T_min:	740.0 K
T_max:	3000.0 K

Medium Name:	NaBO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p358 pt2 p392.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaBO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p357 pt2 p391.
T_min:	200.0 K
T_max:	1239.0 K
Medium Name:	NaBO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p357 pt2 p391.
T_min:	1239.0 K
T_max:	6000.0 K
Medium Name:	NaBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p342 pt2 p379.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaBr(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p340 pt2 p378.
T_min:	200.0 K
T_max:	1020.0 K
Medium Name:	NaBr(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p340 pt2 p378.
T_min:	1020.0 K
T_max:	6000.0 K
Medium Name:	NaCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1982 pt1 p337 pt2 p375.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaCL(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p335 pt2 p374.
T_min:	200.0 K
T_max:	1074.0 K
Medium Name:	NaCL(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p335 pt2 p374.
T_min:	1074.0 K
T_max:	6000.0 K
Medium Name:	NaCN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p634.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaCN(III)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Lambda trans@288.5K. Chase,1998(3/66) pp631-3. Messer,1941.
T_min:	288.5 K
T_max:	835.0 K
Medium Name:	NaCN(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Lambda trans@288.5K. Chase,1998(3/66) pp631-3. Messer,1941.
T_min:	197.7 K
T_max:	288.5 K
Medium Name:	NaCN(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998(3/66) pp631-3. Messer,1941.
T_min:	835.0 K
T_max:	6000.0 K

Medium Name:	NaF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p332 pt2 p371.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaF(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p330 pt2 p370.
T_min:	200.0 K
T_max:	1269.0 K
Medium Name:	NaF(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p330 pt2 p370.
T_min:	1269.0 K
T_max:	6000.0 K
Medium Name:	NaH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p326 pt2 p366.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaH(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p324 pt2 p365.
T_min:	200.0 K
T_max:	911.0 K
Medium Name:	NaH(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p324 pt2 p365.
T_min:	911.0 K
T_max:	6000.0 K
Medium Name:	NaI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1982 pt1 p345 pt2 p382.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaI(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p343 pt2 p381.
T_min:	200.0 K
T_max:	934.0 K
Medium Name:	NaI(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p343 pt2 p381.
T_min:	934.0 K
T_max:	6000.0 K
Medium Name:	NaLi
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p363 pt2 p396.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaNO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p352 pt2 p387.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaNO2(I')
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p350 pt2 p386.
T_min:	436.7 K
T_max:	557.0 K
Medium Name:	NaNO2(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p350 pt2 p386.
T_min:	298.15 K
T_max:	436.7 K

Medium Name:	NaNO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p350 pt2 p386.
T_min:	557.0 K
T_max:	6000.0 K
Medium Name:	NaNO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p355 pt2 p389.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaNO3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p353 pt2 p388.
T_min:	200.0 K
T_max:	549.0 K
Medium Name:	NaNO3(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p353 pt2 p388.
T_min:	549.0 K
T_max:	579.6 K
Medium Name:	NaNO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p353 pt2 p388.
T_min:	579.6 K
T_max:	6000.0 K
Medium Name:	NaO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p318 pt2 p358.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Cubic. Gurvich,1982 pt1 p319 pt2 p359.Chase,1998 p1646 6/63.
T_min:	223.3 K
T_max:	825.0 K
Medium Name:	NaO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liq. Gurvich,1982 pt1 p319 pt2 p359.Chase,1998 p1646 6/63.
T_min:	825.0 K
T_max:	6000.0 K
Medium Name:	NaOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996b.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NaOH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1297 12/71. Jacox,1994.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	NaOH(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Gurvich,1996b.
T_min:	100.0 K
T_max:	514.0 K
Medium Name:	NaOH(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Gurvich,1996b.
T_min:	514.0 K
T_max:	568.0 K
Medium Name:	NaOH(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Gurvich,1996b.
T_min:	568.0 K
T_max:	594.0 K

Medium Name:	NaOH(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996b.
T_min:	594.0 K
T_max:	6000.0 K
Medium Name:	Na(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Ref-Elm. Cox,1989 p254.
T_min:	200.0 K
T_max:	371.01 K
Medium Name:	Na(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p254.
T_min:	371.01 K
T_max:	2300.0 K
Medium Name:	Nb
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1982. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Nb+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Nb-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Nb2O5(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Monoclinic. Gurvich,1982 pt1 p81 pt2 p82.
T_min:	200.0 K
T_max:	1783.0 K
Medium Name:	Nb2O5(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p81 pt2 p82.
T_min:	1783.0 K
T_max:	6000.0 K
Medium Name:	NbCL5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p918.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NbO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p76 pt2 p78.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	NbO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p80 pt2 p81.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NbO2(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1982 pt1 p78 pt2 p80.
T_min:	200.0 K
T_max:	1082.0 K
Medium Name:	NbO2(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1982 pt1 p78 pt2 p80.
T_min:	1082.0 K
T_max:	2360.0 K

Medium Name:	NbO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p78 pt2 p80.
T_min:	2360.0 K
T_max:	6000.0 K
Medium Name:	NbOCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Barin,1989. Wagman,1982.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	NbOCL3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Barin,1989 pt2 p1030. Wagman,1982 p207.
T_min:	298.15 K
T_max:	702.0 K
Medium Name:	NbO(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p75 pt2 p77.
T_min:	298.15 K
T_max:	2217.0 K
Medium Name:	NbO(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p75 pt2 p77.
T_min:	2217.0 K
T_max:	6000.0 K
Medium Name:	Nb(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Ref-Elm. Chase,1998 pp1675-8.
T_min:	200.0 K
T_max:	2750.0 K
Medium Name:	Nb(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp1675-8.
T_min:	2750.0 K
T_max:	6000.0 K
Medium Name:	NCN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991 pt1 p219. Jacox,1998 p180.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NCO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:East,1993. Jacox,1998 p184.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ND
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:est. from NH,H&D data. Chase,1998 p1037 6/77.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ND2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:est. from NH2,H,&D data. Jacox,1998 p133.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ND3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:est. from NH3,H,&D data. Chase,1998 p1047 6/77.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ne
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ref-Elm. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K

Medium Name:	Ne+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	NF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p372 pt2 p234. Gurvich,1978 pt2 p243.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p373. McBride,1992 METHOD NRRA01.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p375. McBride,1992 METHOD NRRA02.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Anderson,1989. Gurvich,1978 pt2 p223.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	NH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gibson,1985. Gurvich,1989 pt2 p216.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	NH2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Hf:Anderson,1989. Gurvich,1989 pt1 p349.Jacox,1998 p133.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NH2F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p387 pt2 p248.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NH2NO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Aminyl Nitrite. Gurvich,1989 pt1 p370 pt2 p233.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NH2OH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hydroxylamine. Gurvich,1989 pt1 p368 pt2 p232.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NH3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p354 pt2 p219. Haar,1968.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NH4+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p355 pt2 p220.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	NH4CL(III)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p765.
T_min:	457.7 K
T_max:	1500.0 K

Medium Name:	NH4CL(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p765.
T_min:	298.15 K
T_max:	457.7 K
Medium Name:	NH4F(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1989 pt1 p388 pt2 p324.
T_min:	200.0 K
T_max:	511.0 K
Medium Name:	NH4F(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1989 pt1 p388 pt2 p324.
T_min:	511.0 K
T_max:	6000.0 K
Medium Name:	NHF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p386 pt2 p247.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NHF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p388 pt2 p249.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ni
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Hultgren,1973. Litzen,1993. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Ni+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Sugar,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ni-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ni3S2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Pankratz,1987 p225-6. Chase,1998 pp1711-3 12/83.
T_min:	200.0 K
T_max:	834.0 K
Medium Name:	Ni3S2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Pankratz,1987 p225-6.
T_min:	834.0 K
T_max:	1064.0 K
Medium Name:	Ni3S2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Pankratz,1987 p225-6.
T_min:	1064.0 K
T_max:	6000.0 K
Medium Name:	Ni3S4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Chase,1998 p1714.
T_min:	298.15 K
T_max:	1100.0 K
Medium Name:	NiCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p794.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	NiCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p840.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NiO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Pedley,1983 p1012 p1019.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NiS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1707.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NiS2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Chase,1998 pp1708-10.
T_min:	298.15 K
T_max:	1280.0 K
Medium Name:	NiS2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 pp1708-10.
T_min:	1280.0 K
T_max:	6000.0 K
Medium Name:	NiS(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	ALpha. Chase,1998 pp1704-6.
T_min:	652.0 K
T_max:	1249.0 K
Medium Name:	NiS(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Beta. Chase,1998 pp1704-6.
T_min:	200.0 K
T_max:	652.0 K
Medium Name:	NiS(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 pp1704-6.
T_min:	1249.0 K
T_max:	6000.0 K
Medium Name:	Ni(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal Ref-Elm. <lambda trans 631K. Chase,1998 pp1697-700.
T_min:	200.0 K
T_max:	631.0 K
Medium Name:	Ni(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal Ref-Elm. <lambda trans 631K. Chase,1998 pp1697-700.
T_min:	200.0 K
T_max:	631.0 K
Medium Name:	Ni(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp1697-700.
T_min:	1728.0 K
T_max:	6000.0 K
Medium Name:	NO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1978,1989 pt1 p326 pt2 p203.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	NO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cp,S,IP(NO): Gurvich,1989 pt1 p330 pt2 p205.
T_min:	298.15 K
T_max:	20000.0 K

Medium Name:	NO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p332 pt2 p207.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NO2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p334 pt2 p208.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	NO2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p391. McBride,1992 METHOD NRRA01.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NO2F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p349. McBride,1992 METHOD NRRA01.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1607.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NO3-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p335 pt2 p209.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	NO3F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1989 pt1 p384 pt2 p245.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NOCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p389. McBride,1992 METHOD PANDK.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NOF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p382. McBride,1992 METHOD NRRAO2.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	NOF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p385 pt2 p246.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	D0[O2]:Brix,1954. Moore,1976. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	O+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Martin,W.C.,1993. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	O-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p93. Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K

Medium Name:	O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'and 'Transport Coefficients for the NASA Lewis Chemical Equilibrium Program (NASA/TM-4647)'
Literature Reference:	Ref-Elm. Gurvich,1989 pt1 p94 pt2 p9.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	O2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p98 pt2 p11.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	O2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p100 pt2 p13.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	O3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p101 pt2 p15.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	OBrO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1996a.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	OCCN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cyanooxomethyl radical. Dorofeeva,2001.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	OD
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	DO(OH)with ZPEadj. Gurvich,1989 pt1 p135 pt2 p47.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	OD-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p137 pt2 p48.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	OH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	DO[H-OH]: Ruscic,2002. Gurvich,1978 pt1 p110 pt2 p37.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	OH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	IP: Wiedmann,1992. Gurvich,1978 v1 pt2 p39.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	OH-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p118 pt2 p32.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	OHCH2COOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Glycolic Acid. Dorofeeva,2001.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	O(CH)2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Glyoxal. Dorofeeva,2001. Hubner,1997. Zeleznik,2002.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	P
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Martin,W.C.,1985. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	P+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Martin,W.C.,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	P-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	P2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p398 pt2 p255.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P2O3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p410 pt2 p262.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P2O4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p411 pt2 p263.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P2O5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1989 pt1 p411 pt2 p264.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p402 pt2 p256.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P3O6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p412 pt2 p265.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p402 pt2 p257.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P4O10
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p419 pt2 p271.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P4O10(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Gurvich,1989 pt1 p417 pt2 p270.
T_min:	100.0 K
T_max:	699.0 K
Medium Name:	P4O10(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1989 pt1 p417 pt2 p270.
T_min:	699.0 K
T_max:	6000.0 K

Medium Name:	P4O6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p413 pt2 p266.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P4O7
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p414 pt2 p267.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P4O8
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p415 pt2 p268.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P4O9
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p416 pt2 p269.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Pb
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1991. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Pb+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore1971. Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Pb-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Pb2O3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1991 pt1 p417 pt2 p348.
T_min:	100.0 K
T_max:	1000.0 K
Medium Name:	Pb3O4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1991 pt1 p418 pt2 p349.
T_min:	200.0 K
T_max:	1000.0 K
Medium Name:	PbBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p434 pt2 p360.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p437 pt2 p362.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbBr2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic Crystal. Gurvich,1991 pt1 p435 pt2 p361.
T_min:	100.0 K
T_max:	644.0 K
Medium Name:	PbBr2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p435 pt2 p361.
T_min:	644.0 K
T_max:	6000.0 K

Medium Name:	PbBr3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p438 pt2 p363.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbBr4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p439 pt2 p364.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p427 pt2 p355.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p430 pt2 p357.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbCL2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic Crystal. Gurvich,1991 pt1 p428 pt2 p356.
T_min:	200.0 K
T_max:	774.0 K
Medium Name:	PbCL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p428 pt2 p356.
T_min:	774.0 K
T_max:	6000.0 K
Medium Name:	PbCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1991 pt1 p432 pt2 p358.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbCL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p433 pt2 p359.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p419 pt2 p350.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p424 pt2 p352.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbF2(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic Crystal[II]. Gurvich,1991 pt1 p421 pt2 p351.
T_min:	298.15 K
T_max:	583.0 K
Medium Name:	PbF2(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic Crystal[I]. Gurvich,1991 pt1 p421 pt2 p351.
T_min:	583.0 K
T_max:	1103.0 K
Medium Name:	PbF2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p421 pt2 p351.
T_min:	1103.0 K
T_max:	6000.0 K

Medium Name:	PbF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p425 pt2 p353.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p426 pt2 p354.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p440 pt2 p365.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p443 pt2 p367.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbI2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal Crystal. Gurvich,1991 pt1 p441 pt2 p366.
T_min:	100.0 K
T_max:	683.0 K
Medium Name:	PbI2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p441 pt2 p366.
T_min:	683.0 K
T_max:	6000.0 K
Medium Name:	PbI3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1991 pt1 p444 pt2 p368.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbI4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p445 pt2 p369.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p413 pt2 p345.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p416 pt2 p347.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1991 pt1 p415 p52 p346.
T_min:	100.0 K
T_max:	1000.0 K
Medium Name:	PbO(I-y)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic [I-yellow].Gurvich,1991 pt1 p409 pt2 p343.
T_min:	762.0 K
T_max:	1160.0 K
Medium Name:	PbO(II-r)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal [II-red].Gurvich,1991 pt1 p409 pt2 p343.
T_min:	100.0 K
T_max:	762.0 K

Medium Name:	PbO(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid.Gurvich,1991 pt1 p409 pt2 p343.
T_min:	1160.0 K
T_max:	6000.0 K
Medium Name:	PbS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p448 pt2 p371.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbS2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p450 pt2 p372.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PbS(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1991 pt1 p445 p52 p370.
T_min:	100.0 K
T_max:	1386.5 K
Medium Name:	PbS(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p445 p52 p370.
T_min:	1386.5 K
T_max:	6000.0 K
Medium Name:	Pb(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Ref-Elm. Gurvich,1991 pt1 p400 pt2 p337.
T_min:	200.0 K
T_max:	600.65 K
Medium Name:	Pb(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Liquid. Ref-Elm. Gurvich,1991 pt1 p400 pt2 p337.
T_min:	600.65 K
T_max:	3600.0 K
Medium Name:	PCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p431 pt2 p282.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p432 pt2 p283.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PCL2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p433 pt2 p284.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	PCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p433 pt2 p285.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PCL5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p435 pt2 p286.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p425 pt2 p276.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	PF+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1086.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	PF-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1087.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	PF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p426 pt2 p277.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PF2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p426 pt2 p278.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	PF2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p439 pt2 p290.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PF2CL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p442 pt2 p294.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1989 pt1 p427 pt2 p279.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PF3CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p441 pt2 p293.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PF4CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p439 pt2 p291.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PF5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p429 pt2 p280.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PFCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p437 pt2 p288.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PFCL-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p438 pt2 p289.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	PFCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p440 pt2 p292.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	PFCL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p442 pt2 p295.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p420 pt2 p272.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PH2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p422 pt2 p273.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PH2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p423 pt2 p274.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	PH3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1348.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p446 pt2 p299.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1989 pt1 p404 pt2 p258.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PO-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p407 pt2 p259.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	PO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p408 pt2 p260.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PO2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p409 pt2 p261.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	POCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p436 pt2 p287.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	POF2CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p443 pt2 p296.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	POF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p430 pt2 p281.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	POFCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p444 pt2 p297.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	PS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p444 pt2 p298.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	P(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	White.Ref-Elm. Gurvich,1989 pt1 p395 pt2 p326. Chase,1998.
T_min:	195.4 K
T_max:	317.3 K
Medium Name:	P(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Gurvich,1989 pt1 p395 pt2 p326.
T_min:	317.3 K
T_max:	6000.0 K
Medium Name:	Rb
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Rb+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. IP:Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Rb-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Rb2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p447 pt2 p471.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Rb2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p444 pt2 p468.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Rb2CO3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,monoclinic. Gurvich,1982 pt1 p457 pt2 p481.
T_min:	200.0 K
T_max:	576.0 K
Medium Name:	Rb2CO3(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,hexagonal. Gurvich,1982 pt1 p457 pt2 p481.
T_min:	576.0 K
T_max:	1146.0 K
Medium Name:	Rb2CO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 457 pt2 p481.
T_min:	1146.0 K
T_max:	6000.0 K
Medium Name:	Rb2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p441 pt2 p465.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	Rb2I2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p450 pt2 p474.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Rb2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p431 pt2 p455.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Rb2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p434 pt2 p457.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Rb2O2H2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1997. .
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Rb2O2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,cubic. Gurvich,1982 pt1 p433 pt2 p456.
T_min:	398.0 K
T_max:	843.0 K
Medium Name:	Rb2O2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,rhombic Gurvich,1982 pt1 p433 pt2 p456.
T_min:	298.15 K
T_max:	398.0 K
Medium Name:	Rb2O2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Liquid. Gurvich,1982 pt1 p433 pt2 p456.
T_min:	843.0 K
T_max:	6000.0 K
Medium Name:	Rb2O(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,hexagonal. Gurvich,1982 pt1 p431 pt2 p454.
T_min:	613.0 K
T_max:	778.0 K
Medium Name:	Rb2O(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,cubic. Gurvich,1982 pt1 p431 pt2 p454.
T_min:	543.0 K
T_max:	613.0 K
Medium Name:	Rb2O(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma,cubic. Gurvich,1982 pt1 p431 pt2 p454.
T_min:	298.15 K
T_max:	543.0 K
Medium Name:	Rb2O(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p431 pt2 p454.
T_min:	778.0 K
T_max:	6000.0 K
Medium Name:	Rb2SO4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p452 pt2 p476.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Rb2SO4(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,rhombic. Gurvich,1982 pt1 p451 pt2 p475.
T_min:	200.0 K
T_max:	931.0 K

Medium Name:	Rb2SO4(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,hexagonal. Gurvich,1982 pt1 p451 pt2 p475.
T_min:	931.0 K
T_max:	1343.0 K
Medium Name:	Rb2SO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p451 pt2 p475.
T_min:	1343.0 K
T_max:	6000.0 K
Medium Name:	RbBO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p459 pt2 p483.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbBO2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p458 pt2 p482.
T_min:	968.0 K
T_max:	1133.0 K
Medium Name:	RbBO2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p458 pt2 p482.
T_min:	200.0 K
T_max:	968.0 K
Medium Name:	RbBO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p458 pt2 p482.
T_min:	1133.0 K
T_max:	6000.0 K
Medium Name:	RbBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1982 pt1 p446 pt2 p470.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbBr(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p445 pt2 p469.
T_min:	200.0 K
T_max:	965.0 K
Medium Name:	RbBr(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p445 pt2 p469.
T_min:	965.0 K
T_max:	6000.0 K
Medium Name:	RbCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p443 pt2 p467.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbCL(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p441 pt2 p466.
T_min:	200.0 K
T_max:	997.0 K
Medium Name:	RbCL(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p441 pt2 p466.
T_min:	997.0 K
T_max:	6000.0 K
Medium Name:	RbF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p440 pt2 p464.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	RbF(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p438 pt2 p463.
T_min:	298.15 K
T_max:	1068.0 K
Medium Name:	RbF(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p438 pt2 p463.
T_min:	1068.0 K
T_max:	6000.0 K
Medium Name:	RbH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p435 pt2 p459.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbH(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p434 pt2 p458.
T_min:	298.15 K
T_max:	858.0 K
Medium Name:	RbH(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p434 pt2 p458.
T_min:	858.0 K
T_max:	6000.0 K
Medium Name:	RbI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p449 pt2 p473.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbI(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Cubic. Gurvich,1982 pt1 p448 pt2 p472.
T_min:	200.0 K
T_max:	929.0 K
Medium Name:	RbI(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p448 pt2 p472.
T_min:	929.0 K
T_max:	6000.0 K
Medium Name:	RbK
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p462 pt2 p486.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbLi
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p460 pt2 p484.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbNa
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p461 pt2 p485.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbNO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p454 pt2 p478.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbNO2(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p453 pt2 p477.
T_min:	298.15 K
T_max:	695.0 K

Medium Name:	RbNO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p453 pt2 p477.
T_min:	695.0 K
T_max:	6000.0 K
Medium Name:	RbNO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p456 pt2 p480.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbNO3(III)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p455 pt2 p479.
T_min:	437.0 K
T_max:	493.0 K
Medium Name:	RbNO3(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p455 pt2 p479.
T_min:	493.0 K
T_max:	556.0 K
Medium Name:	RbNO3(IV)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p455 pt2 p479.
T_min:	200.0 K
T_max:	437.0 K
Medium Name:	RbNO3(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p455 pt2 p479.
T_min:	556.0 K
T_max:	583.0 K
Medium Name:	RbNO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Liquid. Gurvich,1982 pt1 p455 pt2 p479.
T_min:	583.0 K
T_max:	6000.0 K
Medium Name:	RbO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p429 pt2 p452.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbO2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,cubic. Gurvich,1982 pt1 p430 pt2 p453.
T_min:	423.0 K
T_max:	813.0 K
Medium Name:	RbO2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,hexagonal. Gurvich,1982 pt1 p430 pt2 p453.
T_min:	200.0 K
T_max:	423.0 K
Medium Name:	RbO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p430 pt2 p453.
T_min:	813.0 K
T_max:	6000.0 K
Medium Name:	RbOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1997.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	RbOH(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Gurvich,1997.
T_min:	298.15 K
T_max:	508.0 K

Medium Name:	RbOH(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Gurvich,1997.
T_min:	508.0 K
T_max:	658.0 K
Medium Name:	RbOH(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1997.
T_min:	658.0 K
T_max:	6000.0 K
Medium Name:	Rb(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Ref-Elm. Cox,1989 p260. Chase,1998a p1849 12/83.
T_min:	100.0 K
T_max:	312.47 K
Medium Name:	Rb(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p260.
T_min:	312.47 K
T_max:	2100.0 K
Medium Name:	Rn
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ref-Elm. Moore,1971. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Rn+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	S
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Hf: Cox,1989 p22. Martin,W.C.,1990. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	S+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Martin,W.C.,1990. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	S-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	S2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p270 pt2 p165.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	S2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p274 pt2 p166.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	S2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p859 6/78.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	S2CL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p858.
T_min:	298.15 K
T_max:	6000.0 K

Medium Name:	S2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Thiothionyl fluoride. Chase,1998 p1147.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	S2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p293 pt2 p178.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	S3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p275 pt2 p167.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	S4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p280 pt2 p168.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	S5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p281 pt2 p169.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	S6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p282 pt2 p170.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	S7
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1989 pt1 p283 pt2 p171.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	S8
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p284 pt2 p172.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Sc
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1982. Sugar,1985. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Sc+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Sc-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Used J from isoelectronic Ti. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Sc2O
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p144 pt2 p148.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Sc2O2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p145 pt2 p149.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	Sc2O3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p145 pt2 p150.
T_min:	200.0 K
T_max:	2762.0 K
Medium Name:	Sc2O3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p145 pt2 p150.
T_min:	2762.0 K
T_max:	6000.0 K
Medium Name:	SCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p803.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p856.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SCL2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p857.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SCL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p855.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	ScO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	D0,Props(extrap):Gurvich,1982 pt1 p140 pt2 p143.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	ScO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	D0,Estim.cons:Gurvich,1982 pt1 p142 pt2 p145.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	ScO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p143 pt2 p147.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Sc(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Gurvich,1982 pt1 p137 pt2 p138.
T_min:	100.0 K
T_max:	1609.0 K
Medium Name:	Sc(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Gurvich,1982 pt1 p137 pt2 p138.
T_min:	1609.0 K
T_max:	1814.0 K
Medium Name:	Sc(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Gurvich,1982 pt1 p137 pt2 p138.
T_min:	1814.0 K
T_max:	6000.0 K
Medium Name:	SD
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1039.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	SF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p302 pt2 p183.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SF+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1091 6/76.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SF-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p304 pt2 p184.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	SF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p305 pt2 p185.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SF2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1144 12/76.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SF2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1145 12/76.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1989 pt1 p306 pt2 p186.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SF3+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1170.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SF3-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p307 pt2 p187.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	SF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p307 pt2 p188.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SF4+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1188.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SF4-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1189.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SF5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p308 pt2 p189.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	SF5+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1200.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SF5-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p309 pt2 p190.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	SF6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p311 pt2 p191.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SF6-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1206.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	D0:Continetti,1991. Gurvich,1989 pt1 p296 pt2 p179.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SH-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p297 pt2 p180.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	Si
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Hf:Cox,1989. NIST data version1.1 [Online]1997. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Si+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Martin,W.C.,1983. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Si-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1887 3/83. EA:Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Si2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p240 pt2 p225.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Si2C
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p304 pt2 p267.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Si2F6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Lyman,2001.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Si2N
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1611.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	Si2N2O(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Fegley,1981.
T_min:	298.15 K
T_max:	2500.0 K
Medium Name:	Si3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p246 pt2 p226.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Si3N4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1991 pt1 p297 pt2 p262.
T_min:	100.0 K
T_max:	4000.0 K
Medium Name:	SiBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p280 pt2 p249.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p281 pt2 p250.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiBr3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p282 pt2 p251.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiBr4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1991 pt1 p283 pt2 p252.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiC
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p301 pt2 p265.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiC2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p302 pt2 p266.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p271 pt2 p243.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p273 pt2 p244.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p275 pt2 p245.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiCL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p276 pt2 p246.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	SiC(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,cubic. Gurvich,1991 pt1 p298 pt2 p264.
T_min:	100.0 K
T_max:	3105.0 K
Medium Name:	SiC(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p298 pt2 p264.
T_min:	3103.0 K
T_max:	6000.0 K
Medium Name:	SiF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p264 pt2 p238.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p266 pt2 p239.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p268 pt2 p240
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Johnson,1986. McDowell,1982. Chase,1998 p1190 (6/76).
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiFCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1991 pt1 p279 pt2 p248.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p257 pt2 p234.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1308.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	SiH2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p260. Fredin,1985. Dubois,1968.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH2Br2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p481.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p823.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1108.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	SiH2I2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1313.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p261 pt2 p236.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH3Br
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p439.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH3CL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p764.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH3F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1058.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH3I
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1342.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiH4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Silane. Gurvich,1991 pt1 p263 pt 2 p237.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiHBr3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p514.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiHCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p277 pt2 p247.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiHCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 880.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiHF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p270 pt2 p242.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiHF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1160.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiHI3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1266.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	SiI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p284 pt2 p253.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1432.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p295 pt2 p261.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p247 pt2 p227
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p256 pt2 p233.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiO2(a-qz)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha-quartz,hexagonal. Gurvich,1991 pt1 p250 pt2 p228.
T_min:	200.0 K
T_max:	848.0 K
Medium Name:	SiO2(b-crt)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Beta-cristobalite,cubic. Gurvich,1991 pt1 p250 pt2 p228.
T_min:	1200.0 K
T_max:	1996.0 K
Medium Name:	SiO2(b-qz)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta-quartz,hexagonal. Gurvich,1991 pt1 p250 pt2 p228.
T_min:	848.0 K
T_max:	1200.0 K
Medium Name:	SiO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p250 pt2 p228.
T_min:	1996.0 K
T_max:	6000.0 K
Medium Name:	SiS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p290 pt2 p258.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiS2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p294 pt2 p260.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SiS2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1991 pt1 p293 pt2 p259.
T_min:	100.0 K
T_max:	1363.0 K
Medium Name:	SiS2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p293 pt2 p259.
T_min:	1363.0 K
T_max:	6000.0 K

Medium Name:	SiS(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Gurvich,1991 pt1 p289 pt2 p257.
T_min:	298.15 K
T_max:	1363.0 K
Medium Name:	SiS(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p289 pt2 p257.
T_min:	1363.0 K
T_max:	6000.0 K
Medium Name:	Si(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Ref-Elm. Gurvich,1991 pt1 p236 pt2 p220.
T_min:	200.0 K
T_max:	1690.0 K
Medium Name:	Si(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Gurvich,1991 pt1 p236 pt2 p220.
T_min:	1690.0 K
T_max:	6000.0 K
Medium Name:	SN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p392 pt2 p252.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p392 pt2 p252.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Sn+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Sn-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Sn2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p354 pt2 p305.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p378 pt2 p321.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p380 pt2 p323.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnBr2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1991 pt1 p379 pt2 p322.
T_min:	100.0 K
T_max:	503.4 K
Medium Name:	SnBr2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p379 pt2 p322.
T_min:	503.4 K
T_max:	6000.0 K

Medium Name:	SnBr3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p381 pt2 p324.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnBr4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p384 pt2 p326.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnBr4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1991 pt1 p382 pt2 p325.
T_min:	200.0 K
T_max:	302.25 K
Medium Name:	SnBr4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p382 pt2 p325.
T_min:	302.25 K
T_max:	6000.0 K
Medium Name:	SnCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p370 pt2 p315.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p373 pt2 p317.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnCL2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Rhombic. Gurvich,1991 pt1 p372 pt2 p316.
T_min:	200.0 K
T_max:	520.2 K
Medium Name:	SnCL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p372 pt2 p316.
T_min:	520.2 K
T_max:	6000.0 K
Medium Name:	SnCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p374 pt2 p318.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnCL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p376 pt2 p320.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnCL4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p375 pt2 p319.
T_min:	239.05 K
T_max:	6000.0 K
Medium Name:	SnF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p365 pt2 p310.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p368 pt2 p312.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	SnF2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1991 pt1 p367 pt2 p311.
T_min:	298.15 K
T_max:	488.2 K
Medium Name:	SnF2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p367 pt2 p311.
T_min:	488.2 K
T_max:	6000.0 K
Medium Name:	SnF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p369 pt2 p313.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p369 pt2 p314.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p384 pt2 p327.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p387 pt2 p329.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnI2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Monoclinic. Gurvich,1991 pt1 p386 pt2 p328.
T_min:	200.0 K
T_max:	595.7 K
Medium Name:	SnI2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p386 pt2 p328.
T_min:	595.7 K
T_max:	6000.0 K
Medium Name:	SnI3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p388 pt2 p330.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnI4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p391 pt2 p332.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnI4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1991 pt1 p389 pt2 p331
T_min:	200.0 K
T_max:	418.0 K
Medium Name:	SnI4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p389 pt2 p331
T_min:	418.0 K
T_max:	6000.0 K
Medium Name:	SnO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p359 pt2 p307.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	SnO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p364 pt2 p309.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1991 pt1 p361 pt2 p308.
T_min:	100.0 K
T_max:	1903.0 K
Medium Name:	SnO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p361 pt2 p308.
T_min:	1903.0 K
T_max:	6000.0 K
Medium Name:	SnO(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1991 pt1 p356 pt2 p306.
T_min:	100.0 K
T_max:	1250.0 K
Medium Name:	SnO(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p356 pt2 p306.
T_min:	1250.0 K
T_max:	6000.0 K
Medium Name:	SnS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1991 pt1 p394 pt2 p334.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnS2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1991 pt1 p397 pt2 p336.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SnS2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1991 pt1 p396 pt2 p335.
T_min:	100.0 K
T_max:	1143.0 K
Medium Name:	SnS(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1991 pt1 p392 pt2 p333.
T_min:	100.0 K
T_max:	875.0 K
Medium Name:	SnS(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1991 pt1 p392 pt2 p333.
T_min:	100.0 K
T_max:	875.0 K
Medium Name:	SnS(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1991 pt1 p392 pt2 p333.
T_min:	1154.0 K
T_max:	6000.0 K
Medium Name:	Sn(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	CrI,tetragonal. Ref-Elm. Gurvich,1991 pt1 p350 pt2 p300.
T_min:	200.0 K
T_max:	505.118 K
Medium Name:	Sn(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Gurvich,1991 pt1 p350 pt2 p300.
T_min:	505.118 K
T_max:	4700.0 K

Medium Name:	SO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p286 pt2 p173.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SO-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p288 pt2 p174.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	SO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p288 pt2 p175.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SO2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p290 pt2 p176.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	SO2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p847.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SO2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p313 pt2 p193.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SO2FCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Chase,1998 p754.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p292 pt2 p177.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SOF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1989 pt1 p312 pt2 p192.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Sr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1996a. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Sr+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Sr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p491 pt2 p382.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SrBr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p522 pt2 p402.
T_min:	200.0 K
T_max:	20000.0 K

Medium Name:	SrBr2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p524 pt2 p404.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SrBr2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,tetragonal. Gurvich,1996a pt1 p523 pt2 p403.
T_min:	200.0 K
T_max:	918.0 K
Medium Name:	SrBr2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Gurvich,1996a pt1 p523 pt2 p403.
T_min:	918.0 K
T_max:	930.0 K
Medium Name:	SrBr2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p523 pt2 p403.
T_min:	930.0 K
T_max:	6000.0 K
Medium Name:	SrCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p515 pt2 p398.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	SrCL+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p516 pt2 p399.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SrCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1996a pt1 p520 pt2 p401.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SrCL2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,cubic. Gurvich,1996a pt1 p518 pt2 p400.
T_min:	200.0 K
T_max:	990.0 K
Medium Name:	SrCL2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,cubic. Gurvich,1996a pt1 p518 pt2 p400.
T_min:	900.0 K
T_max:	1147.0 K
Medium Name:	SrCL2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p518 pt2 p400.
T_min:	1147.0 K
T_max:	6000.0 K
Medium Name:	SrCO3(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,rhombic. Gurvich,1996a pt1 p532 pt2 p411.
T_min:	200.0 K
T_max:	1198.0 K
Medium Name:	SrCO3(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,rhombic. Gurvich,1996a pt1 p532 pt2 p411.
T_min:	1198.0 K
T_max:	1689.0 K
Medium Name:	SrCO3(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma,cubic. Gurvich,1996a pt1 p532 pt2 p411.
T_min:	1689.0 K
T_max:	1767.0 K

Medium Name:	SrCO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p532 pt2 p411.
T_min:	1767.0 K
T_max:	6000.0 K
Medium Name:	SrF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p507 pt2 p394.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	SrF+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p511 pt2 p395.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SrF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p514 pt2 p397.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SrF2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,cubic. Gurvich,1996a pt1 p513 pt2 p396.
T_min:	200.0 K
T_max:	1484.0 K
Medium Name:	SrF2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,cubic. Gurvich,1996a pt1 p513 pt2 p396.
T_min:	1484.0 K
T_max:	1750.0 K
Medium Name:	SrF2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Liquid. Gurvich,1996a pt1 p515 pt2 p396.
T_min:	1750.0 K
T_max:	6000.0 K
Medium Name:	SrH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p499 pt2 p388.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SrH2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,rhombic. Gurvich,1996a pt1 p501 pt2 p389.
T_min:	298.0 K
T_max:	1128.0 K
Medium Name:	SrH2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Gurvich,1996a pt1 p501 pt2 p389.
T_min:	1128.0 K
T_max:	1323.0 K
Medium Name:	SrH2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p501 pt2 p389.
T_min:	1323.0 K
T_max:	6000.0 K
Medium Name:	SrI
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p526 pt2 p405.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	SrI2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p528 pt2 p407.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	SrI2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1996a pt1 p527 pt2 p406.
T_min:	200.0 K
T_max:	811.0 K
Medium Name:	SrI2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p527 pt2 p406.
T_min:	811.0 K
T_max:	6000.0 K
Medium Name:	SrO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p495 pt2 p384.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	SrO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p497 pt2 p386. Partridge,1986.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	SrOH
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p502 pt2 p390.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SrOH+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p503 pt2 p391.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	SrO(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Cubic. Gurvich,1996a pt1 p494 pt2 p383.
T_min:	200.0 K
T_max:	2805.0 K
Medium Name:	SrO(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p494 pt2 p383.
T_min:	2805.0 K
T_max:	6000.0 K
Medium Name:	SrS
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p529 pt2 p409.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	SrSO4(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,Rhombic. Gurvich,1996a pt1 p531 pt2 p410.
T_min:	298.15 K
T_max:	1430.0 K
Medium Name:	SrSO4(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,hexagonal. Gurvich,1996a pt1 p531 pt2 p410.
T_min:	1430.0 K
T_max:	1880.0 K
Medium Name:	SrSO4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p531 pt2 p410.
T_min:	1880.0 K
T_max:	6000.0 K
Medium Name:	SrS(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1996a pt1 p528 pt2 p408.
T_min:	200.0 K
T_max:	2500.0 K

Medium Name:	SrS(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p528 pt2 p408.
T_min:	2500.0 K
T_max:	6000.0 K
Medium Name:	Sr(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Alcock,1993.
T_min:	100.0 K
T_max:	820.0 K
Medium Name:	Sr(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Alcock,1993.
T_min:	820.0 K
T_max:	1041.0 K
Medium Name:	Sr(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Alcock,1993.
T_min:	1041.0 K
T_max:	6000.0 K
Medium Name:	Sr(OH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1996a pt1 p506 pt2 p393.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Sr(OH)2(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Gurvich,1996a pt1 p505 pt2 p392.
T_min:	753.0 K
T_max:	808.0 K
Medium Name:	Sr(OH)2(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Beta,tetragonal. Gurvich,1996a pt1 p505 pt2 p392.
T_min:	200.0 K
T_max:	753.0 K
Medium Name:	Sr(OH)2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1996a pt1 p505 pt2 p392.
T_min:	808.0 K
T_max:	6000.0 K
Medium Name:	S(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Gurvich,1989 pt1 p265 pt2 p160.
T_min:	200.0 K
T_max:	368.3 K
Medium Name:	S(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Gurvich,1989 pt1 p265 pt2 p160.
T_min:	368.3 K
T_max:	388.36 K
Medium Name:	S(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Gurvich,1989 pt1 p265 pt2 p160.
T_min:	388.36 K
T_max:	6000.0 K
Medium Name:	Ta
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1982 p85. Moore,1971. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Ta+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K

Medium Name:	Ta-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ta2O5(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p91 pt2 p92.
T_min:	200.0 K
T_max:	1633.0 K
Medium Name:	Ta2O5(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1982 pt1 p91 pt2 p92.
T_min:	1633.0 K
T_max:	2150.0 K
Medium Name:	Ta2O5(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p91 pt2 p92.
T_min:	2150.0 K
T_max:	6000.0 K
Medium Name:	TaCL5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p923.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	TaC(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp652-4.
T_min:	200.0 K
T_max:	4273.0 K
Medium Name:	TaC(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Chase,1998 pp652-4.
T_min:	4273.0 K
T_max:	6000.0 K
Medium Name:	TaO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p86 pt2 p89.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	TaO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p89 pt2 p91.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	Ta(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Ref-Elm. Chase,1998 pp1899-1901.
T_min:	200.0 K
T_max:	3258.0 K
Medium Name:	Ta(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp1899-1901.
T_min:	3258.0 K
T_max:	6000.0 K
Medium Name:	Th(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Cox,1989 p239.
T_min:	200.0 K
T_max:	1650.0 K
Medium Name:	Th(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Cox,1989 p239.
T_min:	1650.0 K
T_max:	2023.0 K

Medium Name:	Th(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p239.
T_min:	2023.0 K
T_max:	6000.0 K
Medium Name:	Ti
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Sugar,1985. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Ti+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ti-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Ti2O3(I')
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p109 pt2 p108.
T_min:	464.0 K
T_max:	2110.0 K
Medium Name:	Ti2O3(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p109 pt2 p108.
T_min:	200.0 K
T_max:	464.0 K
Medium Name:	Ti2O3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Liquid. Gurvich,1982 pt1 p109 pt2 p108.
T_min:	2110.0 K
T_max:	6000.0 K
Medium Name:	Ti3O5(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,monoclinic. Gurvich,1982 pt1 p111 pt2 p110.
T_min:	200.0 K
T_max:	448.0 K
Medium Name:	Ti3O5(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,rhombic. Gurvich,1982 pt1 p111 pt2 p110.
T_min:	448.0 K
T_max:	2050.0 K
Medium Name:	Ti3O5(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p111 pt2 p110.
T_min:	2050.0 K
T_max:	6000.0 K
Medium Name:	Ti4O7(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Triclinic. Gurvich,1982 pt1 p112 pt2 p111.
T_min:	200.0 K
T_max:	1960.0 K
Medium Name:	Ti4O7(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p112 pt2 p111.
T_min:	1960.0 K
T_max:	6000.0 K
Medium Name:	TiB2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Chase,1998 pp276-8.
T_min:	200.0 K
T_max:	3193.0 K

Medium Name:	TiB2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 pp276-8.
T_min:	3193.0 K
T_max:	6000.0 K
Medium Name:	TiB(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Chase,1998. p258.
T_min:	298.15 K
T_max:	4000.0 K
Medium Name:	TiCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p808.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	TiCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p866.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	TiCL2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p865.
T_min:	200.0 K
T_max:	2000.0 K
Medium Name:	TiCL3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p887.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	TiCL3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Chase,1998 p886.
T_min:	298.15 K
T_max:	1500.0 K
Medium Name:	TiCL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p906.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	TiCL4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p904.
T_min:	249.046 K
T_max:	2000.0 K
Medium Name:	TiC(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p655-7
T_min:	200.0 K
T_max:	3290.0 K
Medium Name:	TiC(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p655-7
T_min:	3290.0 K
T_max:	6000.0 K
Medium Name:	TiN(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1612-4.
T_min:	200.0 K
T_max:	3220.0 K
Medium Name:	TiN(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1612-4.
T_min:	3220.0 K
T_max:	6000.0 K

Medium Name:	TiO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p99 pt2 p101.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	TiO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p104 pt2 p103.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	TiO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1762 12/73. Jacox,1998.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	TiO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rutile,tetragonal. Gurvich,1982 pt1 p105 pt2 p105.
T_min:	200.0 K
T_max:	2185.0 K
Medium Name:	TiO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p105 pt2 p105.
T_min:	2185.0 K
T_max:	6000.0 K
Medium Name:	TiOCL
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p796.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	TiOCL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Chase,1998 p843.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	TiO(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,monoclinic. Gurvich,1982 pt1 p98 pt2 p99.
T_min:	200.0 K
T_max:	1265.0 K
Medium Name:	TiO(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,cubic. Gurvich,1982 pt1 p98 pt2 p99.
T_min:	1265.0 K
T_max:	1810.0 K
Medium Name:	TiO(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma,cubic. Gurvich,1982 pt1 p98 pt2 p99.
T_min:	1810.0 K
T_max:	2030.0 K
Medium Name:	TiO(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p98 pt2 p99.
T_min:	2030.0 K
T_max:	6000.0 K
Medium Name:	Ti(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Cox,1989 p230.
T_min:	200.0 K
T_max:	1156.0 K
Medium Name:	Ti(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Cox,1989 p230.
T_min:	1156.0 K
T_max:	1944.0 K

Medium Name:	Ti(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p230.
T_min:	1944.0 K
T_max:	6000.0 K
Medium Name:	U
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p184 pt2 p201. Blaise,1976.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	U3O8(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p199 pt2 p222.
T_min:	200.0 K
T_max:	483.0 K
Medium Name:	U3O8(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p199 pt2 p222.
T_min:	483.0 K
T_max:	6000.0 K
Medium Name:	U4O9(III)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p201 pt2 p223.
T_min:	298.15 K
T_max:	348.0 K
Medium Name:	U4O9(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p201 pt2 p223.
T_min:	348.0 K
T_max:	1398.0 K
Medium Name:	U4O9(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1982 pt1 p201 pt2 p223.
T_min:	1398.0 K
T_max:	6000.0 K
Medium Name:	UF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p202 pt2 p224.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	UF+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p203 pt2 p226.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UF-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p204 pt2 p228.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p205 pt2 p230.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	UF2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p207 pt2 p232.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UF2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p208 pt2 p234.
T_min:	298.15 K
T_max:	20000.0 K

Medium Name:	UF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p210 pt2 p237.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	UF3+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p211 pt2 p239.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UF3-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p212 pt2 p241.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UF3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p209 pt2 p236.
T_min:	298.15 K
T_max:	1768.0 K
Medium Name:	UF3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p209 pt2 p236.
T_min:	1768.0 K
T_max:	6000.0 K
Medium Name:	UF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p215 pt2 p244.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	UF4+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1982 pt1 p216 pt2 p246.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UF4-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p217 pt2 p248.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UF4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1982 pt1 p212 pt2 p243.
T_min:	200.0 K
T_max:	1309.0 K
Medium Name:	UF4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p212 pt2 p243.
T_min:	1309.0 K
T_max:	6000.0 K
Medium Name:	UF5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p219 pt2 p251.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	UF5+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p220 pt2 p253.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UF5-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p221 pt2 p255.
T_min:	298.15 K
T_max:	20000.0 K

Medium Name:	UF5(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha,tetragonal. Gurvich,1982 pt1 p217 pt2 p250.
T_min:	398.0 K
T_max:	621.0 K
Medium Name:	UF5(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta,tetragonal. Gurvich,1982 pt1 p217 pt2 p250.
T_min:	298.15 K
T_max:	398.0 K
Medium Name:	UF5(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p217 pt2 p250.
T_min:	621.0 K
T_max:	6000.0 K
Medium Name:	UF6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p223 pt2 p257.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	UF6-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p224 pt2 p258.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UF6(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p222 pt2 p532.
T_min:	100.0 K
T_max:	337.21 K
Medium Name:	UF6(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Liquid. Gurvich,1982 pt1 p222 pt2 p532.
T_min:	337.21 K
T_max:	1000.0 K
Medium Name:	UO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p186 pt2 p205.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	UO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p189 pt2 p207.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p193 pt2 p211.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	UO2+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p194 pt2 p213.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UO2-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p195 pt2 p215.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UO2F
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p226 pt2 p260.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	UO2F2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p228 pt2 p263.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	UO2F2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p227 pt2 p262.
T_min:	200.0 K
T_max:	2100.0 K
Medium Name:	UO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic. Gurvich,1982 pt1 p190 pt2 p209.
T_min:	200.0 K
T_max:	3123.0 K
Medium Name:	UO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p190 pt2 p209.
T_min:	3123.0 K
T_max:	6000.0 K
Medium Name:	UO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p197 pt2 p218.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	UO3-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p198 pt2 p220.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	UO3(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gamma,monoclinic. Gurvich,1982 pt1 p195 pt2 p217.
T_min:	200.0 K
T_max:	3000.0 K
Medium Name:	UOF
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p225 pt2 p259.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	UOF2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p226 pt2 p261.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	UOF3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p229 pt2 p264.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	UOF4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p230 pt2 p265.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	U(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Cox,1989 p234.
T_min:	200.0 K
T_max:	942.0 K
Medium Name:	U(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Cox,1989 p234.
T_min:	942.0 K
T_max:	1049.0 K

Medium Name:	U(c)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gamma. Ref-Elm. Cox,1989 p234.
T_min:	1049.0 K
T_max:	1408.0 K
Medium Name:	U(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p234.
T_min:	1408.0 K
T_max:	4000.0 K
Medium Name:	V
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1982 p59. Sugar,1985. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	V+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	V-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	V2O3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hexagonal. Gurvich,1982 pt1 p65 pt2 p67.
T_min:	200.0 K
T_max:	2230.0 K
Medium Name:	V2O3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Liquid. Gurvich,1982 pt1 p65 pt2 p67.
T_min:	2230.0 K
T_max:	6000.0 K
Medium Name:	V2O4(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1982 pt1 p67 pt2 p68.
T_min:	200.0 K
T_max:	338.7 K
Medium Name:	V2O4(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1982 pt1 p67 pt2 p68.
T_min:	338.7 K
T_max:	1818.0 K
Medium Name:	V2O4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p67 pt2 p68.
T_min:	1818.0 K
T_max:	6000.0 K
Medium Name:	V2O5(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Rhombic. Gurvich,1982 pt1 p68 pt2 p69.
T_min:	200.0 K
T_max:	954.0 K
Medium Name:	V2O5(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p68 pt2 p69.
T_min:	954.0 K
T_max:	6000.0 K
Medium Name:	V4O10
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p69 pt2 p70.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	VCL2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Pankratz,1984.
T_min:	298.0 K
T_max:	1300.0 K
Medium Name:	VCL3(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Pankratz,1984.
T_min:	298.0 K
T_max:	1000.0 K
Medium Name:	VCL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Nagarajan,1963. Creighton,1966. Blankenship,1962.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	VN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1616.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	VN(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1635.
T_min:	200.0 K
T_max:	3500.0 K
Medium Name:	VO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p62 pt2 p64.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	VO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Gurvich,1982 pt1 p64 pt2 p66.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	VO(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Cubic Gurvich,1982 pt1 p60 pt2 p63.
T_min:	200.0 K
T_max:	2063.0 K
Medium Name:	VO(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid Gurvich,1982 pt1 p60 pt2 p63.
T_min:	2063.0 K
T_max:	6000.0 K
Medium Name:	V(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Ref-Elm. Chase,1998 p1917.
T_min:	200.0 K
T_max:	2190.0 K
Medium Name:	V(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 p1917.
T_min:	2190.0 K
T_max:	6000.0 K
Medium Name:	W
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Gurvich,1982 p42. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	W+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K

Medium Name:	W-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	WCL6
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p935.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	WCL6(III)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Chase,1998 pp931-4.
T_min:	503.0 K
T_max:	555.0 K
Medium Name:	WCL6(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha2. Chase,1998 pp931-4.
T_min:	450.0 K
T_max:	503.0 K
Medium Name:	WCL6(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha1. Chase,1998 pp931-4.
T_min:	298.15 K
T_max:	450.0 K
Medium Name:	WCL6(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 pp931-4.
T_min:	555.0 K
T_max:	6000.0 K
Medium Name:	WC(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Hf:Wagman,1982 p203. Barin,1989 pt2 p1642.
T_min:	298.15 K
T_max:	2500.0 K
Medium Name:	WO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p43 pt2 p47.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	WO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p47 pt2 p50.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	WO2CL2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p849.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	WO2CL2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p848.
T_min:	298.15 K
T_max:	1000.0 K
Medium Name:	WO2(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p46 pt2 p49.
T_min:	100.0 K
T_max:	6000.0 K
Medium Name:	WO3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p50 pt2 p52.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	WO3-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p51 pt2 p53.
T_min:	298.15 K
T_max:	6000.0 K
Medium Name:	WO3(III)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p49 pt2 p51.
T_min:	100.0 K
T_max:	325.0 K
Medium Name:	WO3(III,II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p49 pt2 p51.
T_min:	325.0 K
T_max:	1013.0 K
Medium Name:	WO3(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p49 pt2 p51.
T_min:	1013.0 K
T_max:	1747.0 K
Medium Name:	WO3(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p49 pt2 p51.
T_min:	1747.0 K
T_max:	6000.0 K
Medium Name:	WOCL4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p900.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	WOCL4(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Crystal. Chase,1998 pp897-9.
T_min:	298.15 K
T_max:	484.0 K
Medium Name:	WOCL4(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 pp897-9.
T_min:	484.0 K
T_max:	6000.0 K
Medium Name:	W(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Ref-Elm. Chase,1998 pp1925-8.
T_min:	200.0 K
T_max:	3680.0 K
Medium Name:	W(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp1925-8.
T_min:	3680.0 K
T_max:	6000.0 K
Medium Name:	Xe
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Ref-Elm. Moore,1971. Moore,1970a. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Xe+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Zn
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hf:Cox,1989. Sugar,1995. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K

Medium Name:	Zn+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Sugar,1995. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	ZnSO4(a')
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha'.Chase,1998 p1788.
T_min:	540.0 K
T_max:	1013.0 K
Medium Name:	ZnSO4(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Chase,1998 p1788.
T_min:	200.0 K
T_max:	540.0 K
Medium Name:	ZnSO4(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Chase,1998 p1788.
T_min:	1013.0 K
T_max:	6000.0 K
Medium Name:	Zn(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Ref-Elm. Cox,1989 p221.
T_min:	200.0 K
T_max:	692.73 K
Medium Name:	Zn(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Cox,1989 p221.
T_min:	692.73 K
T_max:	6000.0 K
Medium Name:	Zr
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Hf:Gurvich,1982. Moore,1971. Hackett,1986. Gordon,1999.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	Zr+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Moore,1971. Moore,1970a. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	Zr-
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Hotop,1985. Gordon,1999.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	ZrC(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Crystal. Chase,1998 pp658-60.
T_min:	200.0 K
T_max:	3805.0 K
Medium Name:	ZrC(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Chase,1998 pp658-60.
T_min:	3805.0 K
T_max:	6000.0 K
Medium Name:	ZrN
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 p1620.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ZrN(cr)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1617-9 6/61.
T_min:	200.0 K
T_max:	3225.0 K

Medium Name:	ZrN(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Chase,1998 pp1617-9 6/61.
T_min:	3225.0 K
T_max:	6000.0 K
Medium Name:	ZrO
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p118 pt2 p118.
T_min:	200.0 K
T_max:	20000.0 K
Medium Name:	ZrO+
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p122 pt2 p120.
T_min:	298.15 K
T_max:	20000.0 K
Medium Name:	ZrO2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p125. Chase,1998 p1772 12/65.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	ZrO2(III)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Monoclinic. Gurvich,1982 pt1 p123 pt2 p122.
T_min:	200.0 K
T_max:	1445.0 K
Medium Name:	ZrO2(II)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Tetragonal. Gurvich,1982 pt1 p123 pt2 p122.
T_min:	1445.0 K
T_max:	2620.0 K
Medium Name:	ZrO2(I)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'

Literature Reference:	Cubic. Gurvich,1982 pt1 p123 pt2 p122.
T_min:	2620.0 K
T_max:	2983.0 K
Medium Name:	ZrO2(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Gurvich,1982 pt1 p123 pt2 p122.
T_min:	2983.0 K
T_max:	6000.0 K
Medium Name:	Zr(a)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Alpha. Ref-Elm. Chase,1998 pp1943-7.
T_min:	200.0 K
T_max:	1135.0 K
Medium Name:	Zr(b)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Beta. Ref-Elm. Chase,1998 pp1943-7.
T_min:	1135.0 K
T_max:	2125.0 K
Medium Name:	Zr(L)
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Liquid. Ref-Elm. Chase,1998 pp1943-7.
T_min:	2125.0 K
T_max:	6000.0 K
Medium Name:	(CH3COOH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Acetic acid dimer. Chao,1978.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	(HCOOH)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Formic acid dimer. Chao,1978.
T_min:	200.0 K
T_max:	6000.0 K

Medium Name:	(WO3)2
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p52 pt2 p54.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	(WO3)3
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p53 pt2 p55.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	(WO3)4
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p54 pt2 p56.
T_min:	200.0 K
T_max:	6000.0 K
Medium Name:	(WO3)5
Library Name:	NASA coefficients and calculation rules
Library Literature Reference:	'NASA Glenn Coefficients for Calculating Thermodynamic Properties of Individual Species (NASA/TP-2002-211556)'
Literature Reference:	Gurvich,1982 pt1 p56 pt2 p57.
T_min:	200.0 K
T_max:	6000.0 K

3 Liquid

3.1 TILMedia Liquids

Tabelle 5: TILMedia-Liquidnames

Medium Name:	ADDINOLXW15
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Addinol heat transfer oil XW 15
Literature Reference:	Public data sheet, fit by TLK
T_min:	240.0 K
T_max:	600.0 K
T_data_min:	253.14999999999998 K
T_data_max:	573.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BAYSILONE_KT_10
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Baysilone KT 10, Low-viscosity silicone heat transfer fluid. Produced by Bayer. (R^2_cp=0.9999724, R^2_rho=0.9999708, R^2_eta=0.9999565, R^2_lambda=0.9997356)
Literature Reference:	Bayer Silicones Baysilone Fluids KT (Edition: 07.97), equations calibrated by TLK
T_min:	212.72764863967893 K
T_max:	513.5258473409107 K
T_data_min:	213.14999999999998 K
T_data_max:	513.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BAYSILONE_KT_20
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Baysilone KT 20, Low-viscosity silicone heat transfer fluid. Produced by Bayer. (R^2_cp=0.9999833, R^2_rho=0.9999857, R^2_eta=0.9999922, R^2_lambda=0.9998325)
Literature Reference:	Bayer Silicones Baysilone Fluids KT (Edition: 07.97), equations calibrated by TLK
T_min:	208.93124999999998 K
T_max:	513.5258473409107 K
T_data_min:	213.14999999999998 K
T_data_max:	513.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BAYSILONE_KT_3
Library Name:	TILMedia

Library Literature Reference:	unpublished
Description:	Baysilone KT 3, Low-viscosity silicone heat transfer fluid. Produced by Bayer. (R^2_cp=0.9970532, R^2_rho=0.9999504, R^2_eta=0.9999942, R^2_lambda=0.9998028)
Literature Reference:	Bayer Silicones Baysilone Fluids KT (Edition: 07.97), equations calibrated by TLK
T_min:	212.72764863967893 K
T_max:	513.5258473409107 K
T_data_min:	213.14999999999998 K
T_data_max:	513.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BAYSILONE_KT_5
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Baysilone KT 5, Low-viscosity silicone heat transfer fluid. Produced by Bayer. (R^2_cp=0.9999645, R^2_rho=0.9999700, R^2_eta=0.9999698, R^2_lambda=0.9998604)
Literature Reference:	Bayer Silicones Baysilone Fluids KT (Edition: 07.97), equations calibrated by TLK
T_min:	212.14887084960935 K
T_max:	513.5258473409107 K
T_data_min:	213.14999999999998 K
T_data_max:	513.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DOWTHERM_A
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dowtherm A, heat transfer fluid. Produced by Dow. (R^2_cp=0.9998969, R^2_rho=0.9999998, R^2_eta=0.9999959, R^2_lambda=0.9999986)
Literature Reference:	Technical data sheet, saturated liquid data (Edition: Form 176-01472-0417), equations calibrated by TLK
T_min:	286.2055555555555 K
T_max:	701.2055555555556 K
T_data_min:	288.7055555555555 K
T_data_max:	688.7055555555556 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_600
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene 600, high temperature silicone heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999787, R^2_rho=0.9999796, R^2_eta=0.9999950, R^2_lambda=0.9999852)
Literature Reference:	Technical data sheet (Edition: Published May 2020), equations calibrated by TLK
T_min:	341.15 K

T_max:	570.9277777777778 K
T_data_min:	343.15 K
T_data_max:	560.9277777777778 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_FC-BIO
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene FC-Bio, low electrical conductivity, water-based fuel cell coolant with nano particles. Produced by Dynalene. (R^2_cp=0.9995178, R^2_rho=0.9999993, R^2_eta=0.9999999, R^2_lambda=0.9969481)
Literature Reference:	Technical data sheet (Edition: Published August 2020, Rev1), equations calibrated by TLK
T_min:	236.70555555555555 K
T_max:	398.7055555555556 K
T_data_min:	238.70555555555555 K
T_data_max:	388.7055555555556 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_FC-EG
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene FC-EG, low electrical conductivity, water-based fuel cell coolant with nano particles. Produced by Dynalene. (R^2_cp=0.9987529, R^2_rho=0.9999947, R^2_eta=0.9999975, R^2_lambda=0.9988012)
Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	242.2611111111111 K
T_max:	398.7055555555556 K
T_data_min:	244.2611111111111 K
T_data_max:	388.7055555555556 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_HC-FG10
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene HC-FG10, low temperature, high-performance heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999619, R^2_rho=0.9997986, R^2_eta=0.9999310, R^2_lambda=0.9999625)
Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	261.15 K
T_max:	501.48333333333335 K
T_data_min:	263.15 K
T_data_max:	491.48333333333335 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	DYNALENE_HC-FG20
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene HC-FG20, low temperature, high-performance heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999556, R^2_rho=0.9998634, R^2_eta=0.9999424, R^2_lambda=0.9999669)
Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	250.64999999999998 K
T_max:	503.98333333333335 K
T_data_min:	253.14999999999998 K
T_data_max:	491.48333333333335 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_HC-FG30
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene HC-FG30, low temperature, high-performance heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999551, R^2_rho=0.9998802, R^2_eta=0.9999487, R^2_lambda=0.9999674)
Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	241.14999999999998 K
T_max:	501.48333333333335 K
T_data_min:	243.14999999999998 K
T_data_max:	491.48333333333335 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_HC-FG40
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene HC-FG40, low temperature, high-performance heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999875, R^2_rho=0.9999031, R^2_eta=0.9999736, R^2_lambda=0.9999633)
Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	231.14999999999998 K
T_max:	501.48333333333335 K
T_data_min:	233.14999999999998 K
T_data_max:	491.48333333333335 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_HC-FG50
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene HC-FG50, low temperature, high-performance heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999417, R^2_rho=0.9999068, R^2_eta=0.9999625, R^2_lambda=0.9997939)

Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	221.14999999999998 K
T_max:	501.48333333333335 K
T_data_min:	223.14999999999998 K
T_data_max:	491.48333333333335 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_HF-LO
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene HF-LO, high flash, non-toxic, low temperature heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999849, R^2_rho=0.9999391, R^2_eta=0.9999988, R^2_lambda=0.9999959)
Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	197.81666666666666 K
T_max:	459.81666666666666 K
T_data_min:	199.81666666666666 K
T_data_max:	449.81666666666666 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_HT
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene HT, high temperature heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999910, R^2_rho=0.9999572, R^2_eta=0.9999981, R^2_lambda=0.9999861)
Literature Reference:	Technical data sheet (Edition: Published July 2020, Rev1), equations calibrated by TLK
T_min:	291.15 K
T_max:	633.1500000000001 K
T_data_min:	293.15 K
T_data_max:	623.1500000000001 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_LO-170
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene LO-170, non-toxic, low odor, low temperature heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999796, R^2_rho=0.9998397, R^2_eta=0.9999872, R^2_lambda=0.9999961)
Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	231.14999999999998 K
T_max:	476.48333333333335 K
T_data_min:	233.14999999999998 K
T_data_max:	466.48333333333335 K

xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_LO-230
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene LO-230, high flash, non-toxic, low temperature heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999914, R^2_rho=0.9998942, R^2_eta=0.9998954, R^2_lambda=0.9999869)
Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	271.15 K
T_max:	487.59444444444443 K
T_data_min:	273.15 K
T_data_max:	477.59444444444443 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_MT
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene MT, high temperature heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999732, R^2_rho=0.9999997, R^2_eta=0.9997275, R^2_lambda=0.9999671)
Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	271.15 K
T_max:	608.1500000000001 K
T_data_min:	273.15 K
T_data_max:	598.1500000000001 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_MV
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene MV, ultra-low temperature heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999836, R^2_rho=0.9999557, R^2_eta=1.0000000, R^2_lambda=0.9994927)
Literature Reference:	Technical data sheet (Edition: Published May 2020, Rev1), equations calibrated by TLK
T_min:	158.92777777777775 K
T_max:	445.92777777777775 K
T_data_min:	160.92777777777775 K
T_data_max:	435.92777777777775 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_SF
Library Name:	TILMedia

Library Literature Reference:	unpublished
Description:	Dynalene SF, high temperature heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9999876, R^2_rho=0.9999480, R^2_eta=0.9999870, R^2_lambda=0.9999699)
Literature Reference:	Technical data sheet (Edition: Published July 2020, Rev1), equations calibrated by TLK
T_min:	270.65 K
T_max:	601.2055555555556 K
T_data_min:	273.15 K
T_data_max:	588.7055555555556 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_SOLAR_GLYCOL-XT
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Dynalene Solar Glycol-XT, BioGlycol heat transfer fluid. Produced by Dynalene. (R^2_cp=0.9971698, R^2_rho=0.9999974, R^2_eta=0.9999959, R^2_lambda=0.9979960)
Literature Reference:	Technical data sheet (Edition: Published August 2020, Rev1), equations calibrated by TLK
T_min:	247.81666666666666 K
T_max:	387.59444444444443 K
T_data_min:	249.81666666666666 K
T_data_max:	377.59444444444443 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FRAGOLTHERM_FG-35
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Fragoltherm FG-35, heat transfer fluid. Produced by Fragol. (R^2_cp=0.9999295, R^2_rho=0.9999869, R^2_eta=0.9999313, R^2_lambda=0.9993092)
Literature Reference:	Product Information (Edition: 20004d0b), equations calibrated by TLK
T_min:	260.65 K
T_max:	625.65 K
T_data_min:	263.15 K
T_data_max:	613.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FRAGOLTHERM_FG-8
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Fragoltherm FG-8, heat transfer fluid. Produced by Fragol. (R^2_cp=0.9999993, R^2_rho=0.9999697, R^2_eta=1.0000000, R^2_lambda=0.9994924)
Literature Reference:	Product Information (Edition: 20005d0b), equations calibrated by TLK
T_min:	224.81666666666663 K

T_max:	569.8166666666666 K
T_data_min:	228.14999999999998 K
T_data_max:	553.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FRAGOLTHERM_Q-7
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Fragoltherm Q-7, heat transfer fluid. Produced by Fragol. (R^2_cp=0.9999993, R^2_rho=0.9999697, R^2_eta=1.0000000, R^2_lambda=0.9994924)
Literature Reference:	Product Information (Edition: 20002dMb), equations calibrated by TLK
T_min:	224.81666666666663 K
T_max:	569.8166666666666 K
T_data_min:	228.14999999999998 K
T_data_max:	553.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FRAGOLTHERM_S-250
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Fragoltherm S-250, heat transfer fluid. Produced by Fragol. (R^2_cp=0.9999888, R^2_rho=0.9999800, R^2_eta=1.0000000, R^2_lambda=0.9943906)
Literature Reference:	Product Information (Edition: 10002dMb), equations calibrated by TLK
T_min:	276.15 K
T_max:	553.15 K
T_data_min:	278.15 K
T_data_max:	543.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FRAGOLTHERM_X-TT
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Fragoltherm X-TT, heat transfer fluid. Produced by Fragol. (R^2_cp=1.0000000, R^2_rho=0.9999999, R^2_eta=0.9999961, R^2_lambda=0.9999037)
Literature Reference:	Product Information (Edition: 20008dMb), equations calibrated by TLK
T_min:	161.14999999999998 K
T_max:	513.15 K
T_data_min:	163.14999999999998 K
T_data_max:	503.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FRAGOL_PURITY_FG-HTF
Library Name:	TILMedia

Library Literature Reference:	unpublished
Description:	Fragol Purity FG-HTF, heat transfer fluid. Produced by Fragol. (R^2_cp=0.9999324, R^2_rho=0.9999802, R^2_eta=0.9999986, R^2_lambda=0.9975104)
Literature Reference:	Product Information (Edition: 60003dMb), equations calibrated by TLK
T_min:	261.15 K
T_max:	623.15 K
T_data_min:	263.15 K
T_data_max:	613.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FREEZIUM_-60C
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Freezium -60C, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9963447, R^2_rho=1.0000000, R^2_eta=0.9999909, R^2_lambda=0.9696930)
Literature Reference:	Technical data sheet (Edition: 2/28/2018), equations calibrated by TLK
T_min:	216.14999999999998 K
T_max:	273.15 K
T_data_min:	218.14999999999998 K
T_data_max:	263.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	MARLOTHERM_LH
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Marlotherm LH, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999376, R^2_rho=0.9999826, R^2_eta=0.9999879, R^2_lambda=0.9995025)
Literature Reference:	Product brochure (Edition: MT-10985B 10/20), equations calibrated by TLK
T_min:	241.14999999999998 K
T_max:	643.15 K
T_data_min:	243.14999999999998 K
T_data_max:	633.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	MARLOTHERM_SH
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Marlotherm SH, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999482, R^2_rho=0.9999860, R^2_eta=0.9999998, R^2_lambda=0.9999965)
Literature Reference:	Product brochure (Edition: MT-10741A 5/20), equations calibrated by TLK
T_min:	271.15 K
T_max:	643.15 K
T_data_min:	273.15 K

T_data_max:	633.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	MARLOTHERM_XC
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Marlotherm XC, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9998873, R^2_rho=0.9999962, R^2_eta=0.9999982, R^2_lambda=0.9997738)
Literature Reference:	Product brochure (Edition: MT-11630 7/20), equations calibrated by TLK
T_min:	180.64999999999998 K
T_max:	585.65 K
T_data_min:	183.14999999999998 K
T_data_max:	573.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NOVEC7500
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	The 3M Novec 7500 High-Tech Engineered Fluid
Literature Reference:	Public data sheet (www.3M.de/novec), 3M Deutschland GmbH
T_min:	203.14999999999998 K
T_max:	403.15 K
T_data_min:	203.14999999999998 K
T_data_max:	403.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OBSOLETE_THERMINOL59
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol 59 by Fragol
Literature Reference:	Public data sheet, fit by TLK. Replaced in 2021 Release.
T_min:	200.0 K
T_max:	750.0 K
T_data_min:	223.14999999999998 K
T_data_max:	593.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OBSOLETE_THERMINOL66
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol 66 by Fragol
Literature Reference:	Public data sheet, fit by TLK. Replaced in 2021 Release.
T_min:	260.0 K

T_max:	750.0 K
T_data_min:	273.15 K
T_data_max:	653.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OBSOLETE_THERMINOL72
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol 72 by Fragol
Literature Reference:	Public data sheet, fit by TLK. Replaced in 2021 Release.
T_min:	200.0 K
T_max:	750.0 K
T_data_min:	263.15 K
T_data_max:	653.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OBSOLETE_THERMINOLD12
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol D12 by Fragol
Literature Reference:	Public data sheet, fit by TLK. Replaced in 2021 Release.
T_min:	150.0 K
T_max:	750.0 K
T_data_min:	188.14999999999998 K
T_data_max:	533.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OIL_15W40
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Oil 15W40
Literature Reference:	Custom data, fit by TLK
T_min:	150.0 K
T_max:	600.0 K
T_data_min:	253.14999999999998 K
T_data_max:	433.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OIL_ARAL0W30
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Oil Aral 0W30
Literature Reference:	Custom data, fit by TLK

T_min:	200.0 K
T_max:	550.0 K
T_data_min:	253.14999999999998 K
T_data_max:	433.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	SHC_XMP320
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Mobilgear SHC XMP 320
Literature Reference:	Public data sheet, fit by TLK
T_min:	200.0 K
T_max:	750.0 K
T_data_min:	273.15 K
T_data_max:	473.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	SHC_XMP320_B
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Mobilgear SHC XMP 320
Literature Reference:	Data sheet provided by Mobilgear, fit by TLK
T_min:	200.0 K
T_max:	750.0 K
T_data_min:	273.15 K
T_data_max:	423.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_54
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol 54, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999415, R^2_rho=0.9999808, R^2_eta=0.9999435, R^2_lambda=0.9994501)
Literature Reference:	Product brochure (Edition: TF-5353B 6/20), equations calibrated by TLK
T_min:	242.64999999999998 K
T_max:	595.65 K
T_data_min:	245.14999999999998 K
T_data_max:	583.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_55
Library Name:	TILMedia
Library Literature Reference:	unpublished

Description:	Therminol 55, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999461, R^2_rho=0.9999823, R^2_eta=0.9999435, R^2_lambda=0.9999904)
Literature Reference:	Product brochure (Edition: TF-8994B 6/20), equations calibrated by TLK
T_min:	242.64999999999998 K
T_max:	605.65 K
T_data_min:	245.14999999999998 K
T_data_max:	593.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_59
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol 59, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999349, R^2_rho=0.9999811, R^2_eta=0.9999949, R^2_lambda=0.9999942)
Literature Reference:	Product brochure (Edition: TF-9029A 6/20), equations calibrated by TLK
T_min:	222.14999999999998 K
T_max:	613.15 K
T_data_min:	224.14999999999998 K
T_data_max:	603.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_62
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol 62, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9998650, R^2_rho=0.9999882, R^2_eta=0.9999962, R^2_lambda=0.9999857)
Literature Reference:	Product brochure (Edition: TF-8692A 7/20), equations calibrated by TLK
T_min:	248.14999999999998 K
T_max:	623.15 K
T_data_min:	250.14999999999998 K
T_data_max:	613.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_66
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol 66, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999431, R^2_rho=0.9999808, R^2_eta=0.9999967, R^2_lambda=0.9999621)
Literature Reference:	Product brochure (Edition: TF-8695A 1/21), equations calibrated by TLK
T_min:	268.15 K
T_max:	653.15 K
T_data_min:	270.15 K
T_data_max:	643.15 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	THERMINOL_68
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol 68, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999994, R^2_rho=0.9999738, R^2_eta=0.9999999, R^2_lambda=0.9990540)
Literature Reference:	Product brochure (Edition: TF-12 12/15), equations calibrated by TLK
T_min:	251.14999999999998 K
T_max:	643.15 K
T_data_min:	253.14999999999998 K
T_data_max:	633.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_72
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol 72, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999992, R^2_rho=0.9999920, R^2_eta=0.9999801, R^2_lambda=0.9996138)
Literature Reference:	Product brochure (Edition: TF-7096 06/18), equations calibrated by TLK
T_min:	270.65 K
T_max:	665.65 K
T_data_min:	259.15 K
T_data_max:	653.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_75
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol 75, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9998922, R^2_rho=0.9995534, R^2_eta=0.9999983, R^2_lambda=0.9999842)
Literature Reference:	Product brochure (Edition: TF-9035 11/19), equations calibrated by TLK
T_min:	342.15 K
T_max:	668.15 K
T_data_min:	344.15 K
T_data_max:	658.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_ADX-10
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol ADX-10, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999351, R^2_rho=0.9999864, R^2_eta=0.9999915, R^2_lambda=0.9999962)
Literature Reference:	Product brochure (Edition: TF-10B 5/20), equations calibrated by TLK
T_min:	214.64999999999998 K
T_max:	575.65 K
T_data_min:	217.14999999999998 K

T_data_max:	563.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_D-12
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol D-12, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999339, R^2_rho=0.9999656, R^2_eta=1.0000000, R^2_lambda=0.9999975)
Literature Reference:	Product brochure (Edition: TF-15D 8/20), equations calibrated by TLK
T_min:	176.64999999999998 K
T_max:	535.65 K
T_data_min:	179.14999999999998 K
T_data_max:	523.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_LT
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol LT, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999110, R^2_rho=0.9999860, R^2_eta=0.9999525, R^2_lambda=0.9999979)
Literature Reference:	Product brochure (Edition: TF-8426A 8/20), equations calibrated by TLK
T_min:	198.14999999999998 K
T_max:	598.15 K
T_data_min:	200.14999999999998 K
T_data_max:	588.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_SP
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol SP, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999461, R^2_rho=0.9999823, R^2_eta=0.9999435, R^2_lambda=0.9999904)
Literature Reference:	Product brochure (Edition: TF-8725B 6/20), equations calibrated by TLK
T_min:	242.64999999999998 K
T_max:	605.65 K
T_data_min:	245.14999999999998 K
T_data_max:	593.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_VLT
Library Name:	TILMedia
Library Literature Reference:	unpublished

Description:	Therminol VLT, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999335, R^2_rho=0.9999817, R^2_eta=0.9999999, R^2_lambda=0.9999968)
Literature Reference:	Product brochure (Edition: TF-9033A 03/20), equations calibrated by TLK
T_min:	136.14999999999998 K
T_max:	463.15 K
T_data_min:	138.14999999999998 K
T_data_max:	453.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_VP-1
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol VP-1, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999153, R^2_rho=0.9999877, R^2_eta=0.9999991, R^2_lambda=0.9999980)
Literature Reference:	Product brochure (Edition: TF-9141 11/19), equations calibrated by TLK
T_min:	283.15 K
T_max:	703.15 K
T_data_min:	285.15 K
T_data_max:	693.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THERMINOL_XP
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Therminol XP, heat transfer fluid. Produced by Eastman. (R^2_cp=0.9999581, R^2_rho=0.9999822, R^2_eta=1.0000000, R^2_lambda=0.9999918)
Literature Reference:	Product brochure (Edition: TF-8694A 8/20), equations calibrated by TLK
T_min:	251.14999999999998 K
T_max:	613.15 K
T_data_min:	253.14999999999998 K
T_data_max:	603.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TYFOCOR30
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Tyfocor 30 %vol by Tyforop Chemie
Literature Reference:	Custom data sheet, fit by TLK
T_min:	230.0 K
T_max:	430.0 K
T_data_min:	258.15 K
T_data_max:	373.15 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	TYFOCOR45
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Tyfocor 45 %vol by Tyforop Chemie
Literature Reference:	Custom data sheet, fit by TLK
T_min:	230.0 K
T_max:	430.0 K
T_data_min:	243.14999999999998 K
T_data_max:	373.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TYFOCORL33
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Tyfocor 33 %vol by Tyforop Chemie
Literature Reference:	Custom data sheet, fit by TLK
T_min:	230.0 K
T_max:	430.0 K
T_data_min:	258.15 K
T_data_max:	373.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	WATER
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Water
Literature Reference:	IAPWS 1995 Fit by TLK
T_min:	250.0 K
T_max:	550.0 K
T_data_min:	273.15 K
T_data_max:	458.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ZITRECM10
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Zitrec M-10 by Fragol
Literature Reference:	Public data sheet, fit by TLK
T_min:	250.0 K
T_max:	400.0 K
T_data_min:	263.15 K
T_data_max:	373.15 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	ZITRECM20
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Zitrec M-20 by Fragol
Literature Reference:	Public data sheet, fit by TLK
T_min:	240.0 K
T_max:	400.0 K
T_data_min:	253.14999999999998 K
T_data_max:	373.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	AMMONIA
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Ammonia
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. Helmholtz equation of state for ammonia of Tillner-Roth et al. (1993).
T_min:	40.54 K
T_max:	404.8 K
T_data_min:	195.5 K
T_data_max:	364.4521424 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ARGON
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Argon
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. Helmholtz equation of state for argon of Tegeler et al. (1999).
T_min:	15.0687 K
T_max:	150.8 K
T_data_min:	83.806 K
T_data_max:	133.944028 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CARBON_DIOXIDE
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Carbon dioxide
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. Helmholtz equation of state for carbon dioxide of Span and Wagner (1996).
T_min:	30.41282 K
T_max:	304.0 K
T_data_min:	216.6 K

T_data_max:	272.5170346 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CARBON_MONOXIDE
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Carbon monoxide
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. short Helmholtz equation of state for carbon monoxide of Lemmon and Span (2006).
T_min:	13.286 K
T_max:	132.8 K
T_data_min:	68.63928525 K
T_data_max:	119.5026571 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DRYAIR
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Dry air
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. Nitrogen 75.518%m, oxygen 23.135%m, argon 1.288%m, carbon dioxide 0.058%m, each using a standard reference multiparameter equation of state
T_min:	13.28950539 K
T_max:	132.7 K
T_data_min:	59.75 K
T_data_max:	118.4468315 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HYDROGEN
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Hydrogen
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. Helmholtz equation of state for normal hydrogen of Leachman et al. (2009).
T_min:	3.3145 K
T_max:	33.0 K
T_data_min:	13.957 K
T_data_max:	29.72539559 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHANE
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)

Library Literature Reference:	unpublished
Description:	Methane
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. Helmholtz equation of state for methane of Setzmann and Wagner (1991).
T_min:	19.0564 K
T_max:	185.0 K
T_data_min:	90.6941 K
T_data_max:	181.9739886 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NITROGEN
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Nitrogen
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. Helmholtz equation of state for nitrogen of Span et al. (2000).
T_min:	12.6192 K
T_max:	126.192 K
T_data_min:	63.41208973 K
T_data_max:	112.6100228 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NITROUS_OXIDE
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Nitrous oxide
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. short Helmholtz equation of state for nitrous oxide of Lemmon and Span (2006).
T_min:	30.952 K
T_max:	309.51 K
T_data_min:	182.33 K
T_data_max:	277.8339716 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OXYGEN
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Oxygen
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. Helmholtz equation of state for oxygen of Schmidt and Wagner (1985).
T_min:	15.4581 K
T_max:	154.581 K
T_data_min:	55.0 K
T_data_max:	136.9507923 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	SULFUR_DIOXIDE
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Sulfur dioxide
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. short Helmholtz equation of state for sulfur dioxide of Lemmon and Span (2006).
T_min:	43.064 K
T_max:	430.4 K
T_data_min:	197.7 K
T_data_max:	387.4446552 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	WATER
Library Name:	TILMediaXTR for properties with eXtended Temperature Range (XTR)
Library Literature Reference:	unpublished
Description:	Water
Literature Reference:	Reference data from Refprop (bubble line properties), fit by TLK. Helmholtz equation of state for water of Wagner and Pruss (2002).
T_min:	64.7096 K
T_max:	647.096 K
T_data_min:	274.1160579 K
T_data_max:	577.458494 K
xi_min:	0.0
xi_max:	1.0

3.2 VDIWA Liquids

Tabelle 6: VDIWA-Liquidnames

Medium Name:	1,1,1-TRICHLOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H3Cl3
T_min:	30.0 K
T_max:	545.0 K
T_data_min:	30.0 K
T_data_max:	545.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,1,1-TRIFLUOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Description:	C2H3F3
T_min:	161.34 K
T_max:	346.3 K
T_data_min:	161.34 K
T_data_max:	346.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,1,2,2-TETRACHLORODIFLUOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2Cl4F2
T_min:	40.0 K
T_max:	551.0 K
T_data_min:	40.0 K
T_data_max:	551.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,1,2,2-TETRACHLOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H2Cl4
T_min:	40.0 K
T_max:	645.0 K
T_data_min:	40.0 K
T_data_max:	645.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2Cl3F3
T_min:	236.93 K
T_max:	487.3 K
T_data_min:	236.93 K
T_data_max:	487.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,1-DICHLOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4Cl2
T_min:	25.0 K
T_max:	523.0 K

T_data_min:	25.0 K
T_data_max:	523.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,1-DICHLOROETHENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H2Cl2
T_min:	25.0 K
T_max:	482.1 K
T_data_min:	25.0 K
T_data_max:	482.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,2,3,4-TETRAMETHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H14
T_min:	50.0 K
T_max:	693.0 K
T_data_min:	50.0 K
T_data_max:	693.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,2,3,5-TETRAMETHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H14
T_min:	40.0 K
T_max:	679.0 K
T_data_min:	40.0 K
T_data_max:	679.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,2,3-TRIMETHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H12
T_min:	40.0 K
T_max:	664.5 K
T_data_min:	40.0 K
T_data_max:	664.5 K
xi_min:	0.0

xi_max:	1.0
Medium Name:	1,2,4,5-TETRAMETHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H14
T_min:	40.0 K
T_max:	676.0 K
T_data_min:	40.0 K
T_data_max:	676.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,2,4-TRIMETHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H12
T_min:	35.0 K
T_max:	649.0 K
T_data_min:	35.0 K
T_data_max:	649.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,2-BUTADIENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H6
T_min:	13.0 K
T_max:	452.0 K
T_data_min:	13.0 K
T_data_max:	452.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,2-DIBROMOETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4Br2
T_min:	30.0 K
T_max:	650.2 K
T_data_min:	30.0 K
T_data_max:	650.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE

Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2Cl2F4
T_min:	180.63 K
T_max:	418.9 K
T_data_min:	180.63 K
T_data_max:	418.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,2-DICHLOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4Cl2
T_min:	20.0 K
T_max:	566.0 K
T_data_min:	20.0 K
T_data_max:	566.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,2-PENTADIENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H8
T_min:	15.0 K
T_max:	500.0 K
T_data_min:	15.0 K
T_data_max:	500.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,3,5-TRIMETHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H12
T_min:	40.0 K
T_max:	637.3 K
T_data_min:	40.0 K
T_data_max:	637.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,3-BUTADIENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H6

T_min:	18.0 K
T_max:	425.1 K
T_data_min:	18.0 K
T_data_max:	425.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,3-PENTADIENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H8
T_min:	15.0 K
T_max:	500.1 K
T_data_min:	15.0 K
T_data_max:	500.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,3-PROPYLENGLYCOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H8O2
T_min:	70.0 K
T_max:	724.0 K
T_data_min:	70.0 K
T_data_max:	724.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,4-DIOXANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O2
T_min:	72.0 K
T_max:	587.0 K
T_data_min:	72.0 K
T_data_max:	587.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1,4-PENTADIENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H8
T_min:	15.0 K
T_max:	479.0 K
T_data_min:	15.0 K

T_data_max:	479.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1-BUTENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8
T_min:	87.8 K
T_max:	419.9 K
T_data_min:	87.8 K
T_data_max:	419.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1-CHLOROBUTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H9Cl
T_min:	25.0 K
T_max:	542.0 K
T_data_min:	25.0 K
T_data_max:	542.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1-CHLOROPENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H11Cl
T_min:	25.0 K
T_max:	568.0 K
T_data_min:	25.0 K
T_data_max:	568.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1-CHLOROPROPANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H7Cl
T_min:	25.0 K
T_max:	503.1 K
T_data_min:	25.0 K
T_data_max:	503.1 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	1-ETHYLNAPHTHALENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H12
T_min:	80.0 K
T_max:	776.0 K
T_data_min:	80.0 K
T_data_max:	776.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1-HEPTENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H14
T_min:	77.0 K
T_max:	572.1 K
T_data_min:	77.0 K
T_data_max:	572.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1-HEXENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12
T_min:	20.0 K
T_max:	504.1 K
T_data_min:	20.0 K
T_data_max:	504.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1-METHYLNAPHTHALENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H10
T_min:	133.0 K
T_max:	772.0 K
T_data_min:	133.0 K
T_data_max:	772.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1-OCTENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H16
T_min:	25.0 K
T_max:	567.0 K
T_data_min:	25.0 K
T_data_max:	567.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1-PENTENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10
T_min:	17.0 K
T_max:	464.8 K
T_data_min:	17.0 K
T_data_max:	464.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	1-PHENYLETHANONE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H8O
T_min:	74.0 K
T_max:	709.5 K
T_data_min:	74.0 K
T_data_max:	709.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	2,2-DIMETHYLBUTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14
T_min:	15.0 K
T_max:	489.0 K
T_data_min:	15.0 K
T_data_max:	489.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	2,2-DIMETHYLPROPANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12
T_min:	256.6 K

T_max:	433.8 K
T_data_min:	256.6 K
T_data_max:	433.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	2,3-DIMETHYLBUTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14
T_min:	31.0 K
T_max:	500.0 K
T_data_min:	31.0 K
T_data_max:	500.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	2,3-PENTADIENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H8
T_min:	15.0 K
T_max:	497.0 K
T_data_min:	15.0 K
T_data_max:	497.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	2,4,6-TRIMETHYL-1,3,5-TRIOXANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12O3
T_min:	126.0 K
T_max:	579.0 K
T_data_min:	126.0 K
T_data_max:	579.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	2-ETHYLNAPHTHALENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H12
T_min:	70.0 K
T_max:	771.0 K
T_data_min:	70.0 K
T_data_max:	771.0 K

xi_min:	0.0
xi_max:	1.0
Medium Name:	2-HYDROXYBENZALDEHYDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H6O2
T_min:	50.0 K
T_max:	680.0 K
T_data_min:	50.0 K
T_data_max:	680.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	2-METHYLBUTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12
T_min:	112.65 K
T_max:	460.4 K
T_data_min:	112.65 K
T_data_max:	460.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	2-METHYLNAPHTHALENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H10
T_min:	59.0 K
T_max:	505.717776 K
T_data_min:	59.0 K
T_data_max:	505.717776 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	2-METHYLPENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14
T_min:	119.6 K
T_max:	497.6 K
T_data_min:	119.6 K
T_data_max:	497.6 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	2-METHYLPROPAN-1-OL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10O
T_min:	80.0 K
T_max:	547.8 K
T_data_min:	80.0 K
T_data_max:	547.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	2-METHYLPROPANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10
T_min:	301.0 K
T_max:	407.8 K
T_data_min:	301.0 K
T_data_max:	407.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	3-METHYLPENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14
T_min:	22.0 K
T_max:	504.6 K
T_data_min:	22.0 K
T_data_max:	504.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ACETALDEHYDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4O
T_min:	20.0 K
T_max:	466.1 K
T_data_min:	20.0 K
T_data_max:	466.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ACETIC ANHYDRIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Description:	C4H6O3
T_min:	31.0 K
T_max:	606.0 K
T_data_min:	31.0 K
T_data_max:	606.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ACETONITRILE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H3N
T_min:	50.0 K
T_max:	545.5 K
T_data_min:	50.0 K
T_data_max:	545.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ACETYLENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H2
T_min:	8.0 K
T_max:	308.4 K
T_data_min:	8.0 K
T_data_max:	308.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	AMMONIA
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	NH3
T_min:	195.5 K
T_max:	405.6 K
T_data_min:	195.5 K
T_data_max:	405.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ARGON
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Ar
T_min:	83.806 K
T_max:	150.8 K

T_data_min:	83.806 K
T_data_max:	150.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BENZALDEHYDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H6O
T_min:	48.0 K
T_max:	695.0 K
T_data_min:	48.0 K
T_data_max:	695.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H6
T_min:	278.67 K
T_max:	562.0 K
T_data_min:	278.67 K
T_data_max:	562.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BENZONITRILE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H5N
T_min:	40.0 K
T_max:	699.4 K
T_data_min:	40.0 K
T_data_max:	699.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BENZOPHENONE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C13H10O
T_min:	72.0 K
T_max:	830.0 K
T_data_min:	72.0 K
T_data_max:	830.0 K
xi_min:	0.0

xi_max:	1.0
Medium Name:	BIPHENYL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H10
T_min:	108.0 K
T_max:	789.0 K
T_data_min:	108.0 K
T_data_max:	789.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BROMINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Br2
T_min:	15.0 K
T_max:	584.1 K
T_data_min:	15.0 K
T_data_max:	584.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BROMOBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H5Br
T_min:	33.0 K
T_max:	670.2 K
T_data_min:	33.0 K
T_data_max:	670.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BROMOCYANIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	BrCN
T_min:	210.0 K
T_max:	518.4 K
T_data_min:	210.0 K
T_data_max:	518.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BROMOETHANE

Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H5Br
T_min:	20.0 K
T_max:	503.8 K
T_data_min:	20.0 K
T_data_max:	503.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BROMOMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH3Br
T_min:	15.0 K
T_max:	467.1 K
T_data_min:	15.0 K
T_data_max:	467.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BUTAN-1-AMINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H11N
T_min:	20.0 K
T_max:	532.0 K
T_data_min:	20.0 K
T_data_max:	532.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BUTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10
T_min:	134.9 K
T_max:	425.1 K
T_data_min:	134.9 K
T_data_max:	425.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BUTANENITRILE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H7N

T_min:	30.0 K
T_max:	582.3 K
T_data_min:	30.0 K
T_data_max:	582.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BUTANOIC ACID
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O2
T_min:	40.0 K
T_max:	615.8 K
T_data_min:	40.0 K
T_data_max:	615.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BUTANOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10O
T_min:	70.0 K
T_max:	563.0 K
T_data_min:	70.0 K
T_data_max:	563.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BUTYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H14
T_min:	47.0 K
T_max:	660.5 K
T_data_min:	47.0 K
T_data_max:	660.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BUTYLCYCLOHEXANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H20
T_min:	64.0 K
T_max:	667.0 K
T_data_min:	64.0 K

T_data_max:	667.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BUTYLCYCLOPENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H18
T_min:	37.0 K
T_max:	621.0 K
T_data_min:	37.0 K
T_data_max:	621.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CARBOMETHENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H2O
T_min:	20.0 K
T_max:	370.1 K
T_data_min:	20.0 K
T_data_max:	370.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CARBON DIOXIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CO2
T_min:	216.59 K
T_max:	304.3 K
T_data_min:	216.59 K
T_data_max:	304.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CARBON DISULFIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CS2
T_min:	40.0 K
T_max:	552.0 K
T_data_min:	40.0 K
T_data_max:	552.0 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	CARBON MONOXIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CO
T_min:	68.16 K
T_max:	132.9 K
T_data_min:	68.16 K
T_data_max:	132.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CARBON SUBOXIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3O2
T_min:	30.0 K
T_max:	427.6 K
T_data_min:	30.0 K
T_data_max:	427.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CARBONYL SULFIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	COS
T_min:	134.3 K
T_max:	378.8 K
T_data_min:	134.3 K
T_data_max:	378.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLORINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Cl2
T_min:	30.0 K
T_max:	417.1 K
T_data_min:	30.0 K
T_data_max:	417.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLOROACETIC ACID
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H3ClO2
T_min:	90.0 K
T_max:	686.0 K
T_data_min:	90.0 K
T_data_max:	686.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLOROBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H5Cl
T_min:	160.0 K
T_max:	632.4 K
T_data_min:	160.0 K
T_data_max:	632.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLOROCYANIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	ClCN
T_min:	30.0 K
T_max:	449.1 K
T_data_min:	30.0 K
T_data_max:	449.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLORODIFLUOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CHClF2
T_min:	115.73 K
T_max:	369.3 K
T_data_min:	115.73 K
T_data_max:	369.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H5Cl
T_min:	20.0 K

T_max:	460.4 K
T_data_min:	20.0 K
T_data_max:	460.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLOROETHYLENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H3Cl
T_min:	33.0 K
T_max:	432.1 K
T_data_min:	33.0 K
T_data_max:	432.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH3Cl
T_min:	175.0 K
T_max:	416.3 K
T_data_min:	175.0 K
T_data_max:	416.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLOROMETHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H7Cl
T_min:	34.0 K
T_max:	686.0 K
T_data_min:	34.0 K
T_data_max:	686.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLOROTRIFLUOROETHYLENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2ClF3
T_min:	30.0 K
T_max:	379.1 K
T_data_min:	30.0 K
T_data_max:	379.1 K

xi_min:	0.0
xi_max:	1.0
Medium Name:	CHLOROTRIFLUOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CClF3
T_min:	92.0 K
T_max:	302.1 K
T_data_min:	92.0 K
T_data_max:	302.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CYANOGEN
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2N2
T_min:	90.0 K
T_max:	400.1 K
T_data_min:	90.0 K
T_data_max:	400.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CYCLOBUTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8
T_min:	65.0 K
T_max:	460.0 K
T_data_min:	65.0 K
T_data_max:	460.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CYCLOHEXANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12
T_min:	279.47 K
T_max:	553.5 K
T_data_min:	279.47 K
T_data_max:	553.5 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	CYCLOHEXANOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12O
T_min:	130.0 K
T_max:	650.0 K
T_data_min:	130.0 K
T_data_max:	650.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CYCLOHEXENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H10
T_min:	69.0 K
T_max:	560.5 K
T_data_min:	69.0 K
T_data_max:	560.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CYCLOPENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10
T_min:	179.7 K
T_max:	511.8 K
T_data_min:	179.7 K
T_data_max:	511.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CYCLOPENTENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H8
T_min:	67.0 K
T_max:	507.0 K
T_data_min:	67.0 K
T_data_max:	507.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	CYCLOPROPANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Description:	C3H6
T_min:	145.7 K
T_max:	397.9 K
T_data_min:	145.7 K
T_data_max:	397.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DECANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H22
T_min:	243.5 K
T_max:	617.8 K
T_data_min:	243.5 K
T_data_max:	617.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DIBROMOMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH2Br2
T_min:	30.0 K
T_max:	611.0 K
T_data_min:	30.0 K
T_data_max:	611.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DICHLOROACETIC ACID
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H2Cl2O2
T_min:	210.0 K
T_max:	686.0 K
T_data_min:	210.0 K
T_data_max:	686.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DICHLORODIFLUOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CCl2F2
T_min:	116.1 K
T_max:	384.9 K

T_data_min:	116.1 K
T_data_max:	384.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DICHLOROFLUOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CHCl2F
T_min:	142.8 K
T_max:	451.6 K
T_data_min:	142.8 K
T_data_max:	451.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DICHLOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH2Cl2
T_min:	20.0 K
T_max:	510.1 K
T_data_min:	20.0 K
T_data_max:	510.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DIETHYL KETONE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10O
T_min:	20.0 K
T_max:	561.0 K
T_data_min:	20.0 K
T_data_max:	561.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DIETHYL SULFIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10S
T_min:	25.0 K
T_max:	557.1 K
T_data_min:	25.0 K
T_data_max:	557.1 K
xi_min:	0.0

xi_max:	1.0
Medium Name:	DIETHYLAMINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H11N
T_min:	30.0 K
T_max:	496.6 K
T_data_min:	30.0 K
T_data_max:	496.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DIFLUOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH2F2
T_min:	136.34 K
T_max:	351.6 K
T_data_min:	136.34 K
T_data_max:	351.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DIMETHYL SULFIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6S
T_min:	20.0 K
T_max:	503.1 K
T_data_min:	20.0 K
T_data_max:	503.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DIMETHYLACETYLENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H6
T_min:	18.0 K
T_max:	473.3 K
T_data_min:	18.0 K
T_data_max:	473.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DIMETHYLAMINE

Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H7N
T_min:	80.0 K
T_max:	437.3 K
T_data_min:	80.0 K
T_data_max:	437.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DIMETHYLENEMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H4
T_min:	9.0 K
T_max:	393.1 K
T_data_min:	9.0 K
T_data_max:	393.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DINITROGEN TETROXIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	N2O4
T_min:	20.0 K
T_max:	431.1 K
T_data_min:	20.0 K
T_data_max:	431.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DIPHENYLAMINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H11N
T_min:	88.0 K
T_max:	817.0 K
T_data_min:	88.0 K
T_data_max:	817.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DIPHENYLMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C13H12

T_min:	76.0 K
T_max:	760.0 K
T_data_min:	76.0 K
T_data_max:	760.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DODECANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H26
T_min:	263.6 K
T_max:	658.0 K
T_data_min:	263.6 K
T_data_max:	658.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DRYAIR
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	DryAir
T_min:	24.0 K
T_max:	126.3 K
T_data_min:	24.0 K
T_data_max:	126.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHANAMINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H7N
T_min:	25.0 K
T_max:	456.1 K
T_data_min:	25.0 K
T_data_max:	456.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6
T_min:	90.368 K
T_max:	305.4 K
T_data_min:	90.368 K

T_data_max:	305.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHANETHIOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6S
T_min:	20.0 K
T_max:	499.1 K
T_data_min:	20.0 K
T_data_max:	499.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHANOIC ACID
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4O2
T_min:	35.0 K
T_max:	592.0 K
T_data_min:	35.0 K
T_data_max:	592.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHANOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6O
T_min:	159.0 K
T_max:	514.0 K
T_data_min:	159.0 K
T_data_max:	514.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4
T_min:	103.99 K
T_max:	282.4 K
T_data_min:	103.99 K
T_data_max:	282.4 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	ETHOXYETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10O
T_min:	15.0 K
T_max:	466.8 K
T_data_min:	15.0 K
T_data_max:	466.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHOXYPROPANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12O
T_min:	20.0 K
T_max:	500.2 K
T_data_min:	20.0 K
T_data_max:	500.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYL-ACETATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O2
T_min:	15.0 K
T_max:	523.2 K
T_data_min:	15.0 K
T_data_max:	523.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYL-BENZOATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H10O2
T_min:	81.0 K
T_max:	698.0 K
T_data_min:	81.0 K
T_data_max:	698.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYL-BUTANOATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12O2
T_min:	30.0 K
T_max:	571.0 K
T_data_min:	30.0 K
T_data_max:	571.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYL-FORMATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H6O2
T_min:	25.0 K
T_max:	508.4 K
T_data_min:	25.0 K
T_data_max:	508.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYL-PROPIONATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10O2
T_min:	34.0 K
T_max:	546.0 K
T_data_min:	34.0 K
T_data_max:	546.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYLACETYLENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H6
T_min:	12.0 K
T_max:	440.0 K
T_data_min:	12.0 K
T_data_max:	440.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H10
T_min:	178.2 K

T_max:	617.1 K
T_data_min:	178.2 K
T_data_max:	617.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYLCYCLEPENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H14
T_min:	75.0 K
T_max:	569.5 K
T_data_min:	75.0 K
T_data_max:	569.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYLCYCLOHEXANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H16
T_min:	69.0 K
T_max:	609.1 K
T_data_min:	69.0 K
T_data_max:	609.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYLENE OXIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4O
T_min:	39.0 K
T_max:	469.1 K
T_data_min:	39.0 K
T_data_max:	469.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ETHYLENGLYCOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6O2
T_min:	100.0 K
T_max:	719.1 K
T_data_min:	100.0 K
T_data_max:	719.1 K

xi_min:	0.0
xi_max:	1.0
Medium Name:	FLUORINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	F2
T_min:	53.481 K
T_max:	144.2 K
T_data_min:	53.481 K
T_data_max:	144.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FLUOROBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H5F
T_min:	58.0 K
T_max:	560.0 K
T_data_min:	58.0 K
T_data_max:	560.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FLUOROCYANIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CFN
T_min:	55.0 K
T_max:	355.6 K
T_data_min:	55.0 K
T_data_max:	355.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FLUOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H5F
T_min:	130.0 K
T_max:	375.4 K
T_data_min:	130.0 K
T_data_max:	375.4 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	FLUOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH3F
T_min:	129.82 K
T_max:	317.4 K
T_data_min:	129.82 K
T_data_max:	317.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FURAN
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H4O
T_min:	82.0 K
T_max:	490.1 K
T_data_min:	82.0 K
T_data_max:	490.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	FURAN-2-CARBALDEHYDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H4O2
T_min:	60.0 K
T_max:	670.2 K
T_data_min:	60.0 K
T_data_max:	670.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	GLYCERIN
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H8O3
T_min:	150.0 K
T_max:	850.0 K
T_data_min:	150.0 K
T_data_max:	850.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEPTADECANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Description:	C17H36
T_min:	50.0 K
T_max:	736.0 K
T_data_min:	50.0 K
T_data_max:	736.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEPTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H16
T_min:	182.55 K
T_max:	540.3 K
T_data_min:	182.55 K
T_data_max:	540.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEPTANOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H16O
T_min:	90.0 K
T_max:	600.929544015943 K
T_data_min:	90.0 K
T_data_max:	600.929544015943 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEXACHLOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2Cl6
T_min:	40.0 K
T_max:	695.0 K
T_data_min:	40.0 K
T_data_max:	695.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEXADECANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C16H34
T_min:	50.0 K
T_max:	723.0 K

T_data_min:	50.0 K
T_data_max:	723.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEXAMETHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H13
T_min:	70.0 K
T_max:	758.0 K
T_data_min:	70.0 K
T_data_max:	758.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEXANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14
T_min:	177.83 K
T_max:	507.6 K
T_data_min:	177.83 K
T_data_max:	507.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEXANOIC ACID
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12O2
T_min:	60.0 K
T_max:	660.2 K
T_data_min:	60.0 K
T_data_max:	660.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEXANOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14O
T_min:	70.0 K
T_max:	611.4 K
T_data_min:	70.0 K
T_data_max:	611.4 K
xi_min:	0.0

xi_max:	1.0
Medium Name:	HEXYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H18
T_min:	80.0 K
T_max:	698.0 K
T_data_min:	80.0 K
T_data_max:	698.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEXYLCYCLOHEXANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C12H24
T_min:	60.0 K
T_max:	693.6 K
T_data_min:	60.0 K
T_data_max:	693.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HEXYLCYCLOPENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H22
T_min:	37.0 K
T_max:	660.1 K
T_data_min:	37.0 K
T_data_max:	660.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HYDROGEN BROMIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	HBr
T_min:	5.0 K
T_max:	363.1 K
T_data_min:	5.0 K
T_data_max:	363.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HYDROGEN CHLORIDE

Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	HCl
T_min:	131.4 K
T_max:	324.6 K
T_data_min:	131.4 K
T_data_max:	324.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HYDROGEN CYANIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	HCN
T_min:	20.0 K
T_max:	456.6 K
T_data_min:	20.0 K
T_data_max:	456.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HYDROGEN FLUORIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	HF
T_min:	40.0 K
T_max:	461.1 K
T_data_min:	40.0 K
T_data_max:	461.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HYDROGEN IODIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	HI
T_min:	10.0 K
T_max:	423.9 K
T_data_min:	10.0 K
T_data_max:	423.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	HYDROGEN SULFIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	H2S

T_min:	187.7 K
T_max:	373.6 K
T_data_min:	187.7 K
T_data_max:	373.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ICOSANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C20H42
T_min:	50.0 K
T_max:	769.6 K
T_data_min:	50.0 K
T_data_max:	769.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	IODINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	I2
T_min:	35.0 K
T_max:	819.1 K
T_data_min:	35.0 K
T_data_max:	819.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	IODINECYANIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	ICN
T_min:	240.0 K
T_max:	652.3 K
T_data_min:	240.0 K
T_data_max:	652.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	IODOBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H5I
T_min:	40.0 K
T_max:	721.2 K
T_data_min:	40.0 K

T_data_max:	721.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ISOPENTYL ALCOHOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12O
T_min:	60.0 K
T_max:	577.3 K
T_data_min:	60.0 K
T_data_max:	577.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ISOPROPYL ALCOHOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H8O
T_min:	60.0 K
T_max:	508.3 K
T_data_min:	60.0 K
T_data_max:	508.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	ISOPROPYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H12
T_min:	55.0 K
T_max:	631.0 K
T_data_min:	55.0 K
T_data_max:	631.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	KRYPTON
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Kr
T_min:	115.78 K
T_max:	209.3 K
T_data_min:	115.78 K
T_data_max:	209.3 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	M-CHLOROTOLUENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H7Cl
T_min:	54.0 K
T_max:	660.8 K
T_data_min:	54.0 K
T_data_max:	660.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	M-CRESOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H8O
T_min:	120.0 K
T_max:	705.9 K
T_data_min:	120.0 K
T_data_max:	705.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	M-NITROTOLUENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H7NO2
T_min:	50.0 K
T_max:	734.0 K
T_data_min:	50.0 K
T_data_max:	734.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	M-XYLENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H10
T_min:	225.3 K
T_max:	617.0 K
T_data_min:	225.3 K
T_data_max:	617.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHANAL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH2O
T_min:	20.0 K
T_max:	408.1 K
T_data_min:	20.0 K
T_data_max:	408.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHANAMIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH3NO
T_min:	60.0 K
T_max:	771.0 K
T_data_min:	60.0 K
T_data_max:	771.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH4
T_min:	90.694 K
T_max:	190.6 K
T_data_min:	90.694 K
T_data_max:	190.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHANETHIOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH4S
T_min:	15.0 K
T_max:	469.9 K
T_data_min:	15.0 K
T_data_max:	469.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHANOIC ACID
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH2O2
T_min:	50.0 K

T_max:	588.0 K
T_data_min:	50.0 K
T_data_max:	588.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHANOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH4O
T_min:	175.61 K
T_max:	512.5 K
T_data_min:	175.61 K
T_data_max:	512.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHOXYMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H6O
T_min:	15.0 K
T_max:	400.1 K
T_data_min:	15.0 K
T_data_max:	400.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHOXYPROPANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H10O
T_min:	20.0 K
T_max:	476.3 K
T_data_min:	20.0 K
T_data_max:	476.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYL ETHYL KETONE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O
T_min:	20.0 K
T_max:	535.5 K
T_data_min:	20.0 K
T_data_max:	535.5 K

xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYL-ACETATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H6O2
T_min:	20.0 K
T_max:	506.6 K
T_data_min:	20.0 K
T_data_max:	506.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYL-BENZOATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H8O2
T_min:	85.0 K
T_max:	693.0 K
T_data_min:	85.0 K
T_data_max:	693.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYL-BUTANOATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10O2
T_min:	30.0 K
T_max:	554.5 K
T_data_min:	30.0 K
T_data_max:	554.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYL-FORMATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2H4O2
T_min:	25.0 K
T_max:	487.3 K
T_data_min:	25.0 K
T_data_max:	487.3 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	METHYL-PROPIONATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O2
T_min:	26.0 K
T_max:	530.6 K
T_data_min:	26.0 K
T_data_max:	530.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYL-SALICYLATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H8O3
T_min:	54.0 K
T_max:	709.0 K
T_data_min:	54.0 K
T_data_max:	709.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYLACETYLENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H4
T_min:	170.5 K
T_max:	402.5 K
T_data_min:	170.5 K
T_data_max:	402.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYLAMINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH5N
T_min:	25.0 K
T_max:	430.1 K
T_data_min:	25.0 K
T_data_max:	430.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Description:	C7H8
T_min:	178.0 K
T_max:	591.8 K
T_data_min:	178.0 K
T_data_max:	591.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYLCYCLOHEXANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H14
T_min:	146.7 K
T_max:	572.1 K
T_data_min:	146.7 K
T_data_max:	572.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	METHYLCYCLOPENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12
T_min:	88.0 K
T_max:	532.8 K
T_data_min:	88.0 K
T_data_max:	532.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	N,N-DIETHYL-ANILIN
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H15N
T_min:	80.0 K
T_max:	702.0 K
T_data_min:	80.0 K
T_data_max:	702.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	N,N-DIMETHYL-ANILIN
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H11N
T_min:	86.0 K
T_max:	687.2 K

T_data_min:	86.0 K
T_data_max:	687.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	N-METHYL-ANILIN
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H9N
T_min:	67.0 K
T_max:	701.5 K
T_data_min:	67.0 K
T_data_max:	701.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	N-PROPYL-PROPIONATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H12O2
T_min:	39.0 K
T_max:	568.6 K
T_data_min:	39.0 K
T_data_max:	568.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NAPHTHALENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H8
T_min:	68.0 K
T_max:	748.5 K
T_data_min:	68.0 K
T_data_max:	748.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NITRIC OXIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	NO
T_min:	76.0 K
T_max:	180.2 K
T_data_min:	76.0 K
T_data_max:	180.2 K
xi_min:	0.0

xi_max:	1.0
Medium Name:	NITROBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H5NO2
T_min:	50.0 K
T_max:	719.0 K
T_data_min:	50.0 K
T_data_max:	719.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NITROGEN
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	N2
T_min:	63.151 K
T_max:	126.3 K
T_data_min:	63.151 K
T_data_max:	126.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NITROGEN DIOXIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	NO2
T_min:	40.0 K
T_max:	431.1 K
T_data_min:	40.0 K
T_data_max:	431.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NITROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CH3NO2
T_min:	38.0 K
T_max:	588.2 K
T_data_min:	38.0 K
T_data_max:	588.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NITROUS OXIDE

Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	N2O
T_min:	182.33 K
T_max:	309.6 K
T_data_min:	182.33 K
T_data_max:	309.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NONADECANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C19H40
T_min:	50.0 K
T_max:	758.0 K
T_data_min:	50.0 K
T_data_max:	758.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	NONANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H20
T_min:	219.7 K
T_max:	594.5 K
T_data_min:	219.7 K
T_data_max:	594.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	O-CRESOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H8O
T_min:	80.0 K
T_max:	697.5 K
T_data_min:	80.0 K
T_data_max:	697.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	O-NITROTOLUENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H7NO2

T_min:	50.0 K
T_max:	720.0 K
T_data_min:	50.0 K
T_data_max:	720.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	O-XYLENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H10
T_min:	247.99 K
T_max:	630.3 K
T_data_min:	247.99 K
T_data_max:	630.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OCTADECANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C18H38
T_min:	50.0 K
T_max:	747.0 K
T_data_min:	50.0 K
T_data_max:	747.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OCTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H18
T_min:	216.37 K
T_max:	568.8 K
T_data_min:	216.37 K
T_data_max:	568.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OCTANOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H18O
T_min:	80.0 K
T_max:	652.5 K
T_data_min:	80.0 K

T_data_max:	652.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	OXYGEN
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	O2
T_min:	54.361 K
T_max:	154.6 K
T_data_min:	54.361 K
T_data_max:	154.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	P-CRESOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H8O
T_min:	110.0 K
T_max:	704.6 K
T_data_min:	110.0 K
T_data_max:	704.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	P-NITROTOLUENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H7NO2
T_min:	50.0 K
T_max:	743.0 K
T_data_min:	50.0 K
T_data_max:	743.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	P-XYLENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H10
T_min:	286.4 K
T_max:	616.3 K
T_data_min:	286.4 K
T_data_max:	616.3 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	PENTACHLOROETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2HCl5
T_min:	40.0 K
T_max:	646.0 K
T_data_min:	40.0 K
T_data_max:	646.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PENTADECANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C15H32
T_min:	50.0 K
T_max:	708.0 K
T_data_min:	50.0 K
T_data_max:	708.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PENTAMETHYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H16
T_min:	60.0 K
T_max:	719.2 K
T_data_min:	60.0 K
T_data_max:	719.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12
T_min:	143.47 K
T_max:	469.7 K
T_data_min:	143.47 K
T_data_max:	469.7 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PENTANOIC ACID
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10O2
T_min:	40.0 K
T_max:	634.0 K
T_data_min:	40.0 K
T_data_max:	634.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PENTANOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H12O
T_min:	70.0 K
T_max:	586.1 K
T_data_min:	70.0 K
T_data_max:	586.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PENTYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H16
T_min:	80.0 K
T_max:	679.9 K
T_data_min:	80.0 K
T_data_max:	679.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PENTYLCYCLOHEXANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H22
T_min:	50.0 K
T_max:	667.8 K
T_data_min:	50.0 K
T_data_max:	667.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PENTYLCYCLOPENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C10H20
T_min:	45.0 K

T_max:	656.2 K
T_data_min:	45.0 K
T_data_max:	656.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PHENOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H6O
T_min:	80.0 K
T_max:	694.3 K
T_data_min:	80.0 K
T_data_max:	694.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PHENYLAMINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H7N
T_min:	100.0 K
T_max:	699.0 K
T_data_min:	100.0 K
T_data_max:	699.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PHENYLHYDRAZINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H8N2
T_min:	90.0 K
T_max:	761.0 K
T_data_min:	90.0 K
T_data_max:	761.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PHENYLMETHANOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H8O
T_min:	86.0 K
T_max:	720.1 K
T_data_min:	86.0 K
T_data_max:	720.1 K

xi_min:	0.0
xi_max:	1.0
Medium Name:	PHOSGENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CCl2O
T_min:	20.0 K
T_max:	455.1 K
T_data_min:	20.0 K
T_data_max:	455.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PIPERIDINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H11N
T_min:	74.0 K
T_max:	594.0 K
T_data_min:	74.0 K
T_data_max:	594.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H8
T_min:	85.525 K
T_max:	369.9 K
T_data_min:	85.525 K
T_data_max:	369.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPANENITRILE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H5N
T_min:	30.0 K
T_max:	564.4 K
T_data_min:	30.0 K
T_data_max:	564.4 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	PROPANOIC ACID
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H6O2
T_min:	40.0 K
T_max:	600.9 K
T_data_min:	40.0 K
T_data_max:	600.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPANOL
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H8O
T_min:	60.0 K
T_max:	536.8 K
T_data_min:	60.0 K
T_data_max:	536.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPANONE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H6O
T_min:	25.0 K
T_max:	508.3 K
T_data_min:	25.0 K
T_data_max:	508.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPANOYL PROPANOATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H10O3
T_min:	35.0 K
T_max:	623.0 K
T_data_min:	35.0 K
T_data_max:	623.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Description:	C3H6
T_min:	87.953 K
T_max:	364.9 K
T_data_min:	87.953 K
T_data_max:	364.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPOXYPROPANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H14O
T_min:	25.0 K
T_max:	530.6 K
T_data_min:	25.0 K
T_data_max:	530.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPYL KETONE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C7H14O
T_min:	40.0 K
T_max:	602.0 K
T_data_min:	40.0 K
T_data_max:	602.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPYL-ACETATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H10O2
T_min:	20.0 K
T_max:	549.8 K
T_data_min:	20.0 K
T_data_max:	549.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPYL-FORMATE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H8O2
T_min:	25.0 K
T_max:	538.0 K

T_data_min:	25.0 K
T_data_max:	538.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPYLAMINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H9N
T_min:	25.0 K
T_max:	496.9 K
T_data_min:	25.0 K
T_data_max:	496.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPYLBENZENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H12
T_min:	41.0 K
T_max:	638.3 K
T_data_min:	41.0 K
T_data_max:	638.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPYLCYCLOHEXANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C9H18
T_min:	56.0 K
T_max:	639.2 K
T_data_min:	56.0 K
T_data_max:	639.2 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	PROPYLCYCLOPENTANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H16
T_min:	61.0 K
T_max:	596.0 K
T_data_min:	61.0 K
T_data_max:	596.0 K
xi_min:	0.0

xi_max:	1.0
Medium Name:	PYRIDINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C5H5N
T_min:	81.0 K
T_max:	620.0 K
T_data_min:	81.0 K
T_data_max:	620.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	STYRENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C8H8
T_min:	40.0 K
T_max:	636.0 K
T_data_min:	40.0 K
T_data_max:	636.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	SULFUR
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	S
T_min:	100.0 K
T_max:	716.554759435798 K
T_data_min:	100.0 K
T_data_max:	716.554759435798 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	SULFUR DIOXIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	SO2
T_min:	197.7 K
T_max:	430.8 K
T_data_min:	197.7 K
T_data_max:	430.8 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	SULFUR HEXAFLUORIDE

Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	SF6
T_min:	223.56 K
T_max:	318.6 K
T_data_min:	223.56 K
T_data_max:	318.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	SULFUR TRIOXIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	SO3
T_min:	70.0 K
T_max:	490.9 K
T_data_min:	70.0 K
T_data_max:	490.9 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	SULFURY CHLORIDE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Cl2SO2
T_min:	25.0 K
T_max:	545.0 K
T_data_min:	25.0 K
T_data_max:	545.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TETRABROMOMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CBr4
T_min:	50.0 K
T_max:	523.12635 K
T_data_min:	50.0 K
T_data_max:	523.12635 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TETRACHLOROCARBON
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CCl4

T_min:	140.0 K
T_max:	556.4 K
T_data_min:	140.0 K
T_data_max:	556.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TETRACHLOROETHENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2Cl4
T_min:	20.0 K
T_max:	620.0 K
T_data_min:	20.0 K
T_data_max:	620.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TETRADECANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C14H30
T_min:	50.0 K
T_max:	693.0 K
T_data_min:	50.0 K
T_data_max:	693.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TETRAFLUOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CF4
T_min:	89.54 K
T_max:	227.6 K
T_data_min:	89.54 K
T_data_max:	227.6 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TETRAPHENYLMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C25H20
T_min:	84.0 K
T_max:	983.0 K
T_data_min:	84.0 K

T_data_max:	983.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	THIOPHENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C4H4S
T_min:	33.0 K
T_max:	579.4 K
T_data_min:	33.0 K
T_data_max:	579.4 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TRIBROMOMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CHBr3
T_min:	30.0 K
T_max:	696.0 K
T_data_min:	30.0 K
T_data_max:	696.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TRICHLOROACETIC ACID
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2HCl3O2
T_min:	200.0 K
T_max:	688.0 K
T_data_min:	200.0 K
T_data_max:	688.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TRICHLOROETHYLENE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C2HCl3
T_min:	25.0 K
T_max:	571.0 K
T_data_min:	25.0 K
T_data_max:	571.0 K
xi_min:	0.0
xi_max:	1.0

Medium Name:	TRICHLOROFLUOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CCl3F
T_min:	162.68 K
T_max:	471.3 K
T_data_min:	162.68 K
T_data_max:	471.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TRICHLOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CHCl3
T_min:	25.0 K
T_max:	536.5 K
T_data_min:	25.0 K
T_data_max:	536.5 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TRIDECANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C13H23
T_min:	40.0 K
T_max:	675.0 K
T_data_min:	40.0 K
T_data_max:	675.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TRIETHYLAMINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C6H15N
T_min:	25.0 K
T_max:	535.1 K
T_data_min:	25.0 K
T_data_max:	535.1 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TRIFLUOROMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas

Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	CHF3
T_min:	118.02 K
T_max:	299.3 K
T_data_min:	118.02 K
T_data_max:	299.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TRIMETHYLAMINE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C3H9N
T_min:	12.0 K
T_max:	433.3 K
T_data_min:	12.0 K
T_data_max:	433.3 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	TRIPHENYLMETHANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H16
T_min:	78.0 K
T_max:	865.0 K
T_data_min:	78.0 K
T_data_max:	865.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	UNDECANE
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	C11H24
T_min:	247.54 K
T_max:	639.0 K
T_data_min:	247.54 K
T_data_max:	639.0 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	WATER
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	H2O
T_min:	273.16 K

T_max:	617.156226 K
T_data_min:	273.16 K
T_data_max:	617.156226 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	XENON
Library Name:	Incompressible liquid properties from VDI-Wärmeatlas
Library Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Description:	Xe
T_min:	161.41 K
T_max:	289.8 K
T_data_min:	161.41 K
T_data_max:	289.8 K
xi_min:	0.0
xi_max:	1.0

3.3 IIR SWF Liquids

Tabelle 7: IIR-SWF-Liquidnames

Medium Name:	3M_NOVEC_HFE7100
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Hydrofluoroether - HFE-7100 3M Novec
Literature Reference:	Melinder2010
T_min:	193.15 K
T_max:	373.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	BAYSILONE_KT3
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Polydimethylsiloxan 1 - Baysilone KT3
Literature Reference:	Melinder2010
T_min:	193.15 K
T_max:	373.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DOWTHERM_J
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Diethylbenzene mixture - Dowtherm J

Literature Reference:	Melinder2010
T_min:	193.15 K
T_max:	373.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	DYNALENE_MV
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Hydrocarbon blend - Dynalene MV
Literature Reference:	Melinder2010
T_min:	193.15 K
T_max:	373.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	D_LIMONENE
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Citrus oil terpene - d-Limonene
Literature Reference:	Melinder2010
T_min:	193.15 K
T_max:	373.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	GILOTHERM_D12
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Hydrocarbon mixture - Gilotherm D12
Literature Reference:	Melinder2010
T_min:	193.15 K
T_max:	373.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	MARLOTHERM_X
Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Synthetic alkyl benzene - Marlotherm X
Literature Reference:	Melinder2010
T_min:	193.15 K
T_max:	373.15 K
xi_min:	0.0
xi_max:	1.0
Medium Name:	SYLTHERM_XLT

Library Name:	TILMedia
Library Literature Reference:	unpublished
Description:	Polydimethylsiloxan 2 - Syltherm XLT
Literature Reference:	Melinder2010
T_min:	193.15 K
T_max:	373.15 K
xi_min:	0.0
xi_max:	1.0

4 VLEFluid

4.1 TILMedia VLEFluids

Tabelle 8: TILMedia-VLEFluidnames

Medium Name:	1-BUTENE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	106-98-9
Fullname:	1-butene
Chemical Formula:	CH3-CH2-CH=CH2
Synonym:	1-butylene
Molar Mass:	0.056106319999999994 kg/mol
Triple Temperature:	87.8 K
Normal Boiling Point:	266.84 K
critical Temperature:	419.29 K
critical Pressure:	4005100.0 Pa
critical Density:	237.8907968 kg/m^3
Acentric Factor:	0.192
Dipole Moment:	0.339
Default Reference State:	NBP
UNNumber:	1012
Family:	n-alkene
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Ihmels, E.C.,
Ideal Part T_min:	87.8 K
Ideal Part T_max:	6000.0 K
Real Part Name:	short Helmholtz equation of state for 1-butene of Lemmon and Ihmels (2005).
Real Part Literature Reference:	Lemmon, E.W. and Ihmels, E.C., "Thermodynamic Properties of the Butenes. Part II. Short Fundamental Equations of State," Fluid Phase Equilibria, 228-229C:173-187, 2005.
Real Part T_min:	87.8 K
Real Part T_max:	525.0 K
Real Part P_max:	70000000.0 Pa
Real Part Rhomax:	818.5912087999999 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 10% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (Propane reference); predictive mode.

Viscosity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 10% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	ACETONE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	67-64-1
Fullname:	propanone
Chemical Formula:	(CH3)2CO
Synonym:	dimethyl ketone
Molar Mass:	0.05807914 kg/mol
Triple Temperature:	178.5 K
Normal Boiling Point:	329.22 K
critical Temperature:	508.10001 K
critical Pressure:	4700000.0 Pa
critical Density:	272.97195800000003 kg/m^3
Acentric Factor:	0.3071
Dipole Moment:	2.88
Default Reference State:	NBP
UNNumber:	1090
Family:	other
Heating Value:	0.0
GWP:	0.5
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	50.0 K
Ideal Part T_max:	3000.0 K
Real Part Name:	short Helmholtz equation of state for acetone of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	178.5 K
Real Part T_max:	550.0 K
Real Part P_max:	700000000.0 Pa
Real Part Rhomax:	913.5848722000001 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)

Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003. Thermal conductivity: Comparisons with saturated liquid data of Qun-Fang, L., Ruisen, L., Dan-Yan, N., Yu-Chun, H. "Thermal Conductivities of Some Organic Solvents and Their Binary Mixtures" J. Chem. Eng. Data, 1997,42(5), 971-974 indicate an estimated uncertainty of 3 % along the saturation boundary from 253 K to 323 K.Estimated uncertainties of 10-20 % at pressures to 30 MPa. Viscosity: Comparisons with the saturated liquid data of Thorpe, T. E. and Rodger, J. W. "X. Bakerian Lecture. On the Relations between the Viscosity(Internal Friction) of Liquids and their Chemical Nature", Philos. Trans. R. Soc. London, 1894, v185, pp. 397-710. indicate an estimated uncertainty of 2 % along the saturation boundary from 281 K to 327 K. Estimated uncertainties of 10-20 % at pressures to 30 MPa.
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003. Thermal conductivity: Comparisons with saturated liquid data of Qun-Fang, L., Ruisen, L., Dan-Yan, N., Yu-Chun, H. "Thermal Conductivities of Some Organic Solvents and Their Binary Mixtures" J. Chem. Eng. Data, 1997,42(5), 971-974 indicate an estimated uncertainty of 3 % along the saturation boundary from 253 K to 323 K.Estimated uncertainties of 10-20 % at pressures to 30 MPa. Viscosity: Comparisons with the saturated liquid data of Thorpe, T. E. and Rodger, J. W. "X. Bakerian Lecture. On the Relations between the Viscosity(Internal Friction) of Liquids and their Chemical Nature", Philos. Trans. R. Soc. London, 1894, v185, pp. 397-710. indicate an estimated uncertainty of 2 % along the saturation boundary from 281 K to 327 K. Estimated uncertainties of 10-20 % at pressures to 30 MPa.
Medium Name:	AMMONIA
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ, FES
EOS Selected model:	FEQ
CASnumber:	7664-41-7
Fullname:	ammonia
Chemical Formula:	NH3
Synonym:	R-717
Molar Mass:	0.01703026 kg/mol
Triple Temperature:	195.495 K
Normal Boiling Point:	239.823 K
critical Temperature:	405.501 K
critical Pressure:	11333000.0 Pa
critical Density:	225.00038906799998 kg/m^3
Acentric Factor:	0.25601
Dipole Moment:	1.47
Default Reference State:	Undefined
UNNumber:	1005
Family:	other
Heating Value:	0.0
RCL:	320.0
Safety Group:	B2

Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Tillner-Roth, R., Harms-Watzenberg, F., and Baehr, H.D., "Eine neue Fundamentalgleichung für Ammoniak," DKV-Tagungsbericht, 20:167-181, 1993.
Ideal Part T_min:	195.495 K
Ideal Part T_max:	700.0 K
Real Part Name:	Helmholtz equation of state for ammonia of Tillner-Roth et al. (1993).
Real Part Literature Reference:	Tillner-Roth, R., Harms-Watzenberg, F., and Baehr, H.D., "Eine neue Fundamentalgleichung für Ammoniak," DKV-Tagungsbericht, 20:167-181, 1993.
Real Part T_min:	195.495 K
Real Part T_max:	700.0 K
Real Part P_max:	1000000000.0 Pa
Real Part Rhomax:	901.1562078999999 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Tufeu et al. (1984).
Thermal Conductivity Literature Reference:	Tufeu, R., Ivanov, D.Y., Garrabos, Y., and Le Neindre, B., "Thermal conductivity of ammonia in a large temperature and pressure range including the critical region," Ber. Bunsenges. Phys. Chem., 88:422-427, 1984.
Viscosity Name:	pure fluid viscosity model of Fenghour et al. (1995).
Viscosity Literature Reference:	Fenghour, A., Wakeham, W.A., Vesovic, V., Watson, J.T.R., Millat, J., and Vogel, E., "The viscosity of ammonia," J. Phys. Chem. Ref. Data, 24:1649-1667, 1995.
Medium Name:	ARGON
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	7440-37-1
Fullname:	argon
Chemical Formula:	Ar
Synonym:	R-740
Molar Mass:	0.039948 kg/mol
Triple Temperature:	83.8058 K
Normal Boiling Point:	87.302 K
critical Temperature:	150.687 K
critical Pressure:	4863000.0 Pa
critical Density:	535.5988152 kg/m^3
Acentric Factor:	-0.00219
Dipole Moment:	0.0
Default Reference State:	Undefined
UNNumber:	1951
Family:	other
Heating Value:	0.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Tegeler, Ch., Span, R., and Wagner, W., "A New Equation of State for Argon Covering the Fluid Region for Temperatures from the Melting Line to 700 K at Pressures up to 1000 MPa," J. Phys. Chem. Ref. Data, 28(3):779-850, 1999.

Ideal Part T_min:	83.8058 K
Ideal Part T_max:	700.0 K
Real Part Name:	Helmholtz equation of state for argon of Tegeler et al. (1999).
Real Part Literature Reference:	Tegeler, Ch., Span, R., and Wagner, W., "A New Equation of State for Argon Covering the Fluid Region for Temperatures from the Melting Line to 700 K at Pressures up to 1000 MPa," J. Phys. Chem. Ref. Data, 28(3):779-850, 1999.
Real Part T_min:	83.8058 K
Real Part T_max:	2000.0 K
Real Part P_max:	1000000000.0 Pa
Real Part Rhomax:	2023.3662 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Lemmon and Jacobsen (2004).
Thermal Conductivity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Viscosity Name:	pure fluid viscosity model of Lemmon and Jacobsen (2004).
Viscosity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Medium Name:	CARBONYLSULFIDE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	463-58-1
Fullname:	carbon oxide sulfide
Chemical Formula:	COS
Synonym:	carbon oxysulfide
Molar Mass:	0.0600751 kg/mol
Triple Temperature:	134.3 K
Normal Boiling Point:	222.99 K
critical Temperature:	378.77 K
critical Pressure:	6370000.0 Pa
critical Density:	445.156491 kg/m^3
Acentric Factor:	0.0978
Dipole Moment:	0.7152
Default Reference State:	NBP
UNNumber:	2204
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	100.0 K
Ideal Part T_max:	1000.0 K
Real Part Name:	short Helmholtz equation of state for carbonyl sulfide of Lemmon and Span (2006).

Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	134.3 K
Real Part T_max:	650.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	1352.891252 kg/m^3
Medium Name:	CO2
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ, FES, ACLIBREFERENCEPROPERTIES, ACLIBTECHNICAL
EOS Selected model:	FEQ
CASnumber:	124-38-9
Fullname:	carbon dioxide
Chemical Formula:	CO2
Synonym:	R-744
Molar Mass:	0.0440098 kg/mol
Triple Temperature:	216.592 K
Normal Boiling Point:	194.686 K
critical Temperature:	304.1282001 K
critical Pressure:	7377300.0 Pa
critical Density:	467.59972402 kg/m^3
Acentric Factor:	0.22394
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	1013
Family:	other
Heating Value:	0.0
GWP:	1.0
RCL:	40000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Span, R. and Wagner, W., "A New Equation of State for Carbon Dioxide Covering the Fluid Region from the Triple-Point Temperature to 1100 K at Pressures up to 800 MPa," J. Phys. Chem. Ref. Data, 25(6):1509-1596, 1996.
Ideal Part T_min:	216.592 K
Ideal Part T_max:	2000.0 K
Real Part Name:	Helmholtz equation of state for carbon dioxide of Span and Wagner (1996).
Real Part Literature Reference:	Span, R. and Wagner, W., "A New Equation of State for Carbon Dioxide Covering the Fluid Region from the Triple-Point Temperature to 1100 K at Pressures up to 800 MPa," J. Phys. Chem. Ref. Data, 25(6):1509-1596, 1996.
Real Part T_min:	216.592 K
Real Part T_max:	2000.0 K
Real Part P_max:	800000000.0 Pa
Real Part Rhomax:	1638.924952 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Vesovic et al. (1990).

Thermal Conductivity Literature Reference:	Vesovic, V., Wakeham, W.A., Olchowy, G.A., Sengers, J.V., Watson, J.T.R., and Millat, J., "The transport properties of carbon dioxide," J. Phys. Chem. Ref. Data, 19:763-808, 1990.
Viscosity Name:	pure fluid viscosity model of Fenghour et al. (1998).
Viscosity Literature Reference:	Fenghour, A., Wakeham, W.A., Vesovic, V., "The Viscosity of Carbon Dioxide," J. Phys. Chem. Ref. Data, 27:31-44, 1998.
Medium Name:	CO2
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ, FES, ACLIBREFERENCEPROPERTIES, ACLIBTECHNICAL
EOS Selected model:	ACLIBREFERENCEPROPERTIES
CASnumber:	124-38-9
Fullname:	carbon dioxide
Chemical Formula:	CO2
Synonym:	R-744
Molar Mass:	0.0440098 kg/mol
Triple Temperature:	216.592 K
Normal Boiling Point:	194.686 K
critical Temperature:	304.1282001 K
critical Pressure:	7377300.0 Pa
critical Density:	467.59972402 kg/m^3
Acentric Factor:	0.22394
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	1013
Family:	other
Heating Value:	0.0
GWP:	1.0
RCL:	40000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Span, R. and Wagner, W., "A New Equation of State for Carbon Dioxide Covering the Fluid Region from the Triple-Point Temperature to 1100 K at Pressures up to 800 MPa," J. Phys. Chem. Ref. Data, 25(6):1509-1596, 1996. Reference state of AirConditioningLib is used by default.
Ideal Part T_min:	216.592 K
Ideal Part T_max:	2000.0 K
Real Part Name:	Helmholtz equation of state for carbon dioxide of Span and Wagner (1996).
Real Part Literature Reference:	Span, R. and Wagner, W., "A New Equation of State for Carbon Dioxide Covering the Fluid Region from the Triple-Point Temperature to 1100 K at Pressures up to 800 MPa," J. Phys. Chem. Ref. Data, 25(6):1509-1596, 1996.
Real Part T_min:	216.592 K
Real Part T_max:	2000.0 K
Real Part P_max:	800000000.0 Pa
Real Part Rhomax:	1638.924952 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Vesovic et al. (1990).

Thermal Conductivity Literature Reference:	Vesovic, V., Wakeham, W.A., Olchowy, G.A., Sengers, J.V., Watson, J.T.R., and Millat, J., "The transport properties of carbon dioxide," J. Phys. Chem. Ref. Data, 19:763-808, 1990.
Viscosity Name:	pure fluid viscosity model of Fenghour et al. (1998).
Viscosity Literature Reference:	Fenghour, A., Wakeham, W.A., Vesovic, V., "The Viscosity of Carbon Dioxide," J. Phys. Chem. Ref. Data, 27:31-44, 1998.
Medium Name:	CO2
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ, FES, ACLIBREFERENCEPROPERTIES, ACLIBTECHNICAL
EOS Selected model:	ACLIBTECHNICAL
CASnumber:	124-38-9
Fullname:	carbon dioxide
Chemical Formula:	CO2
Synonym:	R-744
Molar Mass:	0.0440098 kg/mol
Triple Temperature:	216.592 K
Normal Boiling Point:	194.686 K
critical Temperature:	304.1282 K
critical Pressure:	7377300.0 Pa
critical Density:	467.59972402 kg/m^3
Acentric Factor:	0.22394
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	1013
Family:	other
Heating Value:	0.0
GWP:	1.0
RCL:	40000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Span, R. and Wagner, W., "A New Equation of State for Carbon Dioxide Covering the Fluid Region from the Triple-Point Temperature to 1100 K at Pressures up to 800 MPa," J. Phys. Chem. Ref. Data, 25(6):1509-1596, 1996. Reference state of AirConditioningLib is used by default.
Ideal Part T_min:	216.592 K
Ideal Part T_max:	2000.0 K
Real Part Name:	short Helmholtz equation of state for carbon dioxide of Span and Wagner (2003).
Real Part Literature Reference:	Span, R. and Wagner, W. "Equations of State for Technical Applications. III. Results for Polar Fluids," Int. J. Thermophys., 24(1):111-162, 2003.
Real Part T_min:	216.592 K
Real Part T_max:	600.0 K
Real Part P_max:	100000000.0 Pa
Real Part Rhomax:	1638.924952 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Vesovic et al. (1990).

Thermal Conductivity Literature Reference:	Vesovic, V., Wakeham, W.A., Olchowy, G.A., Sengers, J.V., Watson, J.T.R., and Millat, J., "The transport properties of carbon dioxide," J. Phys. Chem. Ref. Data, 19:763-808, 1990.
Viscosity Name:	pure fluid viscosity model of Fenghour et al. (1998).
Viscosity Literature Reference:	Fenghour, A., Wakeham, W.A., Vesovic, V., "The Viscosity of Carbon Dioxide," J. Phys. Chem. Ref. Data, 27:31-44, 1998.
Medium Name:	CYCLOPENTANE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	287-92-3
Fullname:	cyclopentane
Chemical Formula:	C5H10
Synonym:	C5H10
Molar Mass:	0.07013290000000001 kg/mol
Triple Temperature:	179.7 K
Normal Boiling Point:	322.405 K
critical Temperature:	511.72041 K
critical Pressure:	4571200.0 Pa
critical Density:	267.90767800000003 kg/m^3
Acentric Factor:	0.201
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1146
Family:	naphthene
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function of Gedanitz et al. (2013).
Ideal Part Literature Reference:	see EOS
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for cyclopentane of Gedanitz et al. (2013).
Real Part Literature Reference:	Gedanitz, H., Davila, M.J., Lemmon, E.W. unpublished equation, 2013.
Real Part T_min:	179.7 K
Real Part T_max:	550.0 K
Real Part P_max:	250000000.0 Pa
Real Part Rhomax:	849.309419 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)

Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003. Thermal conductivity: Comparisons with liquid data of Assael, M. J.; Dalaouti, N. K. "Thermal Conductivity of Toluene+Cyclopentane Mixtures: Measurements and Prediction" Int. J. Thermophys., 2001, 22(3), 659-678 indicate an estimated uncertainty of 2 % along the saturation boundary and at pressures to 15 MPa Viscosity: Comparisons with the liquid data of Assael, M. J.; Dalaouti, N. K. "Measurement of the viscosity of cyclopentane from 210 to 310 K and pressures up to 25 MPa" High Temp. - High Pressures, 2000, 32, 179-184 indicate an estimated uncertainty of 2 % along the saturation boundary and at pressures to 25 MPa
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003. Thermal conductivity: Comparisons with liquid data of Assael, M. J.; Dalaouti, N. K. "Thermal Conductivity of Toluene+Cyclopentane Mixtures: Measurements and Prediction" Int. J. Thermophys., 2001, 22(3), 659-678 indicate an estimated uncertainty of 2 % along the saturation boundary and at pressures to 15 MPa Viscosity: Comparisons with the liquid data of Assael, M. J.; Dalaouti, N. K. "Measurement of the viscosity of cyclopentane from 210 to 310 K and pressures up to 25 MPa" High Temp. - High Pressures, 2000, 32, 179-184 indicate an estimated uncertainty of 2 % along the saturation boundary and at pressures to 25 MPa
Medium Name:	D4
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	556-67-2
Fullname:	octamethylcyclotetrasiloxane
Chemical Formula:	C8H24O4Si4
Synonym:	D4
Molar Mass:	0.29661576 kg/mol
Triple Temperature:	290.25 K
Normal Boiling Point:	448.504 K
critical Temperature:	586.5 K
critical Pressure:	1332000.0 Pa
critical Density:	305.78949222528007 kg/m^3
Acentric Factor:	0.592
Dipole Moment:	1.09
Default Reference State:	NBP
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Colonna, P., Nannan, N.R., Guardone, A., Lemmon, E.W., Multiparameter Equations of State for Selected Siloxanes, Fluid Phase Equilibria, 244:193-211, 2006.
Ideal Part T_min:	50.0 K
Ideal Part T_max:	5000.0 K

Real Part Name:	Helmholtz equation of state for octamethylcyclotetrasiloxane of Colonna et al. (2006).
Real Part Literature Reference:	Colonna, P., Nannan, N.R., Guardone, A., Lemmon, E.W., Multiparameter Equations of State for Selected Siloxanes, Fluid Phase Equilibria, 244:193-211, 2006.
Real Part T_min:	290.25 K
Real Part T_max:	673.0 K
Real Part P_max:	30000000.0 Pa
Real Part Rhomax:	952.1365896000001 kg/m^3
Medium Name:	D5
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	541-02-6
Fullname:	decamethylcyclopentasiloxane
Chemical Formula:	C10H30O5Si5
Synonym:	D5
Molar Mass:	0.3707697 kg/mol
Triple Temperature:	226.0 K
Normal Boiling Point:	484.05 K
critical Temperature:	619.15 K
critical Pressure:	1160000.0 Pa
critical Density:	304.90928495748 kg/m^3
Acentric Factor:	0.658
Dipole Moment:	1.349
Default Reference State:	NBP
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Colonna, P., Nannan, N.R., Guardone, A., Lemmon, E.W., Multiparameter Equations of State for Selected Siloxanes, Fluid Phase Equilibria, 244:193-211, 2006.
Ideal Part T_min:	50.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for decamethylcyclopentasiloxane of Colonna et al. (2006).
Real Part Literature Reference:	Colonna, P., Nannan, N.R., Guardone, A., Lemmon, E.W., Multiparameter Equations of State for Selected Siloxanes, Fluid Phase Equilibria, 244:193-211, 2006.
Real Part T_min:	300.0 K
Real Part T_max:	673.0 K
Real Part P_max:	30000000.0 Pa
Real Part Rhomax:	1049.278251 kg/m^3
Medium Name:	DEUTERIUM
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished

EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	7782-39-0
Fullname:	deuterium
Chemical Formula:	D2
Synonym:	deuterium
Molar Mass:	0.0040282 kg/mol
Triple Temperature:	18.724 K
Normal Boiling Point:	23.661 K
critical Temperature:	38.34 K
critical Pressure:	1679600.0 Pa
critical Density:	69.405886 kg/m^3
Acentric Factor:	-0.136
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1957
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	see EOS of Richardson et al. (2013)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	2000.0 K
Real Part Name:	Helmholtz equation of state for deuterium of Richardson et al. (2013).
Real Part Literature Reference:	Richardson, I.A., Leachman, J.W., and Lemmon, E.W. J. Phys. Chem. Ref. Data, in preparation (2013).
Real Part T_min:	18.724 K
Real Part T_max:	600.0 K
Real Part P_max:	2000000000.0 Pa
Real Part Rhomax:	174.6264982 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Assael et al. (2011).
Thermal Conductivity Literature Reference:	unpublished; based on scaling the Assael correlation Assael, M.J., Assael. J.-A.M., Huber, M.L., Perkins, R.A. and Takata, Y. "Correlation of the Thermal Conductivity of Normal and Parahydrogen from the Triple Point to 1000 K and up to 100 MPa", J. Phys. Chem. Ref. Data, Vol.40, No. 3(2011) pp.1-13. The uncertainties for deuterium are estimated to be approximately 5% in the gas and supercritical regions with larger deviations near the critical region and in the liquid phase.
Viscosity Name:	Extended Corresponding States model (nitrogen reference); fit to limited data.
Viscosity Literature Reference:	*** PRELIMINARY MODEL--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 50% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	DIMETHYLCARBONATE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)

EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	616-38-6
Fullname:	dimethyl ester carbonic acid
Chemical Formula:	C3H6O3
Synonym:	DMC
Molar Mass:	0.0900779 kg/mol
Triple Temperature:	277.06 K
Normal Boiling Point:	363.256 K
critical Temperature:	557.0 K
critical Pressure:	4908800.0 Pa
critical Density:	360.3116 kg/m^3
Acentric Factor:	0.346
Dipole Moment:	0.899
Default Reference State:	NBP
UNNumber:	1161
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for DMC of Zhou et al. (2011).
Real Part Literature Reference:	Zhou, Y., Wu, J., and Lemmon, E.W. "Thermodynamic Properties of Dimethyl Carbonate," J. Phys. Chem. Ref. Data, 40(043106):1-11, 2011.
Real Part T_min:	277.06 K
Real Part T_max:	600.0 K
Real Part P_max:	60000000.0 Pa
Real Part Rhomax:	1091.0235248 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Zhou, Y., Wu, J., and Lemmon, E.W. "Equations for the Thermophysical Properties of Dimethyl Carbonate," submitted to J. Phys. Chem. Ref. Data, 2010. The uncertainties of the transport equations are generally less than 5.0%, with smaller uncertainties (as low as 2%) between 260 and 360 K in the liquid phase.
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data.
Viscosity Literature Reference:	Zhou, Y., Wu, J., and Lemmon, E.W. "Equations for the Thermophysical Properties of Dimethyl Carbonate," submitted to J. Phys. Chem. Ref. Data, 2010. The uncertainties of the transport equations are generally less than 5.0%, with smaller uncertainties (as low as 2%) between 260 and 360 K in the liquid phase.
Medium Name:	DIMETHYLETHER
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	115-10-6
Fullname:	methoxymethane
Chemical Formula:	(CH3)2O

Synonym:	RE-170
Molar Mass:	0.04606844 kg/mol
Triple Temperature:	131.66 K
Normal Boiling Point:	248.368 K
critical Temperature:	400.378 K
critical Pressure:	5336845.0 Pa
critical Density:	273.64653360000005 kg/m^3
Acentric Factor:	0.196
Dipole Moment:	1.301
Default Reference State:	NBP
UNNumber:	1033
Family:	other
Heating Value:	0.0
GWP:	1.0
RCL:	8500.0
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Ihmels, E.C. and Lemmon, E.W. see EOS
Ideal Part T_min:	50.0 K
Ideal Part T_max:	3000.0 K
Real Part Name:	Helmholtz equation of state for DME of Wu et al. (2011).
Real Part Literature Reference:	Wu, J., Zhou, Y., and Lemmon, E.W., "An equation of state for the thermodynamic properties of dimethyl ether," J. Phys. Chem. Ref. Data, 40(023104):1-16, 2011.
Real Part T_min:	131.66 K
Real Part T_max:	525.0 K
Real Part P_max:	40000000.0 Pa
Real Part Rhomax:	882.2106259999999 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- values are preliminary pending new experimental data Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003. Reference for experimental data for viscosity Wu, J., Liu, Z., Bi, S. and Meng, X., "Viscosity of saturated liquid dimethyl ether from (227 to 343)K", 2003,J. Chem. Eng. Data 48, 426-429. Reference for experimental data for thermal conductivity Wu, J., Li, X., Zheng. H. and Assael, M.J.,"Thermal Conductivity of Liquid Dimethyl Ether from 233 K to 373 K at Pressures up to 30 MPa" J. Chem. Eng. Data (2009) Estimated uncertainties based on deviations of the fit from the experimental data were:
Viscosity Name:	pure fluid viscosity model of Meng et al. (2012).
Viscosity Literature Reference:	Meng, X., Zhang, J., Wu, J., Liu, Z. "Experimental Measurement and Modeling of the Viscosity of Dimethyl Ether," J. Chem. Eng. Data, 57:988-993, 2012.
Medium Name:	ETHANE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ

EOS Selected model:	FEQ
CASnumber:	74-84-0
Fullname:	ethane
Chemical Formula:	CH3CH3
Synonym:	R-170
Molar Mass:	0.030069040000000002 kg/mol
Triple Temperature:	90.368 K
Normal Boiling Point:	184.569 K
critical Temperature:	305.322 K
critical Pressure:	4872200.0 Pa
critical Density:	206.1800000067324 kg/m^3
Acentric Factor:	0.0995
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1035
Family:	n-alkane
Heating Value:	46928.45003760001
GWP:	5.5
RCL:	7000.0
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function of Buecker and Wagner (2006).
Ideal Part Literature Reference:	see EOS for Reference
Ideal Part T_min:	90.368 K
Ideal Part T_max:	675.0 K
Real Part Name:	Helmholtz equation of state for ethane of Buecker and Wagner (2006).
Real Part Literature Reference:	Buecker, D. and Wagner, W. "A Reference Equation of State for the Thermodynamic Properties of Ethane for Temperatures from the Melting Line to 675 K and Pressures up to 900 MPa," J. Phys. Chem. Ref. Data, 35(1):205-266, 2006.
Real Part T_min:	90.368 K
Real Part T_max:	675.0 K
Real Part P_max:	900000000.0 Pa
Real Part Rhomax:	674.11780776 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Friend et al. (1991).
Thermal Conductivity Literature Reference:	Friend, D.G., Ingham, H., and Ely, J.F., "Thermophysical Properties of Ethane," J. Phys. Chem. Ref. Data, 20(2):275-347, 1991.
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Medium Name:	ETHANOL
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ

EOS Selected model:	FEQ
CASnumber:	64-17-5
Fullname:	ethyl alcohol
Chemical Formula:	C2H6O
Synonym:	methyl carbinol
Molar Mass:	0.04606844 kg/mol
Triple Temperature:	159.0 K
Normal Boiling Point:	351.57 K
critical Temperature:	514.71 K
critical Pressure:	6268000.0 Pa
critical Density:	273.1858492 kg/m^3
Acentric Factor:	0.646
Dipole Moment:	1.6909
Default Reference State:	IIR
UNNumber:	1170
Family:	alcohol
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Jacob Schroeder, Master's Thesis Research
Ideal Part T_min:	100.0 K
Ideal Part T_max:	3000.0 K
Real Part Name:	Helmholtz equation of state for ethanol of Schroeder (2011).
Real Part Literature Reference:	J.A. Schroeder, A New Fundamental Equation for Ethanol, Master's Thesis, University of Idaho, 2011. The fundamental equation presented can compute densities to within 0.2%, heat capacities to within 1-2%, and speed of sound to within 1%. Values of the vapor pressure and saturated vapor densities are represented to within 1% at temperatures of 300 K and above, while those of saturated liquid densities are represented to within 0.3% at temperatures of 200 K and above. The uncertainty of all properties is higher in the critical region and near the triple point.
Real Part T_min:	159.0 K
Real Part T_max:	650.0 K
Real Part P_max:	280000000.0 Pa
Real Part Rhomax:	909.3910056 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model
Thermal Conductivity Literature Reference:	Thermal conductivity Model of Assael et al. (2013) M. J. Assael, E. A. Sykioti, M. L. Huber, and R. A. Perkins "Reference Correlation of the Thermal Conductivity of ethanol from the Triple Point to 600 K and up to 250 MPa ", Journal of Physical and Chemical Reference Data, submitted 2013. The overall uncertainty is estimated, for pressures less than 250 MPa and temperatures less than 600 K, to be less than 4.6 %. Larger uncertainties in the critical region.
Viscosity Name:	pure fluid viscosity model of Huber(2005)
Viscosity Literature Reference:	Kiselev, S. B., Ely, J. F., Abdulagatov, I. M., Huber, M. L., "Generalized SAFT-DFT/DMT Model for the Thermodynamic, Interfacial, and Transport Properties of Associating Fluids: Application for n-Alkanols", Ind. Eng. Chem. Res., 2005, 44, 6916-6927.
Medium Name:	ETHYLBENZENE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)

EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	100-41-4
Fullname:	phenylethane
Chemical Formula:	C8H10
Synonym:	benzene, ethyl-
Molar Mass:	0.10616500000000001 kg/mol
Triple Temperature:	178.2 K
Normal Boiling Point:	409.314 K
critical Temperature:	617.12 K
critical Pressure:	3622400.0 Pa
critical Density:	290.99996364000003 kg/m^3
Acentric Factor:	0.305
Dipole Moment:	0.6
Default Reference State:	NBP
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function for ethylbenzene of Zhou et al. (2012).
Ideal Part Literature Reference:	see EOS for reference
Ideal Part T_min:	50.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for ethylbenzene of Zhou et al. (2012).
Real Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J. "Thermodynamic Properties of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene" J. Phys. Chem. Ref. Data, 41(023103):1-26, 2012.
Real Part T_min:	178.2 K
Real Part T_max:	700.0 K
Real Part P_max:	60000000.0 Pa
Real Part Rhomax:	968.6494600000001 kg/m^3
Medium Name:	ETHYLENE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ, FES
EOS Selected model:	FEQ
CASnumber:	74-85-1
Fullname:	ethene
Chemical Formula:	CH2=CH2
Synonym:	R-1150
Molar Mass:	0.02805376 kg/mol
Triple Temperature:	103.986 K
Normal Boiling Point:	169.379 K
critical Temperature:	282.35 K
critical Pressure:	5041800.0 Pa
critical Density:	214.24656511999999 kg/m^3
Acentric Factor:	0.0866
Dipole Moment:	0.0

Default Reference State:	NBP
UNNumber:	1962
Family:	n-alkene
Heating Value:	39588.9050368
GWP:	3.7
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Smukala, J., Span, R. and Wagner, W. "A New Equation of State for Ethylene Covering the Fluid Region for Temperatures from the Melting Line to 450 K at Pressures up to 300 MPa," J. Phys. Chem. Ref. Data, 29(5):1053-1122, 2000.
Ideal Part T_min:	103.986 K
Ideal Part T_max:	1000.0 K
Real Part Name:	Helmholtz equation of state for ethylene of Smukala et al. (2000).
Real Part Literature Reference:	Smukala, J., Span, R. and Wagner, W. "A New Equation of State for Ethylene Covering the Fluid Region for Temperatures from the Melting Line to 450 K at Pressures up to 300 MPa," J. Phys. Chem. Ref. Data, 29(5):1053-1122, 2000.
Real Part T_min:	103.986 K
Real Part T_max:	450.0 K
Real Part P_max:	300000000.0 Pa
Real Part Rhomax:	758.2931328000001 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Medium Name:	HEAVYWATER
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	7789-20-0
Fullname:	deuterium oxide
Chemical Formula:	D2O
Synonym:	deuterium oxide
Molar Mass:	0.020027508 kg/mol
Triple Temperature:	276.969 K
Normal Boiling Point:	374.563 K
critical Temperature:	643.847 K
critical Pressure:	21671000.0 Pa
critical Density:	355.9999698294 kg/m^3
Acentric Factor:	0.364300568809
Dipole Moment:	1.9
Default Reference State:	NBP

Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Hill, P.G., MacMillan, R.D.C., and Lee, V., "A Fundamental Equation of State for Heavy Water," J. Phys. Chem. Ref. Data, 11(1):1-14, 1982.
Ideal Part T_min:	276.969 K
Ideal Part T_max:	825.0 K
Real Part Name:	Helmholtz equation of state for heavy water of Stefan Herrig (2015).
Real Part Literature Reference:	Stefan Herrig. Preliminary equation of state for Heavy Water. Preliminary equation of state for Heavy Water, 2015.
Real Part T_min:	276.969 K
Real Part T_max:	825.0 K
Real Part P_max:	100000000.0 Pa
Real Part Rhomax:	1301.78802 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Viscosity Name:	Extended Corresponding States model (R134a reference); predictive mode.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Medium Name:	HELIUM
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	7440-59-7
Fullname:	helium-4
Chemical Formula:	He
Synonym:	R-704
Molar Mass:	0.004002602 kg/mol
Triple Temperature:	2.1768 K
Normal Boiling Point:	4.2226 K
critical Temperature:	5.1953 K
critical Pressure:	227610.0 Pa
critical Density:	69.58003238740001 kg/m^3
Acentric Factor:	-0.385
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1046
Family:	other
Heating Value:	0.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for helium of Ortiz-Vega et al. (2013).

Real Part Literature Reference:	Ortiz-Vega, D.O., Hall, K.R., Holste, J.C., Arp, V.D., and Lemmon, E.W., Interim equation, final equation of state to be published in J. Phys. Chem. Ref. Data, 2013.
Real Part T_min:	2.1768 K
Real Part T_max:	2000.0 K
Real Part P_max:	1000000000.0 Pa
Real Part Rhomax:	565.2474544400001 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Medium Name:	HYDROGEN
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	1333-74-0
Fullname:	hydrogen (normal)
Chemical Formula:	H2
Synonym:	R-702
Molar Mass:	0.0020158800000000003 kg/mol
Triple Temperature:	13.957 K
Normal Boiling Point:	20.369 K
critical Temperature:	33.145 K
critical Pressure:	1296400.0 Pa
critical Density:	31.26226704 kg/m^3
Acentric Factor:	-0.219
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1049
Family:	other
Heating Value:	576.1989804
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., Lemmon, E.W. "Fundamental Equations of State for Parahydrogen, Normal Hydrogen, and Orthohydrogen," J. Phys. Chem. Ref. Data, 38(3):721-748, 2009.
Ideal Part T_min:	13.957 K
Ideal Part T_max:	1000.0 K
Real Part Name:	Helmholtz equation of state for normal hydrogen of Leachman et al. (2009).
Real Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., Lemmon, E.W. "Fundamental Equations of State for Parahydrogen, Normal Hydrogen, and Orthohydrogen," J. Phys. Chem. Ref. Data, 38(3):721-748, 2009.

Real Part T_min:	13.957 K
Real Part T_max:	1000.0 K
Real Part P_max:	2000000000.0 Pa
Real Part Rhomax:	205.61976 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Assael et al. (2011).
Thermal Conductivity Literature Reference:	Assael, M.J., Assael. J.-A.M., Huber, M.L., Perkins, R.A. and Takata, Y. "Correlation of the Thermal Conductivity of Normal and Parahydrogen from the Triple Point to 1000 K and up to 100 MPa", J. Phys. Chem. Ref. Data, Vol.40, No. 3(2011) pp.1-13. The estimated uncertainty is less than 4% from 100 K to 1000 K at pressures to 100 MPa. For temperatures from the triple point to 100 K, at pressures to 12 MPa, we estimate the uncertainty to be 7%, except near the critical point. The model behaves in a physically reasonable manner for extrapolations to pressures above 12 MPa at temperatures below 100 K, but will be subject to larger uncertainties.
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Medium Name:	HYDROGENSULFIDE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	7783-06-4
Fullname:	hydrogen sulfide
Chemical Formula:	H2S
Synonym:	dihydrogen monosulfide
Molar Mass:	0.03408088 kg/mol
Triple Temperature:	187.7 K
Normal Boiling Point:	212.85 K
critical Temperature:	373.1 K
critical Pressure:	9000000.0 Pa
critical Density:	347.2841672 kg/m^3
Acentric Factor:	0.1005
Dipole Moment:	0.97
Default Reference State:	NBP
UNNumber:	1053
Family:	other
Heating Value:	19153.7953688
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	50.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	short Helmholtz equation of state for hydrogen sulfide of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.

Real Part T_min:	187.7 K
Real Part T_max:	760.0 K
Real Part P_max:	170000000.0 Pa
Real Part Rhomax:	992.4352256000001 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model
Thermal Conductivity Literature Reference:	Dense fluid coefficients are taken from NIST14, Version 9.08 Dilute gas refit using data from DIPPR diadem Aug 2008
Viscosity Name:	Extended Corresponding States model (R134a reference); predictive mode.
Viscosity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	ISOBUTANE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	75-28-5
Fullname:	2-methylpropane
Chemical Formula:	CH(CH3)3
Synonym:	R-600a
Molar Mass:	0.0581222 kg/mol
Triple Temperature:	113.73 K
Normal Boiling Point:	261.401 K
critical Temperature:	407.81001 K
critical Pressure:	3629000.0 Pa
critical Density:	225.49999998349358 kg/m^3
Acentric Factor:	0.184
Dipole Moment:	0.132
Default Reference State:	IIR
UNNumber:	1969
Family:	br-alkane
Heating Value:	166706.09404
RCL:	4000.0
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	see EOS of Buecker and Wagner for reference
Ideal Part T_min:	113.73 K
Ideal Part T_max:	575.0 K
Real Part Name:	Helmholtz equation of state for isobutane of Buecker and Wagner (2006).
Real Part Literature Reference:	Buecker, D. and Wagner, W., "Reference Equations of State for the Thermodynamic Properties of Fluid Phase n-Butane and Isobutane," J. Phys. Chem. Ref. Data, 35(2):929-1019, 2006.
Real Part T_min:	113.73 K
Real Part T_max:	575.0 K
Real Part P_max:	35000000.0 Pa

Real Part Rhomax:	749.77638 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins (2002).
Thermal Conductivity Literature Reference:	Perkins, R.A., "Measurement and Correlation of the Thermal Conductivity of Isobutane from 114 K to 600 K at Pressures to 70 MPa," J. Chem. Eng. Data, 47(5):1272-1279, 2002.
Viscosity Name:	pure fluid viscosity model of Vogel et al. (2000).
Viscosity Literature Reference:	Vogel, E., Kuechenmeister, C., and Bich, E., "Viscosity Correlation for Isobutane over Wide Ranges of the Fluid Region," Int. J. Thermophys, 21(2):343-356, 2000.
Medium Name:	ISOPENTANE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	78-78-4
Fullname:	2-methylbutane
Chemical Formula:	(CH3)2CHCH2CH3
Synonym:	R-601a
Molar Mass:	0.07214878 kg/mol
Triple Temperature:	112.65 K
Normal Boiling Point:	300.98 K
critical Temperature:	460.35 K
critical Pressure:	3378000.0 Pa
critical Density:	235.99865938 kg/m^3
Acentric Factor:	0.2274
Dipole Moment:	0.11
Default Reference State:	NBP
UNNumber:	1265
Family:	br-alkane
Heating Value:	254600.7793274
RCL:	1000.0
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	200.0 K
Ideal Part T_max:	1500.0 K
Real Part Name:	short Helmholtz equation of state for isopentane of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	112.65 K
Real Part T_max:	500.0 K
Real Part P_max:	1000000000.0 Pa
Real Part Rhomax:	959.5787740000001 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model

Thermal Conductivity Literature Reference:	Coefficients are taken from NIST14, Version 9.08
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Medium Name:	KRYPTON
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	7439-90-9
Fullname:	krypton
Chemical Formula:	Kr
Synonym:	R-784
Molar Mass:	0.083798 kg/mol
Triple Temperature:	115.775 K
Normal Boiling Point:	119.73 K
critical Temperature:	209.48 K
critical Pressure:	5525000.0 Pa
critical Density:	909.2083 kg/m^3
Acentric Factor:	-0.000894
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1056, 1970
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	115.775 K
Ideal Part T_max:	800.0 K
Real Part Name:	short Helmholtz equation of state for krypton of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	115.775 K
Real Part T_max:	750.0 K
Real Part P_max:	200000000.0 Pa
Real Part Rhomax:	2800.52916 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 10% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode.

Viscosity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 10% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	M-XYLENE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	108-38-3
Fullname:	1,3-dimethylbenzene
Chemical Formula:	C8H10
Synonym:	m-xylene
Molar Mass:	0.10616500000000001 kg/mol
Triple Temperature:	225.3 K
Normal Boiling Point:	412.214 K
critical Temperature:	616.89 K
critical Pressure:	3534600.0 Pa
critical Density:	282.929725 kg/m^3
Acentric Factor:	0.326
Dipole Moment:	0.3
Default Reference State:	NBP
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function for m-xylene of Zhou et al. (2012).
Ideal Part Literature Reference:	see EOS for reference
Ideal Part T_min:	50.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for m-xylene of Zhou et al. (2012).
Real Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J. "Thermodynamic Properties of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene" J. Phys. Chem. Ref. Data, 41(023103):1-26, 2012.
Real Part T_min:	225.3 K
Real Part T_max:	700.0 K
Real Part P_max:	200000000.0 Pa
Real Part Rhomax:	921.193705 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to limited data.
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).
Medium Name:	MD4M
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1

Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	107-52-8
Fullname:	tetradecamethylhexasiloxane
Chemical Formula:	C14H42O5Si6
Synonym:	MD4M
Molar Mass:	0.45899328 kg/mol
Triple Temperature:	214.15 K
Normal Boiling Point:	533.9 K
critical Temperature:	653.2 K
critical Pressure:	877000.0 Pa
critical Density:	278.177742672768 kg/m^3
Acentric Factor:	0.825
Dipole Moment:	1.308
Default Reference State:	NBP
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Colonna, P., Nannan, N.R., Guardone, A., Lemmon, E.W., Multiparameter Equations of State for Selected Siloxanes, Fluid Phase Equilibria, 244:193-211, 2006.
Ideal Part T_min:	50.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for MD4M of Colonna et al. (2006).
Real Part Literature Reference:	Colonna, P., Nannan, N.R., Guardone, A., Lemmon, E.W., Multiparameter Equations of State for Selected Siloxanes, Fluid Phase Equilibria, 244:193-211, 2006.
Real Part T_min:	300.0 K
Real Part T_max:	673.0 K
Real Part P_max:	30000000.0 Pa
Real Part Rhomax:	959.2959552 kg/m^3
Medium Name:	METHANE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	74-82-8
Fullname:	methane
Chemical Formula:	CH4
Synonym:	R-50
Molar Mass:	0.0160428 kg/mol
Triple Temperature:	90.6941 K
Normal Boiling Point:	111.667 K

critical Temperature:	190.564 K
critical Pressure:	4599200.0 Pa
critical Density:	162.6579492 kg/m^3
Acentric Factor:	0.01142
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1971, 1972
Family:	n-alkane
Heating Value:	14288.198964
GWP:	25.0
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function of Setzmann and Wagner
Ideal Part Literature Reference:	Setzmann, U. and Wagner, W., "A New Equation of State and Tables of Thermodynamic Properties for Methane Covering the Range from the Melting Line to 625 K at Pressures up to 1000 MPa," J. Phys. Chem. Ref. Data, 20(6):1061-1151, 1991.
Ideal Part T_min:	90.6941 K
Ideal Part T_max:	625.0 K
Real Part Name:	Helmholtz equation of state for methane of Setzmann and Wagner (1991).
Real Part Literature Reference:	Setzmann, U. and Wagner, W., "A New Equation of State and Tables of Thermodynamic Properties for Methane Covering the Range from the Melting Line to 625 K at Pressures up to 1000 MPa," J. Phys. Chem. Ref. Data, 20(6):1061-1151, 1991.
Real Part T_min:	90.6941 K
Real Part T_max:	625.0 K
Real Part P_max:	1000000000.0 Pa
Real Part Rhomax:	642.8670816 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Medium Name:	METHANOL
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	E1, FE1, FE2, FEQ
EOS Selected model:	E1
CASnumber:	67-56-1
Fullname:	Methanol
Chemical Formula:	C_{1}H_{4}O_{1}
Synonym:	Methyl alcohol
Molar Mass:	0.03204216 kg/mol
Triple Temperature:	175.61 K
Normal Boiling Point:	337.632 K
critical Temperature:	512.6 K

critical Pressure:	8103500.0 Pa
critical Density:	275.56257600000004 kg/m^3
Acentric Factor:	0.5625
Dipole Moment:	1.7
Default Reference State:	NBP
UNNumber:	1230
Family:	alcohol
Heating Value:	24483.094034400005
GWP:	2.8
Ideal Part Name:	ideal gas heat capacity function for methanol of Piazza et al. (2016)
Ideal Part Literature Reference:	L. Piazza and R. Span. An equation of state for methanol including the association term of SAFT. Fluid Phase Equilib., 349:12-24, 2013. doi:10.1016/j.fluid.2013.03.024.
Ideal Part T_min:	175.61 K
Ideal Part T_max:	620.0 K
Real Part Name:	Helmholtz equation of state for methanol of Piazza et al. (2016).
Real Part Literature Reference:	L. Piazza and R. Span. An equation of state for methanol including the association term of SAFT. Fluid Phase Equilib., 349:12-24, 2013. doi:10.1016/j.fluid.2013.03.024.
Real Part T_min:	175.61 K
Real Part T_max:	620.0 K
Real Part P_max:	500000000.0 Pa
Real Part Rhomax:	1085.3592537035872 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for methanol of Sykioti et al. (2013).
Thermal Conductivity Literature Reference:	Sykioti, E.A., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of Methanol from the Triple Point to 660 K and up to 245 MPa," J. Phys. Chem. Ref. Data, 42, 043101, 2013.
Viscosity Name:	Extended Corresponding States model (Propane reference); predictive mode for methanol.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A. "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Medium Name:	METHYLLINOLEATE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	112-63-0
Fullname:	methyl (Z,Z)-9,12-octadecadienoate
Chemical Formula:	C19H34O2
Synonym:	methyl ester(Z,Z)-9,12-octadecadienoic acid
Molar Mass:	0.29447206 kg/mol
Triple Temperature:	238.1 K
Normal Boiling Point:	628.84 K
critical Temperature:	799.0 K
critical Pressure:	1341000.0 Pa
critical Density:	238.05121330400002 kg/m^3

Acentric Factor:	0.805
Dipole Moment:	1.79
Default Reference State:	NBP
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	TDE 3.0 internal version, March 2008, Planck-Einstein form based on estimation from Joback method, uncertainty 10%
Ideal Part T_min:	200.0 K
Ideal Part T_max:	2000.0 K
Real Part Name:	Helmholtz equation of state for methyl linoleate of Huber et al. (2009).
Real Part Literature Reference:	Huber, M.L., Lemmon, E.W., Kazakov, A., Ott, L.S., and Bruno, T.J. "Model for the Thermodynamic Properties of a Biodiesel Fuel," Energy & Fuels, 23:3790-3797, 2009.
Real Part T_min:	238.1 K
Real Part T_max:	1000.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	930.5317096 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins, R.A. and Huber, M.L. (2010).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., Measurement and Correlation of the Thermal Conductivities of Biodiesel Constituent Fluids: Methyl Oleate and Methyl Linoleate", Energy&Fuels 2011,25,2383-2388.
Viscosity Name:	Extended Corresponding States model (propane reference)
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).
Medium Name:	METHYLOLEATE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	112-62-9
Fullname:	methyl cis-9-octadecenoate
Chemical Formula:	C19H36O2
Synonym:	methyl ester oleic acid
Molar Mass:	0.29648794 kg/mol
Triple Temperature:	253.47 K
Normal Boiling Point:	627.18 K
critical Temperature:	782.0 K
critical Pressure:	1246000.0 Pa
critical Density:	241.00022202899999 kg/m^3
Acentric Factor:	0.906
Dipole Moment:	1.63
Default Reference State:	NBP
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function

Ideal Part Literature Reference:	TDE 3.0 internal version, March 2008, Planck-Einstein form based on estimation from Joback method, uncertainty 10%
Ideal Part T_min:	200.0 K
Ideal Part T_max:	1000.0 K
Real Part Name:	Helmholtz equation of state for methyl oleate of Huber et al. (2009).
Real Part Literature Reference:	Huber, M.L., Lemmon, E.W., Kazakov, A., Ott, L.S., and Bruno, T.J. "Model for the Thermodynamic Properties of a Biodiesel Fuel," Energy & Fuels, 23:3790-3797, 2009.
Real Part T_min:	253.47 K
Real Part T_max:	1000.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	904.2882169999999 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins, R.A. and Huber, M.L. (2010).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., Measurement and Correlation of the Thermal Conductivities of Biodiesel Constituent Fluids: Methyl Oleate and Methyl Linoleate", Energy&Fuels 2011,25,2383-2388.
Viscosity Name:	Extended Corresponding States model (propane reference)
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).
Medium Name:	METHYLPALMITATE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	112-39-0
Fullname:	methyl hexadecanoate
Chemical Formula:	C17H34O2
Synonym:	methyl ester palmitic acid
Molar Mass:	0.27045066 kg/mol
Triple Temperature:	302.71 K
Normal Boiling Point:	602.3 K
critical Temperature:	755.0 K
critical Pressure:	1350000.0 Pa
critical Density:	242.59424202000002 kg/m^3
Acentric Factor:	0.91
Dipole Moment:	1.54
Default Reference State:	NBP
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	TDE 3.0 internal version, March 2008, Planck-Einstein form based on estimation from Joback method, uncertainty 10%
Ideal Part T_min:	200.0 K
Ideal Part T_max:	2000.0 K
Real Part Name:	Helmholtz equation of state for methyl palmitate of Huber et al. (2009).

Real Part Literature Reference:	Huber, M.L., Lemmon, E.W., Kazakov, A., Ott, L.S., and Bruno, T.J. "Model for the Thermodynamic Properties of a Biodiesel Fuel," Energy & Fuels, 23:3790-3797, 2009.
Real Part T_min:	302.71 K
Real Part T_max:	1000.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	908.7142176000001 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins, R.A. and Huber, M.L. (2010).
Thermal Conductivity Literature Reference:	The correlation below is an estimation, based on results for methyl oleate, adjusted for application to methyl palmitate.
Viscosity Name:	Extended Corresponding States model (propane reference)
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).
Medium Name:	METHYLSTEARATE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	112-61-8
Fullname:	methyl octadecanoate
Chemical Formula:	C19H38O2
Synonym:	methyl ester stearic acid
Molar Mass:	0.29850382000000003 kg/mol
Triple Temperature:	311.84 K
Normal Boiling Point:	629.56 K
critical Temperature:	775.0 K
critical Pressure:	1239000.0 Pa
critical Density:	237.10158422600003 kg/m^3
Acentric Factor:	1.02
Dipole Moment:	1.54
Default Reference State:	NBP
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	TDE 3.0 internal version, March 2008, Planck-Einstein form based on estimation from Joback method, uncertainty 10%
Ideal Part T_min:	200.0 K
Ideal Part T_max:	2000.0 K
Real Part Name:	Helmholtz equation of state for methyl stearate of Huber et al. (2009).
Real Part Literature Reference:	Huber, M.L., Lemmon, E.W., Kazakov, A., Ott, L.S., and Bruno, T.J. "Model for the Thermodynamic Properties of a Biodiesel Fuel," Energy & Fuels, 23:3790-3797, 2009.
Real Part T_min:	311.84 K
Real Part T_max:	1000.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	853.7209252 kg/m^3

Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins, R.A. and Huber, M.L. (2010).
Thermal Conductivity Literature Reference:	The correlation below is an estimation, based on results for methyl oleate, adjusted for application to methyl stearate.
Viscosity Name:	Extended Corresponding States model (propane reference)
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).
Medium Name:	MM
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	107-46-0
Fullname:	hexamethyldisiloxane
Chemical Formula:	C6H18OSi2
Synonym:	MM
Molar Mass:	0.16237752 kg/mol
Triple Temperature:	204.93 K
Normal Boiling Point:	373.401 K
critical Temperature:	518.75 K
critical Pressure:	1939000.0 Pa
critical Density:	258.151840734 kg/m^3
Acentric Factor:	0.418
Dipole Moment:	0.801
Default Reference State:	NBP
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Colonna, P., Nannan, N.R., Guardone, A., Lemmon, E.W., Multiparameter Equations of State for Selected Siloxanes, Fluid Phase Equilibria, 244:193-211, 2006.
Ideal Part T_min:	50.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for hexamethyldisiloxane of Colonna et al. (2006).
Real Part Literature Reference:	Colonna, P., Nannan, N.R., Guardone, A., Lemmon, E.W., Multiparameter Equations of State for Selected Siloxanes, Fluid Phase Equilibria, 244:193-211, 2006.
Real Part T_min:	273.0 K
Real Part T_max:	673.0 K
Real Part P_max:	30000000.0 Pa
Real Part Rhomax:	845.9868792 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Unpublished coefficients using method described below: Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).

Viscosity Name:	Extended Corresponding States model (n2 reference); fit to extremely limited data.
Viscosity Literature Reference:	Unpublished coefficients using method described below: Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).
Medium Name:	N-BUTANE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	106-97-8
Fullname:	n-butane
Chemical Formula:	CH3-2(CH2)-CH3
Synonym:	R-600
Molar Mass:	0.0581222 kg/mol
Triple Temperature:	134.895 K
Normal Boiling Point:	272.66 K
critical Temperature:	425.125 K
critical Pressure:	3796000.0 Pa
critical Density:	228.00000000070858 kg/m^3
Acentric Factor:	0.201
Dipole Moment:	0.05
Default Reference State:	IIR
UNNumber:	1011
Family:	n-alkane
Heating Value:	167240.81828
GWP:	4.0
RCL:	1000.0
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	see Buecker and Wagner EOS for reference
Ideal Part T_min:	134.895 K
Ideal Part T_max:	575.0 K
Real Part Name:	Helmholtz equation of state for butane of Buecker and Wagner (2006).
Real Part Literature Reference:	Buecker, D. and Wagner, W., "Reference Equations of State for the Thermodynamic Properties of Fluid Phase n-Butane and Isobutane," J. Phys. Chem. Ref. Data, 35(2):929-1019, 2006.
Real Part T_min:	134.895 K
Real Part T_max:	575.0 K
Real Part P_max:	200000000.0 Pa
Real Part Rhomax:	805.5736919999999 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins et al. (2002).
Thermal Conductivity Literature Reference:	Perkins, R.A, Ramires, M.L.V., Nieto de Castro, C.A. and Cusco, L., "Measurement and Correlation of the Thermal Conductivity of Butane from 135 K to 600 K at Pressures to 70 MPa," J. Chem. Eng. Data, 47(5):1263-1271, 2002.

Viscosity Name:	pure fluid viscosity model of Vogel et al. (1999).
Viscosity Literature Reference:	Vogel, E., Kuechenmeister, C., and Bich, E., "Viscosity for n-Butane in the Fluid Region," High Temp. - High Pressures, 31(2):173-186, 1999.
Medium Name:	N-DODECANE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	112-40-3
Fullname:	dodecane
Chemical Formula:	CH3-10(CH2)-CH3
Synonym:	n-dodecane
Molar Mass:	0.17033484000000002 kg/mol
Triple Temperature:	263.6 K
Normal Boiling Point:	489.3 K
critical Temperature:	658.1 K
critical Pressure:	1817000.0 Pa
critical Density:	226.54533720000003 kg/m^3
Acentric Factor:	0.574
Dipole Moment:	0.0
Default Reference State:	NBP
Family:	n-alkane
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W., Based on TRC Thermodynamic Properties of Substances in the Ideal Gas State Version 1.0M, 1994.
Ideal Part T_min:	263.6 K
Ideal Part T_max:	1500.0 K
Real Part Name:	short Helmholtz equation of state for dodecane of Lemmon (2004).
Real Part Literature Reference:	Lemmon, E.W. and Huber, M.L. "Thermodynamic Properties of n-Dodecane," Energy & Fuels, 18:960-967, 2004.
Real Part T_min:	263.6 K
Real Part T_max:	700.0 K
Real Part P_max:	700000000.0 Pa
Real Part Rhomax:	771.6168252000001 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Huber, Laesecke and Perkins (2004).
Thermal Conductivity Literature Reference:	Huber, M.L., Laesecke, A. and Perkins, R.A., "Transport Properties of n-Dodecane," Energy & Fuels, 18:968-975, 2004.
Viscosity Name:	pure fluid viscosity model of Huber, Laesecke and Perkins (2004)
Viscosity Literature Reference:	Huber, M.L., Laesecke, A. and Perkins, R.A., "Transport Properties of n-Dodecane," Energy & Fuels, 18:968-975, 2004.
Medium Name:	N-NONANE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)

EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	111-84-2
Fullname:	nonane
Chemical Formula:	CH3-7(CH2)-CH3
Synonym:	n-nonane
Molar Mass:	0.1282551 kg/mol
Triple Temperature:	219.7 K
Normal Boiling Point:	423.91 K
critical Temperature:	594.55 K
critical Pressure:	2281000.0 Pa
critical Density:	232.141731 kg/m^3
Acentric Factor:	0.4433
Dipole Moment:	0.07
Default Reference State:	NBP
UNNumber:	1920
Family:	n-alkane
Heating Value:	791481.460365
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	219.7 K
Ideal Part T_max:	1500.0 K
Real Part Name:	short Helmholtz equation of state for nonane of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	219.7 K
Real Part T_max:	600.0 K
Real Part P_max:	800000000.0 Pa
Real Part Rhomax:	777.2259059999999 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Huber and Perkins (2005).
Thermal Conductivity Literature Reference:	Huber, M.L. and Perkins, R.A., "Thermal conductivity correlations for minor constituent fluids in natural gas: n-octane, n-nonane and n-decane" Fluid Phase Equilibria 227 (2005) 47-55.
Viscosity Name:	pure fluid viscosity model of Huber, Laesecke and Xiang (2004)
Viscosity Literature Reference:	Huber, M.L., Laesecke, A. and Xiang, H.W. , "Viscosity correlations for minor constituent fluids in natural gas: n-octane, n-nonane and n-decane" Fluid Phase Equilibria 224(2004)263-270.
Medium Name:	NEON
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	7440-01-9
Fullname:	neon
Chemical Formula:	Ne

Synonym:	R-720
Molar Mass:	0.020179 kg/mol
Triple Temperature:	24.556 K
Normal Boiling Point:	27.104 K
critical Temperature:	44.4918 K
critical Pressure:	2678600.0 Pa
critical Density:	481.914878 kg/m^3
Acentric Factor:	-0.0387
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1065, 1913
Family:	other
Heating Value:	0.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Katti, R.S., Jacobsen, R.T, Stewart, R.B., and Jahangiri, M., "Thermodynamic Properties for Neon for Temperatures from the Triple Point to 700 K at Pressures to 700 MPa," Adv. Cryo. Eng., 31:1189-1197, 1986.
Ideal Part T_min:	24.556 K
Ideal Part T_max:	700.0 K
Real Part Name:	Helmholtz equation of state for neon of Katti et al. (1986).
Real Part Literature Reference:	Katti, R.S., Jacobsen, R.T, Stewart, R.B., and Jahangiri, M., "Thermodynamic Properties for Neon for Temperatures from the Triple Point to 700 K at Pressures to 700 MPa," Adv. Cryo. Eng., 31:1189-1197, 1986.
Real Part T_min:	24.556 K
Real Part T_max:	700.0 K
Real Part P_max:	700000000.0 Pa
Real Part Rhomax:	1827.41024 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 10% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode.
Viscosity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 10% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	NEOPENTANE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	463-82-1
Fullname:	2,2-dimethylpropane

Chemical Formula:	C(CH3)4
Synonym:	tetramethylmethane
Molar Mass:	0.07214878 kg/mol
Triple Temperature:	256.6 K
Normal Boiling Point:	282.65 K
critical Temperature:	433.74 K
critical Pressure:	3196000.0 Pa
critical Density:	235.9265106 kg/m^3
Acentric Factor:	0.1961
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1265, 2044
Family:	br-alkane
Heating Value:	253574.82367580003
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	200.0 K
Ideal Part T_max:	1500.0 K
Real Part Name:	short Helmholtz equation of state for neopentane of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	256.6 K
Real Part T_max:	550.0 K
Real Part P_max:	200000000.0 Pa
Real Part Rhomax:	628.4158738000001 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	*** PREDICTED VALUES--- NOT STANDARD REFERENCE QUALITY---
Viscosity Name:	Extended Corresponding States model (Propane reference); predictive mode.
Viscosity Literature Reference:	*** PREDICTED VALUES--- NOT STANDARD REFERENCE QUALITY---
Medium Name:	NITROGEN
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	7727-37-9
Fullname:	nitrogen
Chemical Formula:	N2
Synonym:	R-728
Molar Mass:	0.02801348 kg/mol
Triple Temperature:	63.151 K
Normal Boiling Point:	77.355 K
critical Temperature:	126.192 K
critical Pressure:	3395800.0 Pa

critical Density:	313.299958972 kg/m^3
Acentric Factor:	0.0372
Dipole Moment:	0.0
Default Reference State:	Undefined
UNNumber:	1066, 1977
Family:	other
Heating Value:	0.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Span, R., Lemmon, E.W., Jacobsen, R.T, Wagner, W., and Yokozeki, A. "A Reference Equation of State for the Thermodynamic Properties of Nitrogen for Temperatures from 63.151 to 1000 K and Pressures to 2200 MPa," J. Phys. Chem. Ref. Data, 29(6):1361-1433, 2000.
Ideal Part T_min:	63.151 K
Ideal Part T_max:	7000.0 K
Real Part Name:	Helmholtz equation of state for nitrogen of Span et al. (2000).
Real Part Literature Reference:	Span, R., Lemmon, E.W., Jacobsen, R.T, Wagner, W., and Yokozeki, A. "A Reference Equation of State for the Thermodynamic Properties of Nitrogen for Temperatures from 63.151 to 1000 K and Pressures to 2200 MPa," J. Phys. Chem. Ref. Data, 29(6):1361-1433, 2000.
Real Part T_min:	63.151 K
Real Part T_max:	2000.0 K
Real Part P_max:	2200000000.0 Pa
Real Part Rhomax:	1488.9164620000001 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Lemmon and Jacobsen (2004).
Thermal Conductivity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Viscosity Name:	pure fluid viscosity model of Lemmon and Jacobsen (2004).
Viscosity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Medium Name:	NITROUSOXIDE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	10024-97-2
Fullname:	dinitrogen monoxide
Chemical Formula:	N2O
Synonym:	R-744A
Molar Mass:	0.0440128 kg/mol
Triple Temperature:	182.33 K
Normal Boiling Point:	184.68 K
critical Temperature:	309.52 K
critical Pressure:	7245000.0 Pa
critical Density:	452.01145599999995 kg/m^3
Acentric Factor:	0.162

Dipole Moment:	0.1608
Default Reference State:	NBP
UNNumber:	1070
Family:	other
Heating Value:	0.0
GWP:	298.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	50.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	short Helmholtz equation of state for nitrous oxide of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	182.33 K
Real Part T_max:	525.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	1237.639936 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 10% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fitted to extremely limited data.
Viscosity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 10% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	O-XYLENE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	95-47-6
Fullname:	1,2-dimethylbenzene
Chemical Formula:	C8H10
Synonym:	o-xylene
Molar Mass:	0.10616500000000001 kg/mol
Triple Temperature:	247.985 K
Normal Boiling Point:	417.521 K
critical Temperature:	630.259 K
critical Pressure:	3737500.0 Pa
critical Density:	284.99994250000003 kg/m^3
Acentric Factor:	0.312
Dipole Moment:	0.63

Default Reference State:	NBP
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function for o-xylene of Zhou et al. (2012).
Ideal Part Literature Reference:	see EOS for reference
Ideal Part T_min:	50.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for o-xylene of Zhou et al. (2012).
Real Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J. "Thermodynamic Properties of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene" J. Phys. Chem. Ref. Data, 41(023103):1-26, 2012.
Real Part T_min:	247.985 K
Real Part T_max:	700.0 K
Real Part P_max:	70000000.0 Pa
Real Part Rhomax:	918.11492 kg/m^3
Medium Name:	ORTHOHYDROGEN
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	1333-74-0o
Fullname:	Orthohydrogen
Chemical Formula:	H2
Synonym:	R-702o
Molar Mass:	0.00201594 kg/mol
Triple Temperature:	14.008 K
Normal Boiling Point:	20.38 K
critical Temperature:	33.22 K
critical Pressure:	1310650.0 Pa
critical Density:	31.136193300000002 kg/m^3
Acentric Factor:	-0.218
Dipole Moment:	0.0
Default Reference State:	Undefined
UNNumber:	1049
Family:	cryogen
Heating Value:	576.2161302
Safety Group:	A3
Ideal Part Name:	Ideal gas heat capacity function for orthohydrogen of Leachman et al. (2009).
Ideal Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., and Lemmon, E.W., 2009.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for orthohydrogen of Leachman et al. (2009).
Real Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., and Lemmon, E.W., "Fundamental Equations of State for Parahydrogen, Normal Hydrogen, and Orthohydrogen," J. Phys. Chem. Ref. Data, 38(3):721-748, 2009.
Real Part T_min:	14.008 K
Real Part T_max:	1000.0 K

Real Part P_max:	2000000000.0 Pa
Real Part Rhomax:	77.0290674 kg/m^3
Medium Name:	OXYGEN
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	7782-44-7
Fullname:	oxygen
Chemical Formula:	O2
Synonym:	R-732
Molar Mass:	0.0319988 kg/mol
Triple Temperature:	54.361 K
Normal Boiling Point:	90.1878 K
critical Temperature:	154.581 K
critical Pressure:	5043000.0 Pa
critical Density:	436.143644 kg/m^3
Acentric Factor:	0.0222
Dipole Moment:	0.0
Default Reference State:	Undefined
UNNumber:	1072, 1073
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Refit by Roland Span of the Schmidt and Wagner equation listed below to account for the electronic contribution up to 2000 K by using Planck-Einstein terms only.
Ideal Part T_min:	54.361 K
Ideal Part T_max:	2000.0 K
Real Part Name:	Helmholtz equation of state for oxygen of Schmidt and Wagner (1985).
Real Part Literature Reference:	Schmidt, R. and Wagner, W., "A New Form of the Equation of State for Pure Substances and its Application to Oxygen," Fluid Phase Equilibria, 19:175-200, 1985.
Real Part T_min:	54.361 K
Real Part T_max:	2000.0 K
Real Part P_max:	82000000.0 Pa
Real Part Rhomax:	1387.0839824 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Lemmon and Jacobsen (2004).
Thermal Conductivity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Viscosity Name:	pure fluid viscosity model of Lemmon and Jacobsen (2004).
Viscosity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Medium Name:	P-XYLENE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1

Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	106-42-3
Fullname:	1,4-dimethylbenzene
Chemical Formula:	C8H10
Synonym:	p-xylene
Molar Mass:	0.10616500000000001 kg/mol
Triple Temperature:	286.4 K
Normal Boiling Point:	411.47 K
critical Temperature:	616.168 K
critical Pressure:	3531500.0 Pa
critical Density:	286.0000168 kg/m^3
Acentric Factor:	0.324
Dipole Moment:	0.0
Default Reference State:	NBP
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function for p-xylene of Zhou et al. (2012).
Ideal Part Literature Reference:	see EOS for reference
Ideal Part T_min:	50.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for p-xylene of Zhou et al. (2012).
Real Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J. "Thermodynamic Properties of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene" J. Phys. Chem. Ref. Data, 41(023103):1-26, 2012.
Real Part T_min:	286.4 K
Real Part T_max:	700.0 K
Real Part P_max:	200000000.0 Pa
Real Part Rhomax:	866.9433900000001 kg/m^3
Medium Name:	PARAHYDROGEN
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	1333-74-0p
Fullname:	parahydrogen
Chemical Formula:	H2
Synonym:	R-702p
Molar Mass:	0.0020158800000000003 kg/mol
Triple Temperature:	13.8033 K
Normal Boiling Point:	20.271 K
critical Temperature:	32.938 K
critical Pressure:	1285800.0 Pa

critical Density:	31.322743440000004 kg/m^3
Acentric Factor:	-0.219
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1049
Family:	other
Heating Value:	576.1989804
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., Lemmon, E.W. "Fundamental Equations of State for Parahydrogen, Normal Hydrogen, and Orthohydrogen," J. Phys. Chem. Ref. Data, 38(3):721-748, 2009.
Ideal Part T_min:	13.8033 K
Ideal Part T_max:	1000.0 K
Real Part Name:	Helmholtz equation of state for parahydrogen of Leachman et al. (2009).
Real Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., Lemmon, E.W. "Fundamental Equations of State for Parahydrogen, Normal Hydrogen, and Orthohydrogen," J. Phys. Chem. Ref. Data, 38(3):721-748, 2009.
Real Part T_min:	13.8033 K
Real Part T_max:	1000.0 K
Real Part P_max:	2000000000.0 Pa
Real Part Rhomax:	209.65152 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Assael et al. (2011).
Thermal Conductivity Literature Reference:	Assael, M.J., Assael. J.-A.M., Huber, M.L., Perkins, R.A. and Takata, Y. "Correlation of the Thermal Conductivity of Normal and Parahydrogen from the Triple Point to 1000 K and up to 100 MPa", J. Phys. Chem. Ref. Data, Vol.40, No. 3(2011) pp.1-13.
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Medium Name:	PROPANE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	74-98-6
Fullname:	propane
Chemical Formula:	CH3CH2CH3
Synonym:	R-290
Molar Mass:	0.044095619999999995 kg/mol
Triple Temperature:	85.525 K
Normal Boiling Point:	231.036 K
critical Temperature:	369.89009999999996 K
critical Pressure:	4251200.0 Pa
critical Density:	220.47809999999998 kg/m^3
Acentric Factor:	0.1521

Dipole Moment:	0.084
Default Reference State:	IIR
UNNumber:	1075, 1978
Family:	n-alkane
Heating Value:	97855.67703539999
GWP:	3.3
RCL:	5300.0
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function for propane of Lemmon et al. (2009).
Ideal Part Literature Reference:	see EOS of Lemmon et al. (2009)
Ideal Part T_max:	1500.0 K
Real Part Name:	Helmholtz equation of state for propane of Lemmon et al. (2009).
Real Part Literature Reference:	Lemmon, E.W., McLinden, M.O., Wagner, W. "Thermodynamic Properties of Propane. III. A Reference Equation of State for Temperatures from the Melting Line to 650 K and Pressures up to 1000 MPa," J. Chem. Eng. Data, 54:3141-3180, 2009.
Real Part T_min:	85.525 K
Real Part T_max:	650.0 K
Real Part P_max:	1000000000.0 Pa
Real Part Rhomax:	908.369772 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Marsh et al. (2002).
Thermal Conductivity Literature Reference:	Marsh, K., Perkins, R., and Ramires, M.L.V., "Measurement and Correlation of the Thermal Conductivity of Propane from 86 to 600 K at Pressures to 70 MPa," J. Chem. Eng. Data, 47(4):932-940, 2002.
Viscosity Name:	pure fluid viscosity model of Vogel et al. (1998).
Viscosity Literature Reference:	Vogel, E., Kuechenmeister, C., Bich, E., and Laesecke, A., "Reference Correlation of the Viscosity of Propane," J. Phys. Chem. Ref. Data, 27(5):947-970, 1998.
Medium Name:	PROPYLENE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	115-07-1
Fullname:	propene
Chemical Formula:	CH2=CH-CH3
Synonym:	R-1270
Molar Mass:	0.042079740000000004 kg/mol
Triple Temperature:	87.953 K
Normal Boiling Point:	225.531 K
critical Temperature:	364.211 K
critical Pressure:	4555000.0 Pa
critical Density:	229.62914118 kg/m^3
Acentric Factor:	0.146
Dipole Moment:	0.366
Default Reference State:	IIR
UNNumber:	1075, 1077

Family:	n-alkene
Heating Value:	86600.9465148
GWP:	1.8
RCL:	1000.0
Safety Group:	A3
Ideal Part Name:	ideal gas heat capacity function of Lemmon et al. (2013).
Ideal Part Literature Reference:	see EOS for reference
Ideal Part T_max:	1000.0 K
Real Part Name:	Helmholtz equation of state for propylene of Lemmon et al. (2013).
Real Part Literature Reference:	Lemmon, E.W., Overhoff, U., McLinden, M.O., Wagner, W. to be submitted to J. Phys. Chem. Ref. Data, 2013.
Real Part T_min:	87.953 K
Real Part T_max:	575.0 K
Real Part P_max:	1000000000.0 Pa
Real Part Rhomax:	972.041994 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data.
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Medium Name:	R113
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	76-13-1
Fullname:	1,1,2-trichloro-1,2,2-trifluoroethane
Chemical Formula:	CCl2FCClF2
Synonym:	CFC-113
Molar Mass:	0.187375 kg/mol
Triple Temperature:	236.93 K
Normal Boiling Point:	320.735 K
critical Temperature:	487.21 K
critical Pressure:	3392200.0 Pa
critical Density:	559.999980125 kg/m^3
Acentric Factor:	0.25253
Dipole Moment:	0.803
Default Reference State:	IIR
Family:	halocb
Heating Value:	0.0
GWP:	6130.0
ODP:	0.85

RCL:	2600.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function of Marx et al. (1992).
Ideal Part Literature Reference:	Marx, V., Pruß, A., and Wagner, W., "Neue Zustandsgleichungen für R 12, R 22, R 11 und R 113. Beschreibung des thermodynamischen Zustandsverhaltens bei Temperaturen bis 525 K und Drücken bis 200 MPa," Düsseldorf, VDI Verlag, Series 19 (Wärmetechnik/Kältetechnik), No. 57, 1992.
Ideal Part T_min:	200.0 K
Ideal Part T_max:	525.0 K
Real Part Name:	Helmholtz equation of state for R-113 of Marx et al. (1992).
Real Part Literature Reference:	Marx, V., Pruß, A., and Wagner, W., "Neue Zustandsgleichungen für R 12, R 22, R 11 und R 113. Beschreibung des thermodynamischen Zustandsverhaltens bei Temperaturen bis 525 K und Drücken bis 200 MPa," Düsseldorf, VDI Verlag, Series 19 (Wärmetechnik/Kältetechnik), No. 57, 1992.
Real Part T_min:	236.93 K
Real Part T_max:	525.0 K
Real Part P_max:	200000000.0 Pa
Real Part Rhomax:	1705.1125 kg/m^3
Thermal Conductivity Name:	based on pure fluid thermal conductivity model of Perkins and Huber, scaled to R113.
Thermal Conductivity Literature Reference:	The model is based on a scaling of the correlation presented below. Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of Pentafluoroethane (R125)from 190 K to 512 K at pressures to 70 MPa", Journal of Chemical and Engineering Data, 2006, 51, 898-904.
Viscosity Name:	estimation based on pure fluid viscosity model of Huber, Laesecke and Perkins (2003), scaled to R113.
Viscosity Literature Reference:	The model is based on a scaling of the correlation presented below. Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	R116
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	76-16-4
Fullname:	hexafluoroethane
Chemical Formula:	CF3CF3
Synonym:	FC-116
Molar Mass:	0.13801182 kg/mol
Triple Temperature:	173.1 K
Normal Boiling Point:	195.06 K
critical Temperature:	293.03 K
critical Pressure:	3048000.0 Pa
critical Density:	613.32452808 kg/m^3
Acentric Factor:	0.2566
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	2193
Family:	halocb

Heating Value:	0.0
GWP:	12200.0
RCL:	97000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	50.0 K
Ideal Part T_max:	3000.0 K
Real Part Name:	short Helmholtz equation of state for R-116 of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	173.1 K
Real Part T_max:	425.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	1698.9255042 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins et al. (2000), scaled to R116.
Thermal Conductivity Literature Reference:	The model is based on a scaling of the correlation presented below. Perkins, R.A., Laesecke, A., Howley, J., Ramires, M.L.V., Gurova, A.N., and Cusco, L., "Experimental thermal conductivity values for the IUPAC round-robin sample of 1,1,1,2-tetrafluoroethane (R134a)," NISTIR, 2000.
Viscosity Name:	estimation based on pure fluid viscosity model of Huber, Laesecke and Perkins (2003), scaled to R116.
Viscosity Literature Reference:	The model is based on a scaling of the correlation presented below. Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	R12
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	75-71-8
Fullname:	dichlorodifluoromethane
Chemical Formula:	CCl2F2
Synonym:	CFC-12
Molar Mass:	0.12091299999999999 kg/mol
Triple Temperature:	116.099 K
Normal Boiling Point:	243.398 K
critical Temperature:	385.12 K
critical Pressure:	4136100.0000000005 Pa
critical Density:	564.999969053 kg/m^3
Acentric Factor:	0.17948
Dipole Moment:	0.51
Default Reference State:	IIR
UNNumber:	1028
Family:	halocb
Heating Value:	0.0

GWP:	10900.0
ODP:	0.82
RCL:	18000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function of Marx et al. (1992).
Ideal Part Literature Reference:	Marx, V., Pruß, A., and Wagner, W., "Neue Zustandsgleichungen für R 12, R 22, R 11 und R 113. Beschreibung des thermodynamischen Zustandsverhaltens bei Temperaturen bis 525 K und Druecken bis 200 MPa," Düsseldorf, VDI Verlag, Series 19 (Wärmetechnik/Kältetechnik), No. 57, 1992.
Ideal Part T_min:	100.0 K
Ideal Part T_max:	525.0 K
Real Part Name:	Helmholtz equation of state for R-12 of Marx et al. (1992).
Real Part Literature Reference:	Marx, V., Pruß, A., and Wagner, W., "Neue Zustandsgleichungen für R 12, R 22, R 11 und R 113. Beschreibung des thermodynamischen Zustandsverhaltens bei Temperaturen bis 525 K und Druecken bis 200 MPa," Düsseldorf, VDI Verlag, Series 19 (Wärmetechnik/Kältetechnik), No. 57, 1992.
Real Part T_min:	116.099 K
Real Part T_max:	525.0 K
Real Part P_max:	200000000.0 Pa
Real Part Rhomax:	1829.41369 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Medium Name:	R1233ZDE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	102687-65-0
Fullname:	trans-1-chloro-3,3,3-trifluoro-1-propene
Chemical Formula:	CF3CH=CHCl
Synonym:	HFO-1233zd(E)
Molar Mass:	0.13049619999999998 kg/mol
Triple Temperature:	195.15 K
Normal Boiling Point:	291.413 K
critical Temperature:	439.601 K
critical Pressure:	3623700.0 Pa
critical Density:	480.22601599999996 kg/m^3
Acentric Factor:	0.3025
Dipole Moment:	1.44
Default Reference State:	IIR
UNNumber:	3163
Family:	halocb

Heating Value:	0.0
GWP:	1.0
RCL:	16000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function of Mondejar et al. (2013)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for R1233zd(E) of Mondejar et al. (2015).
Real Part Literature Reference:	Mondejar, M.E., McLinden, M.O., Lemmon, E.W. "Thermodynamic Properties of Trans-1-chloro-3,3,3-trifluoropropene (R1233zd(E)): Vapor Pressure, p-rho-T Data, Speed of Sound Measurements and Equation of State," to be submitted to J. Chem. Eng. Data, 2015.
Real Part T_min:	195.15 K
Real Part T_max:	550.0 K
Real Part P_max:	100000000.0 Pa
Real Part Rhomax:	1488.961642 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins and Huber 2012
Viscosity Name:	Extended Corresponding States model (R134a reference); limited data available; predictive mode
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).
Medium Name:	R1234YF
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	754-12-1
Fullname:	2,3,3,3-tetrafluoroprop-1-ene
Chemical Formula:	CF3CF=CH2
Synonym:	R-1234yf
Molar Mass:	0.11404159280000001 kg/mol
Triple Temperature:	220.0 K
Normal Boiling Point:	243.7 K
critical Temperature:	367.85002000000003 K
critical Pressure:	3382200.0 Pa
critical Density:	475.553441976 kg/m^3
Acentric Factor:	0.276
Dipole Moment:	2.48
Default Reference State:	IIR
UNNumber:	3161
Family:	halocb
Heating Value:	0.0
RCL:	16000.0
Safety Group:	A2
Ideal Part Name:	ideal gas heat capacity function of Richter et al. (2011)
Ideal Part T_min:	1.0 K

Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for R1234yf of Richter et al. (2011).
Real Part Literature Reference:	Richter, M., McLinden, M.O., and Lemmon, E.W. "Thermodynamic Properties of 2,3,3,3-Tetrafluoroprop-1-ene (R1234yf): Vapor Pressure and p-rho-T Measurements and an Equation of State," J. Chem. Eng. Data, 56(7):3254-3264, 2011.
Real Part T_min:	220.0 K
Real Part T_max:	410.0 K
Real Part P_max:	30000000.0 Pa
Real Part Rhomax:	1327.444140192 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins, R.A. and Huber, M.L. (2010).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of 2,3,3,3-tetrafluoroprop-1-ene (R1234yf) and trans-1,3,3,3-tetrafluoropeopene (R1234ze)" J. Chem. Eng. Data 2011, 56(12), pp. 4868-4874
Viscosity Name:	Extended Corresponding States model (R134a reference).
Viscosity Literature Reference:	*** ESTIMATION METHOD ONLY --- NOT STANDARD REFERENCE QUALITY--- ***Limited or no experimental data were available for analysis*** Estimated uncertainty for viscosity is 10% based on comparisons with Hulse, R., Singh, R., Pham, H., "Physical Properties of HFO-1234yf" paper presented at 17th Symp. Thermophysical Properties, Boulder CO June 2009 No data for thermal conductivity was found. Based on family comparisons, the estimated uncertainty for ECS estimation model is 20% Values estimated following the method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	R1234ZEE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	29118-24-9
Fullname:	trans-1,3,3,3-tetrafluoropropene
Chemical Formula:	CHF=CHCF3 (trans)
Synonym:	HFO-1234ze(E)
Molar Mass:	0.1140416 kg/mol
Triple Temperature:	168.62 K
Normal Boiling Point:	254.177 K
critical Temperature:	382.52009999999996 K
critical Pressure:	3634900.0 Pa
critical Density:	489.238464 kg/m^3
Acentric Factor:	0.313
Dipole Moment:	1.27
Default Reference State:	IIR
Family:	halocb
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function for R1234ze of Thol and Lemmon (2013).
Ideal Part Literature Reference:	see EOS for reference

Ideal Part T_min:	1.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for R1234ze of Thol and Lemmon (2013).
Real Part Literature Reference:	Thol, M. and Lemmon, E.W. to be published in Int. J. Thermophys., 2013.
Real Part T_min:	168.62 K
Real Part T_max:	420.0 K
Real Part P_max:	20000000.0 Pa
Real Part Rhomax:	1512.191616 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins, R.A. and Huber, M.L. (2011).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of 2,3,3,3-tetrafluoroprop-1-ene (R1234yf) and trans-1,3,3,3-tetrafluoropeopene (R1234ze)" J. Chem. Eng. Data 2011, 56(12), pp. 4868-4874
Viscosity Name:	Extended Corresponding States model (R134a reference).
Viscosity Literature Reference:	*** ESTIMATION METHOD ONLY --- NOT STANDARD REFERENCE QUALITY--- ***Limited or no experimental data were available for analysis*** Estimated uncertainty for liquid viscosity is 3 % based on comparisons with Grebenkov, A.J., Hulse, R., Pham, H. and Singh, R., "Physical Properties and Equation of State for trans-1,3,3,3-tetrafluoropropene" paper presented at 3rd IIR Conference on Thermophysical Properties and Transfer Processes of Refrigerants, Boulder CO June 2009 No data for thermal conductivity was found. Based on family comparisons, the estimated uncertainty for ECS estimation model is 20% Values estimated following the method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	R1234ZEZ
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	29118-25-0
Fullname:	cis-1,3,3,3-tetrafluoropropene
Chemical Formula:	CHF=CHCF3 (cis)
Synonym:	HFO-1234ze(Z)
Molar Mass:	0.1140416 kg/mol
Triple Temperature:	273.0 K
Normal Boiling Point:	282.895 K
critical Temperature:	423.27009999999996 K
critical Pressure:	3533000.0 Pa
critical Density:	470.61547071999996 kg/m^3
Acentric Factor:	0.3274
Default Reference State:	IIR
Family:	halocb
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function for R1234ze(Z) of Akasaka et al. (2014).
Ideal Part Literature Reference:	see EOS for reference
Ideal Part T_min:	1.0 K

Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for R1234ze(Z) of Akasaka et al. (2014).
Real Part Literature Reference:	Akasaka, R., Higashi, Y., Miyara, A., Koyama, S. "A Fundamental Equation of State for Cis-1,3,3,3-tetrafluoropropene (R-1234ze(Z))," Int. J. Refrig., 2014.
Real Part T_min:	273.0 K
Real Part T_max:	430.0 K
Real Part P_max:	6000000.0 Pa
Real Part Rhomax:	1284.108416 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD ONLY --- NOT STANDARD REFERENCE QUALITY--- ***Limited or no experimental data were available for analysis*** No data for viscosity found. Estimated uncertainty 20% No data for thermal conductivity found. Estimated uncertainty 20% Values estimated following the method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (R134a reference).
Viscosity Literature Reference:	*** ESTIMATION METHOD ONLY --- NOT STANDARD REFERENCE QUALITY--- ***Limited or no experimental data were available for analysis*** No data for viscosity found. Estimated uncertainty 20% No data for thermal conductivity found. Estimated uncertainty 20% Values estimated following the method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	R124
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	2837-89-0
Fullname:	1-chloro-1,2,2,2-tetrafluoroethane
Chemical Formula:	CHClFCF3
Synonym:	HCFC-124
Molar Mass:	0.1364762 kg/mol
Triple Temperature:	74.0 K
Normal Boiling Point:	261.187 K
critical Temperature:	395.425 K
critical Pressure:	3624295.0 Pa
critical Density:	560.00492048872 kg/m^3
Acentric Factor:	0.2881
Dipole Moment:	1.469
Default Reference State:	IIR
UNNumber:	1021
Family:	halocb
Heating Value:	0.0
GWP:	609.0
ODP:	0.02

RCL:	10000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function of de Vries et al. (1995).
Ideal Part Literature Reference:	de Vries, B., Tillner-Roth, R., and Baehr, H.D., "Thermodynamic Properties of HCFC 124," 19th International Congress of Refrigeration, The Hague, The Netherlands, International Institute of Refrigeration, IVa:582-589, 1995.
Ideal Part T_min:	100.0 K
Ideal Part T_max:	470.0 K
Real Part Name:	Helmholtz equation of state for R-124 of de Vries et al. (1995).
Real Part Literature Reference:	de Vries, B., Tillner-Roth, R., and Baehr, H.D., "Thermodynamic Properties of HCFC 124," 19th International Congress of Refrigeration, The Hague, The Netherlands, International Institute of Refrigeration, IVa:582-589, 1995.
Real Part T_min:	120.0 K
Real Part T_max:	470.0 K
Real Part P_max:	40000000.0 Pa
Real Part Rhomax:	1852.77359596 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data.
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Medium Name:	R125
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE4
EOS Selected model:	FE4
CASnumber:	354-33-6
Fullname:	pentafluoroethane
Chemical Formula:	CHF2CF3
Synonym:	HFC-125
Molar Mass:	0.1200214 kg/mol
Triple Temperature:	172.52 K
Normal Boiling Point:	225.06 K
critical Temperature:	339.173 K
critical Pressure:	3617700.0 Pa
critical Density:	573.5822706 kg/m^3
Acentric Factor:	0.3052
Dipole Moment:	1.563
Default Reference State:	IIR
UNNumber:	3220
Family:	halocb
Heating Value:	0.0

GWP:	3500.0
RCL:	75000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function of Astina and Sato (2003).
Ideal Part Literature Reference:	see EOS for reference.
Ideal Part T_min:	172.52 K
Ideal Part T_max:	500.0 K
Real Part Name:	Helmholtz equation of state for R-125 of Astina and Sato (2004).
Real Part Literature Reference:	Astina, I.M. and Sato, H. "A Rational Fundamental Equation of State for Pentafluoroethane with Theoretical and Experimental Bases," Int. J. Thermophys., 25(1):113-131, 2004.
Real Part T_min:	172.52 K
Real Part T_max:	500.0 K
Real Part P_max:	70000000.0 Pa
Real Part Rhomax:	1692.3017399999999 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins, R.A. and Huber, M.L. (2006).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of Pentafluoroethane (R125)from 190 K to 512 K at pressures to 70 MPa", Journal of Chemical and Engineering Data, 2006, 51, 898-904.
Medium Name:	R1336MZZZ
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	692-49-9
Fullname:	(Z)-1,1,1,4,4,4-Hexafluoro-2-butene
Chemical Formula:	R1336mzz(Z)
Synonym:	R1336mzz(Z)
Molar Mass:	0.164056 kg/mol
Triple Temperature:	182.65 K
Normal Boiling Point:	306.53 K
critical Temperature:	444.42013000000003 K
critical Pressure:	2901000.0 Pa
critical Density:	481.34030400000006 kg/m^3
Acentric Factor:	0.3853
Dipole Moment:	0.0
Default Reference State:	IIR
Heating Value:	0.0
Ideal Part Name:	polynomial fit for ideal gas heat capacity
Ideal Part Literature Reference:	polynomial fit based on the method of Joback:
Ideal Part T_min:	100.0 K
Ideal Part T_max:	2000.0 K
Real Part Name:	Helmholtz equation of state for R-1336mzz-Z of Akasaka and Lemmon (2016).

Real Part Literature Reference:	Akasaka, R. and Lemmon, E. W., "A Helmholtz energy equation of state for cis-1,1,1,4,4,4-hexafluoro-2-butene (R-1336mzz(Z))," The 8th Asian Conference on Refrigeration and Air-Conditioning, May 15-17, 2016, Taiwan.
Real Part T_min:	100.0 K
Real Part T_max:	500.0 K
Real Part P_max:	40000000.0 Pa
Real Part Rhomax:	3281.1200000000003 kg/m^3
Medium Name:	R134A
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE2, FEQ
EOS Selected model:	FEQ
CASnumber:	811-97-2
Fullname:	1,1,1,2-tetrafluoroethane
Chemical Formula:	CF3CH2F
Synonym:	HFC-134a
Molar Mass:	0.102032 kg/mol
Triple Temperature:	169.85 K
Normal Boiling Point:	247.076 K
critical Temperature:	374.212 K
critical Pressure:	4059280.0 Pa
critical Density:	511.89995169599996 kg/m^3
Acentric Factor:	0.32684
Dipole Moment:	2.058
Default Reference State:	IIR
UNNumber:	3159
Family:	halocb
Heating Value:	0.0
GWP:	1430.0
RCL:	50000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Tillner-Roth, R. and Baehr, H.D., "An international standard formulation of the thermodynamic properties of 1,1,1,2-tetrafluoroethane (HFC-134a) for temperatures from 170 K to 455 K at pressures up to 70 MPa," J. Phys. Chem. Ref. Data, 23:657-729, 1994.
Ideal Part T_min:	169.85 K
Ideal Part T_max:	455.0 K
Real Part Name:	Helmholtz equation of state for R-134a of Tillner-Roth & Baehr (1994).
Real Part Literature Reference:	Tillner-Roth, R. and Baehr, H.D., "An international standard formulation of the thermodynamic properties of 1,1,1,2-tetrafluoroethane (HFC-134a) for temperatures from 170 K to 455 K at pressures up to 70 MPa," J. Phys. Chem. Ref. Data, 23:657-729, 1994.
Real Part T_min:	169.85 K
Real Part T_max:	455.0 K
Real Part P_max:	70000000.0 Pa
Real Part Rhomax:	1591.6992 kg/m^3

Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins et al. (2000).
Thermal Conductivity Literature Reference:	Perkins, R.A., Laesecke, A., Howley, J., Ramires, M.L.V., Gurova, A.N., and Cusco, L., "Experimental thermal conductivity values for the IUPAC round-robin sample of 1,1,1,2-tetrafluoroethane (R134a)," NISTIR, 2000.
Viscosity Name:	pure fluid viscosity model of Huber, Laesecke and Perkins (2003).
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	R141B
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	1717-00-6
Fullname:	1,1-dichloro-1-fluoroethane
Chemical Formula:	CCl2FCH3
Synonym:	HCFC-141b
Molar Mass:	0.11694961999999999 kg/mol
Triple Temperature:	169.68 K
Normal Boiling Point:	305.2 K
critical Temperature:	477.5 K
critical Pressure:	4212000.0 Pa
critical Density:	458.55946001999996 kg/m^3
Acentric Factor:	0.2195
Dipole Moment:	2.014
Default Reference State:	IIR
Family:	halocb
Heating Value:	0.0
GWP:	725.0
ODP:	0.12
RCL:	2600.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	50.0 K
Ideal Part T_max:	1500.0 K
Real Part Name:	short Helmholtz equation of state for R-141b of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	169.68 K
Real Part T_max:	500.0 K
Real Part P_max:	400000000.0 Pa
Real Part Rhomax:	1468.8872272 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)

Thermal Conductivity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data.
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Medium Name:	R142B
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	75-68-3
Fullname:	1-chloro-1,1-difluoroethane
Chemical Formula:	CClF2CH3
Synonym:	HCFC-142b
Molar Mass:	0.10049503 kg/mol
Triple Temperature:	142.72 K
Normal Boiling Point:	264.03 K
critical Temperature:	410.26 K
critical Pressure:	4055000.0 Pa
critical Density:	445.99694314 kg/m^3
Acentric Factor:	0.2321
Dipole Moment:	2.14
Default Reference State:	IIR
UNNumber:	2517
Family:	halocb
Heating Value:	0.0
GWP:	2310.0
ODP:	0.06
RCL:	20000.0
Safety Group:	A2
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	50.0 K
Ideal Part T_max:	1500.0 K
Real Part Name:	short Helmholtz equation of state for R-142b of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	142.72 K
Real Part T_max:	470.0 K
Real Part P_max:	60000000.0 Pa
Real Part Rhomax:	1451.1482332 kg/m^3
Medium Name:	R143A

Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ, FES
EOS Selected model:	FEQ
CASnumber:	420-46-2
Fullname:	1,1,1-trifluoroethane
Chemical Formula:	CF3CH3
Synonym:	HFC-143a
Molar Mass:	0.08404099999999999 kg/mol
Triple Temperature:	161.34 K
Normal Boiling Point:	225.909 K
critical Temperature:	345.857 K
critical Pressure:	3761000.0 Pa
critical Density:	431.00006644999996 kg/m^3
Acentric Factor:	0.2615
Dipole Moment:	2.34
Default Reference State:	IIR
UNNumber:	2035
Family:	halocb
Heating Value:	0.0
GWP:	4470.0
RCL:	21000.0
Safety Group:	A2
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "An International Standard Formulation for the Thermodynamic Properties of 1,1,1-Trifluoroethane (HFC-143a) for Temperatures from 161 to 450 K and Pressures to 50 MPa," J. Phys. Chem. Ref. Data, 29(4):521-552, 2000.
Ideal Part T_min:	161.34 K
Ideal Part T_max:	650.0 K
Real Part Name:	Helmholtz equation of state for R-143a of Lemmon and Jacobsen (2000).
Real Part Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "An International Standard Formulation for the Thermodynamic Properties of 1,1,1-Trifluoroethane (HFC-143a) for Temperatures from 161 to 450 K and Pressures to 50 MPa," J. Phys. Chem. Ref. Data, 29(4):521-552, 2000.
Real Part T_min:	161.34 K
Real Part T_max:	650.0 K
Real Part P_max:	100000000.0 Pa
Real Part Rhomax:	1332.0498499999999 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	unpublished; uses method described in Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data.
Viscosity Literature Reference:	unpublished; uses method described in Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.

Medium Name:	R161
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	353-36-6
Fullname:	fluoroethane
Chemical Formula:	C2H5F
Synonym:	ethyl fluoride
Molar Mass:	0.0480595 kg/mol
Triple Temperature:	130.0 K
Normal Boiling Point:	235.6 K
critical Temperature:	375.25 K
critical Pressure:	5010000.0 Pa
critical Density:	301.81366 kg/m^3
Acentric Factor:	0.216
Dipole Moment:	1.9397
Default Reference State:	IIR
UNNumber:	2453
Family:	halocb
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function for R-161 of Wu and Zhou (2012).
Ideal Part Literature Reference:	see EOS
Ideal Part T_max:	3000.0 K
Real Part Name:	short Helmholtz equation of state for R-161 of Wu and Zhou (2012).
Real Part Literature Reference:	Wu, J. and Zhou, Y., "An Equation of State for Fluoroethane (R161)," Int. J. Thermophys. 33:220-234, 2012.
Real Part T_min:	130.0 K
Real Part T_max:	450.0 K
Real Part P_max:	5000000.0 Pa
Real Part Rhomax:	961.19 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).
Viscosity Name:	Extended Corresponding States model (nitrogen reference); no data available; predictive mode
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., Model for the viscosity and thermal conductivity of refrigerants, including a new correlation for the viscosity of R134a, Ind.Eng.Chem.Res. 42: 3163-3178 (2003).
Medium Name:	R218
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ

EOS Selected model:	FEQ
CASnumber:	76-19-7
Fullname:	octafluoropropane
Chemical Formula:	CF3CF2CF3
Synonym:	perfluoropropane
Molar Mass:	0.18801932999999998 kg/mol
Triple Temperature:	125.45 K
Normal Boiling Point:	236.36 K
critical Temperature:	345.02 K
critical Pressure:	2640000.0 Pa
critical Density:	627.9845621999999 kg/m^3
Acentric Factor:	0.3172
Dipole Moment:	0.14
Default Reference State:	IIR
UNNumber:	2424
Family:	halocb
Heating Value:	0.0
GWP:	8830.0
RCL:	90000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	125.45 K
Ideal Part T_max:	1500.0 K
Real Part Name:	short Helmholtz equation of state for R-218 of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	125.45 K
Real Part T_max:	440.0 K
Real Part P_max:	20000000.0 Pa
Real Part Rhomax:	2009.9266377 kg/m^3
Medium Name:	R22
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	75-45-6
Fullname:	Chlorodifluoromethane
Chemical Formula:	CHClF2
Synonym:	HCFC-22
Molar Mass:	0.086468 kg/mol
Triple Temperature:	115.73 K
Normal Boiling Point:	232.34 K
critical Temperature:	369.295 K

critical Pressure:	4990000.0 Pa
critical Density:	523.8421669600001 kg/m^3
Acentric Factor:	0.22082
Dipole Moment:	1.458
Default Reference State:	IIR
UNNumber:	1018
Family:	halocb
Heating Value:	0.0
GWP:	1810.0
ODP:	0.04
RCL:	59000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-22 of Kamei et al. (1995).
Ideal Part Literature Reference:	Kamei, A., Beyerlein, S.W., and Jacobsen, R.T, 1995.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-22 of Kamei et al. (1995).
Real Part Literature Reference:	Kamei, A., Beyerlein, S.W., and Jacobsen, R.T, "Application of Nonlinear Regression in the Development of a Wide Range Formulation for HCFC-22," Int. J. Thermophys., 16:1155-1164, 1995. doi: 10.1007/BF02081283
Real Part T_min:	115.73 K
Real Part T_max:	550.0 K
Real Part P_max:	60000000.0 Pa
Real Part Rhomax:	1721.57788 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrig., 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrig., 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-22.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrig., 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrig., 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Medium Name:	R227EA
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	431-89-0
Fullname:	1,1,1,2,3,3,3-heptafluoropropane
Chemical Formula:	CF3CHFCF3
Synonym:	HFC-227ea

Molar Mass:	0.17002886 kg/mol
Triple Temperature:	146.35 K
Normal Boiling Point:	256.81 K
critical Temperature:	374.9 K
critical Pressure:	2925000.0 Pa
critical Density:	594.2508657000001 kg/m^3
Acentric Factor:	0.357
Dipole Moment:	1.456
Default Reference State:	IIR
UNNumber:	3296
Family:	halocb
Heating Value:	0.0
GWP:	3220.0
RCL:	84000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function of McLinden and Lemmon (2013).
Ideal Part Literature Reference:	see EOS
Ideal Part T_min:	200.0 K
Ideal Part T_max:	1500.0 K
Real Part Name:	short Helmholtz equation of state for R-227ea of McLinden and Lemmon (2013).
Real Part Literature Reference:	McLinden, M.O. and Lemmon, E.W. Thermodynamic Properties of R-227ea, R-365mfc, R-115, and R-13I1 to be submitted to J. Chem. Eng. Data, 2013.
Real Part T_min:	146.35 K
Real Part T_max:	475.0 K
Real Part P_max:	60000000.0 Pa
Real Part Rhomax:	1878.8189030000003 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data.
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Medium Name:	R23
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	75-46-7
Fullname:	trifluoromethane
Chemical Formula:	CHF3
Synonym:	HFC-23
Molar Mass:	0.07001385 kg/mol

Triple Temperature:	118.02 K
Normal Boiling Point:	191.132 K
critical Temperature:	299.293 K
critical Pressure:	4832000.0 Pa
critical Density:	526.504152 kg/m^3
Acentric Factor:	0.263
Dipole Moment:	1.649
Default Reference State:	IIR
UNNumber:	1984
Family:	halocb
Heating Value:	0.0
GWP:	14800.0
RCL:	41000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function of Penoncello et al. (2003).
Ideal Part Literature Reference:	Penoncello, S.G., Lemmon, E.W., Jacobsen, R.T, Shan, Z., "A Fundamental Equation for Triflurormethane (R-23)," J. Phys. Chem. Ref. Data, 32(4):1473-1499, 2003.
Ideal Part T_min:	50.0 K
Ideal Part T_max:	3000.0 K
Real Part Name:	Helmholtz equation of state for R-23 of Penoncello et al. (2003).
Real Part Literature Reference:	Penoncello, S.G., Lemmon, E.W., Jacobsen, R.T, Shan, Z., "A Fundamental Equation for Triflurormethane (R-23)," J. Phys. Chem. Ref. Data, 32(4):1473-1499, 2003.
Real Part T_min:	118.02 K
Real Part T_max:	475.0 K
Real Part P_max:	120000000.0 Pa
Real Part Rhomax:	1702.0366935 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures," Int. J. Refrigeration, 20:208-217, 1997.
Medium Name:	R245FA
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	460-73-1
Fullname:	1,1,1,3,3-pentafluoropropane
Chemical Formula:	CF3CH2CHF2
Synonym:	HFC-245fa
Molar Mass:	0.13404794 kg/mol
Triple Temperature:	171.05 K
Normal Boiling Point:	288.29 K

critical Temperature:	427.16 K
critical Pressure:	3651000.0 Pa
critical Density:	516.0845690000001 kg/m^3
Acentric Factor:	0.3776
Dipole Moment:	1.549
Default Reference State:	IIR
Family:	halocb
Heating Value:	0.0
GWP:	1030.0
RCL:	34000.0
Safety Group:	B1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference) Coefficients fit to the heat capacity values derived from speed of sound data of J. Scott, NIST, 1999. These have been augmented with spectroscopic values from R. Singh, AlliedSignal, personal communication, 1999.
Ideal Part T_min:	50.0 K
Ideal Part T_max:	1000.0 K
Real Part Name:	short Helmholtz equation of state for R-245fa of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	171.05 K
Real Part T_max:	440.0 K
Real Part P_max:	200000000.0 Pa
Real Part Rhomax:	1648.7896620000001 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins et al. (2002).
Thermal Conductivity Literature Reference:	Unpublished (2006); however the fit uses functional form found in: Marsh, K., Perkins, R., and Ramires, M.L.V., "Measurement and Correlation of the Thermal Conductivity of Propane from 86 to 600 K at Pressures to 70 MPa," J. Chem. Eng. Data (2002)47(4):932-940.
Viscosity Name:	Extended Corresponding States model (propane reference); fitted to data.
Viscosity Literature Reference:	unpublished; but uses form found in Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Medium Name:	R32
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE2, FEQ
EOS Selected model:	FEQ
CASnumber:	75-10-5
Fullname:	difluoromethane
Chemical Formula:	CH2F2
Synonym:	HFC-32
Molar Mass:	0.052024 kg/mol
Triple Temperature:	136.34 K
Normal Boiling Point:	221.499 K
critical Temperature:	351.255 K

critical Pressure:	5782000.0 Pa
critical Density:	424.00000123039996 kg/m^3
Acentric Factor:	0.2769
Dipole Moment:	1.978
Default Reference State:	IIR
UNNumber:	3252
Family:	halocb
Heating Value:	0.0
GWP:	675.0
RCL:	36000.0
Safety Group:	A2
Ideal Part Name:	ideal gas heat capacity function of Tillner-Roth & Yokozeki (1997).
Ideal Part Literature Reference:	Tillner-Roth, R. and Yokozeki, A., "An international standard equation of state for difluoromethane (R-32) for temperatures from the triple point at 136.34 K to 435 K and pressures up to 70 MPa," J. Phys. Chem. Ref. Data, 26(6):1273-1328, 1997.
Ideal Part T_min:	136.34 K
Ideal Part T_max:	435.0 K
Real Part Name:	Helmholtz equation of state for R-32 of Tillner-Roth & Yokozeki (1997).
Real Part Literature Reference:	Tillner-Roth, R. and Yokozeki, A., "An international standard equation of state for difluoromethane (R-32) for temperatures from the triple point at 136.34 K to 435 K and pressures up to 70 MPa," J. Phys. Chem. Ref. Data, 26(6):1273-1328, 1997.
Real Part T_min:	136.34 K
Real Part T_max:	435.0 K
Real Part P_max:	70000000.0 Pa
Real Part Rhomax:	1429.2761616 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins, R.A. and Huber, M.L. (2005)unpublished.
Thermal Conductivity Literature Reference:	Unpublished; however the fit uses the functional form found in: Marsh, K., Perkins, R., and Ramires, M.L.V., "Measurement and Correlation of the Thermal Conductivity of Propane from 86 to 600 K at Pressures to 70 MPa," J. Chem. Eng. Data, 47(4):932-940, 2002.
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data.
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Industrial and Engineering Chemistry Research, 42:3163-3178, 2003.
Medium Name:	R365MFC
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	406-58-6
Fullname:	1,1,1,3,3-pentafluorobutane
Chemical Formula:	CF3CH2CF2CH3
Synonym:	HFC-365mfc
Molar Mass:	0.14807452000000002 kg/mol
Triple Temperature:	239.0 K
Normal Boiling Point:	313.3 K

critical Temperature:	460.0 K
critical Pressure:	3266000.0 Pa
critical Density:	473.83846400000004 kg/m^3
Acentric Factor:	0.377
Dipole Moment:	3.807
Default Reference State:	IIR
Family:	halocb
Heating Value:	0.0
GWP:	794.0
Ideal Part Name:	ideal gas heat capacity function of McLinden and Lemmon (2013).
Ideal Part Literature Reference:	see EOS
Ideal Part T_min:	200.0 K
Ideal Part T_max:	1500.0 K
Real Part Name:	Helmholtz equation of state for R-365mfc of McLinden and Lemmon (2013).
Real Part Literature Reference:	McLinden, M.O. and Lemmon, E.W. Thermodynamic Properties of R-227ea, R-365mfc, R-115, and R-13I1 to be submitted to J. Chem. Eng. Data, 2013.
Real Part T_min:	239.0 K
Real Part T_max:	500.0 K
Real Part P_max:	35000000.0 Pa
Real Part Rhomax:	1377.0930360000002 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (R134a reference); fit to limited data.
Viscosity Literature Reference:	Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	R404APPF
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
Fullname:	44% R125/4% R134a/52% R143a
Chemical Formula:	R404A
Synonym:	R404A
Molar Mass:	0.0976038 kg/mol
Triple Temperature:	200.0 K
Normal Boiling Point:	226.93 K
critical Temperature:	345.27 K
critical Pressure:	3734800.0 Pa
critical Density:	482.1627720000001 kg/m^3
Acentric Factor:	0.293
Default Reference State:	IIR

Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W., (see EOS)
Ideal Part T_min:	100.0 K
Ideal Part T_max:	1000.0 K
Real Part Name:	Helmholtz equation of state for R-404A of Lemmon (2003).
Real Part Literature Reference:	Lemmon, E.W., "Pseudo Pure-Fluid Equations of State for the Refrigerant Blends R-410A, R-404A, R-507A, and R-407C," Int. J. Thermophys., 24(4):991-1006, 2003.
Real Part T_min:	200.0 K
Real Part T_max:	500.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	1386.9499980000003 kg/m^3
Medium Name:	R407CPPF
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
Fullname:	23% R32/25% R125/52% R134a
Chemical Formula:	R407C
Synonym:	R407C
Molar Mass:	0.08620359999999999 kg/mol
Triple Temperature:	200.0 K
Normal Boiling Point:	229.52 K
critical Temperature:	359.345 K
critical Pressure:	4631700.0 Pa
critical Density:	453.430936 kg/m^3
Acentric Factor:	0.363
Default Reference State:	IIR
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W., (see EOS)
Ideal Part T_min:	100.0 K
Ideal Part T_max:	1000.0 K
Real Part Name:	Helmholtz equation of state for R-407C of Lemmon (2003).
Real Part Literature Reference:	Lemmon, E.W., "Pseudo Pure-Fluid Equations of State for the Refrigerant Blends R-410A, R-404A, R-507A, and R-407C," Int. J. Thermophys., 24(4):991-1006, 2003.
Real Part T_min:	200.0 K
Real Part T_max:	500.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	1468.909344 kg/m^3
Medium Name:	R410APPF
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1

Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
Fullname:	50% R32/50% R125
Chemical Formula:	R410A
Synonym:	R410A
Molar Mass:	0.07258540000000001 kg/mol
Triple Temperature:	200.0 K
Normal Boiling Point:	221.71 K
critical Temperature:	344.494 K
critical Pressure:	4901200.0 Pa
critical Density:	459.03006960000005 kg/m^3
Acentric Factor:	0.296
Default Reference State:	IIR
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W., (see EOS)
Ideal Part T_min:	100.0 K
Ideal Part T_max:	1000.0 K
Real Part Name:	Helmholtz equation of state for R-410A of Lemmon (2003).
Real Part Literature Reference:	Lemmon, E.W., "Pseudo Pure-Fluid Equations of State for the Refrigerant Blends R-410A, R-404A, R-507A, and R-407C," Int. J. Thermophys., 24(4):991-1006, 2003.
Real Part T_min:	200.0 K
Real Part T_max:	500.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	1416.1411540000001 kg/m^3
Medium Name:	R507APPF
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
Fullname:	50% R125/50% R143a
Chemical Formula:	R507A
Synonym:	R507A
Molar Mass:	0.09885920000000001 kg/mol
Triple Temperature:	200.0 K
Normal Boiling Point:	226.41 K
critical Temperature:	343.765 K
critical Pressure:	3704900.0 Pa
critical Density:	490.73706880000003 kg/m^3
Acentric Factor:	0.286
Default Reference State:	IIR

Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W., (see EOS)
Ideal Part T_min:	100.0 K
Ideal Part T_max:	1000.0 K
Real Part Name:	Helmholtz equation of state for R-507A of Lemmon (2003).
Real Part Literature Reference:	Lemmon, E.W., "Pseudo Pure-Fluid Equations of State for the Refrigerant Blends R-410A, R-404A, R-507A, and R-407C," Int. J. Thermophys., 24(4):991-1006, 2003.
Real Part T_min:	200.0 K
Real Part T_max:	500.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	1396.880496 kg/m^3
Medium Name:	RC318
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	115-25-3
Fullname:	octafluorocyclobutane
Chemical Formula:	cyclo-C4F8
Synonym:	FC-C318
Molar Mass:	0.20003120000000002 kg/mol
Triple Temperature:	233.35 K
Normal Boiling Point:	267.175 K
critical Temperature:	388.38 K
critical Pressure:	2777500.0 Pa
critical Density:	619.972700656 kg/m^3
Acentric Factor:	0.3553
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	1976
Family:	halocb
Heating Value:	0.0
GWP:	10300.0
RCL:	80000.0
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Platzer, B., Polt, A., and Maurer, G., "Thermophysical properties of refrigerants," Berlin, Springer-Verlag, 1990.
Ideal Part T_min:	233.35 K
Ideal Part T_max:	623.0 K
Real Part Name:	Helmholtz equation of state for R-C318 of Platzer et al. (1990).
Real Part Literature Reference:	Platzer, B., Polt, A., and Maurer, G., "Thermophysical properties of refrigerants," Berlin, Springer-Verlag, 1990.
Real Part T_min:	233.35 K
Real Part T_max:	623.0 K

Real Part P_max:	60000000.0 Pa
Real Part Rhomax:	1729.3097302400004 kg/m^3
Medium Name:	SES36
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
Molar Mass:	0.18485 kg/mol
Triple Temperature:	200.0 K
critical Temperature:	450.7 K
critical Pressure:	2849000.0 Pa
critical Density:	517.5799999999999 kg/m^3
Acentric Factor:	0.352
Default Reference State:	IIR
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	M. Thol (2012)
Ideal Part T_min:	100.0 K
Ideal Part T_max:	1000.0 K
Real Part Name:	PPF by M. Thol unpublished (2012)
Real Part Literature Reference:	M. Thol (2012)
Real Part T_min:	200.0 K
Real Part T_max:	725.0 K
Real Part P_max:	50000000.0 Pa
Real Part Rhomax:	3149.8439999999996 kg/m^3
Medium Name:	SULFURHEXAFLUORIDE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ, FES
EOS Selected model:	FEQ
CASnumber:	2551-62-4
Fullname:	sulfur hexafluoride
Chemical Formula:	SF6
Synonym:	sulfur fluoride
Molar Mass:	0.14605541919999998 kg/mol
Triple Temperature:	223.555 K
Normal Boiling Point:	204.9 K
critical Temperature:	318.7232 K
critical Pressure:	3754983.0 Pa
critical Density:	742.29745700016 kg/m^3
Acentric Factor:	0.21

Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	1080
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function of Guder and Wagner (2009).
Ideal Part Literature Reference:	Guder, C. and Wagner, W. "A Reference Equation of State for the Thermodynamic Properties of Sulfur Hexafluoride (SF6) for Temperatures from the Melting Line to 625 K and Pressures up to 150 MPa," J. Phys. Chem. Ref. Data, 38(1):33-94, 2009.
Ideal Part T_max:	6000.0 K
Real Part Name:	Helmholtz equation of state for sulfur hexafluoride of Guder and Wagner (2009).
Real Part Literature Reference:	Guder, C. and Wagner, W. "A Reference Equation of State for the Thermodynamic Properties of Sulfur Hexafluoride (SF6) for Temperatures from the Melting Line to 625 K and Pressures up to 150 MPa," J. Phys. Chem. Ref. Data, 38(1):33-94, 2009.
Real Part T_min:	223.555 K
Real Part T_max:	625.0 K
Real Part P_max:	150000000.0 Pa
Real Part Rhomax:	2117.8035784 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Assael et al. (2012).
Thermal Conductivity Literature Reference:	M. J. Assael, I. A. Koini, K. D. Antoniadis, M. L. Huber, I. M. Abdulagatov, R. A. Perkins "Reference Correlation of the Thermal Conductivity of Sulfur Hexafluoride from the Triple Point to 1000 K and up to 150 MPa ", Journal of Physical and Chemical Reference Data, Vol. 41, No.2, 023104-1:9 (2012). The overall uncertainty is estimated, for pressures less than 150 MPa and temperatures less than 1000 K, to be less than 4%.
Viscosity Name:	Extended Corresponding States model (Propane reference); predictive mode.
Viscosity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	TOLUENE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	108-88-3
Fullname:	methylbenzene
Chemical Formula:	CH3-C6H5
Synonym:	toluene
Molar Mass:	0.09213842 kg/mol
Triple Temperature:	178.0 K
Normal Boiling Point:	383.75 K
critical Temperature:	591.75 K
critical Pressure:	4126300.0 Pa
critical Density:	291.98665298 kg/m^3
Acentric Factor:	0.2657

Dipole Moment:	0.36
Default Reference State:	NBP
UNNumber:	1294
Family:	aromatic
Heating Value:	0.0
GWP:	2.7
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	50.0 K
Ideal Part T_max:	1500.0 K
Real Part Name:	short Helmholtz equation of state for toluene of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	178.0 K
Real Part T_max:	700.0 K
Real Part P_max:	500000000.0 Pa
Real Part Rhomax:	974.9166220199999 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Assael et al. (2012).
Thermal Conductivity Literature Reference:	Assael, M.J., Mylona, S.K., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of Toluene from the Triple Point to 1000 K and up to 1000 MPa", J. Phys. Chem. Ref. Data 41, 023101 (2012). The uncertainty is estimated, for pressures less than 700 MPa and temperatures less than 550 K, to be less than 3% for the liquid, while for the region 550 K = T = 700 K the uncertainty is estimated to be 4%. For the region T > 700 K and 500 MPa = p = 1000 MPa, the equations can safely be used with an uncertainty of the order of 10%. Finally, the uncertainty along the saturation line is estimated to be 2%.
Viscosity Name:	pure fluid viscosity model of Lemmon (2010).
Viscosity Literature Reference:	Lemmon, E.W. and Laesecke, A., 2010. Unpublished preliminary equation for the viscosity of toluene. This equation should not be used for calibration purposes.
Medium Name:	USER_R1234ZEE
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	29118-24-9
Fullname:	trans-1,3,3,3-tetrafluoropropene
Chemical Formula:	CHF=CHCF3 (trans)
Synonym:	HFO-1234ze(E)
Molar Mass:	0.1140416 kg/mol
Triple Temperature:	168.62 K
Normal Boiling Point:	254.177 K
critical Temperature:	382.52009999999996 K
critical Pressure:	3634900.0 Pa
critical Density:	489.238464 kg/m^3
Acentric Factor:	0.313
Dipole Moment:	1.27

Default Reference State:	IIR
Family:	halocb
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function for R1234ze of Thol and Lemmon (2013).
Ideal Part Literature Reference:	see EOS for reference
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5000.0 K
Real Part Name:	Helmholtz equation of state for R1234ze of Thol and Lemmon (2013).
Real Part Literature Reference:	Thol, M. and Lemmon, E.W. to be published in Int. J. Thermophys., 2013.
Real Part T_min:	168.62 K
Real Part T_max:	420.0 K
Real Part P_max:	20000000.0 Pa
Real Part Rhomax:	1512.191616 kg/m^3
Thermal Conductivity Name:	pure fluid thermal conductivity model of Perkins, R.A. and Huber, M.L. (2011).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of 2,3,3,3-tetrafluoroprop-1-ene (R1234yf) and trans-1,3,3,3-tetrafluoropeopene (R1234ze)" J. Chem. Eng. Data 2011, 56(12), pp. 4868-4874
Viscosity Name:	Extended Corresponding States model (R134a reference).
Viscosity Literature Reference:	*** ESTIMATION METHOD ONLY --- NOT STANDARD REFERENCE QUALITY--- ***Limited or no experimental data were available for analysis*** Estimated uncertainty for liquid viscosity is 3 % based on comparisons with Grebenkov, A.J., Hulse, R., Pham, H. and Singh, R., "Physical Properties and Equation of State for trans-1,3,3,3-tetrafluoropropene" paper presented at 3rd IIR Conference on Thermophysical Properties and Transfer Processes of Refrigerants, Boulder CO June 2009 No data for thermal conductivity was found. Based on family comparisons, the estimated uncertainty for ECS estimation model is 20% Values estimated following the method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	WATER
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	7732-18-5
Fullname:	water
Chemical Formula:	H2O
Synonym:	R-718
Molar Mass:	0.018015267999999997 kg/mol
Triple Temperature:	273.16 K
Normal Boiling Point:	373.1243 K
critical Temperature:	647.096 K
critical Pressure:	22064000.0 Pa
critical Density:	321.9999999998368 kg/m^3
Acentric Factor:	0.3443
Dipole Moment:	1.855

Default Reference State:	Undefined
Family:	other
Heating Value:	792.960036288
Safety Group:	A1
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Wagner, W. and Pruss, A., "The IAPWS Formulation 1995 for the Thermodynamic Properties of Ordinary Water Substance for General and Scientific Use," J. Phys. Chem. Ref. Data, 31(2):387-535, 2002.
Ideal Part T_min:	273.16 K
Ideal Part T_max:	2000.0 K
Real Part Name:	Helmholtz equation of state for water of Wagner and Pruss (2002).
Real Part Literature Reference:	Wagner, W. and Pruss, A., "The IAPWS Formulation 1995 for the Thermodynamic Properties of Ordinary Water Substance for General and Scientific Use," J. Phys. Chem. Ref. Data, 31(2):387-535, 2002.
Real Part T_min:	273.16 K
Real Part T_max:	2000.0 K
Real Part P_max:	1000000000.0 Pa
Real Part Rhomax:	1332.4092212799999 kg/m^3
Thermal Conductivity Name:	TC0 pure fluid thermal conductivity model of Huber et al. (2011).
Thermal Conductivity Literature Reference:	International Association for the Properties of Water and Steam, "Release on the IAPWS Formulation 2011 for the thermal conductivity of Ordinary Water Substance" Sept. 2011, Plzen, Czech Republic. M. L. Huber, R. A. Perkins, D. G. Friend, J. V. Sengers M. J. Assael, I. N. Metaxa, K. Miyagawa, R. Hellmann and E. Vogel, "New International Formulation for the Thermal Conductivity of H2O", J. Phys. Chem. Ref. Data Vol.41, No.3 (2012) pp. 1-23. [http://dx.doi.org/10.1063/1.4738955]For the uncertainties, see the IAPWS Release or publication cited above.
Viscosity Name:	VS0 pure fluid viscosity model of Huber et al. (2009).
Viscosity Literature Reference:	International Association for the Properties of Water and Steam, "Release on the IAPWS Formulation 2008 for the Viscosity of Ordinary Water Substance" Sept. 2008, Berlin. "New International Formulation for the viscosity of water" Huber, M.L., Perkins, R.A., Laesecke, A., Friend, D.G., Sengers, J.V., Assael, M.J., Metaxa, I.M., Vogel, E., Mares, R. and Miyagawa, K. J. Phys. Chem. Ref. Data, Vol. 38, No. 2 (2009) pp. 101-125.For the uncertainties, see the IAPWS Release or the publication cited above. NOTE: To use in faster 'industrial' mode, change critical model at end of this VS0 block to NUL instead of I08
Medium Name:	XENON
Library Name:	TILMedia Helmholtz Equation Of State Model 3.0.1
Library Literature Reference:	unpublished
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ
EOS Selected model:	FEQ
CASnumber:	7440-63-3
Fullname:	xenon
Chemical Formula:	Xe
Molar Mass:	0.131293 kg/mol
Triple Temperature:	161.405 K
Normal Boiling Point:	165.05 K
critical Temperature:	289.733 K
critical Pressure:	5842000.0 Pa
critical Density:	1102.8612 kg/m^3

Acentric Factor:	0.00363
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	2036
Family:	other
Heating Value:	0.0
Ideal Part Name:	ideal gas heat capacity function
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R. (see eos for reference)
Ideal Part T_min:	161.405 K
Ideal Part T_max:	800.0 K
Real Part Name:	short Helmholtz equation of state for xenon of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51:785-850, 2006.
Real Part T_min:	161.405 K
Real Part T_max:	750.0 K
Real Part P_max:	700000000.0 Pa
Real Part Rhomax:	3778.6125400000005 kg/m^3
Thermal Conductivity Name:	extended corresponding states (all fluids)
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 10% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode.
Viscosity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- estimated uncertainty 10% Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003.
Medium Name:	CO2
Library Name:	TILMedia Curve Array Model v2.0.2
Library Literature Reference:	Schulze, C. 2014, Section 2.3, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau
EOS Type:	Interpolation based method
Molar Mass:	0.0440098 kg/mol
Triple Temperature:	216.594999999285 K
critical Temperature:	304.128209661834 K
critical Pressure:	7377300.0 Pa
Real Part Name:	Interpolation based on a curve array
Real Part Literature Reference:	Schulze, C. 2014, Section 2.3.4, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau
Real Part Precision Comment:	Fit region: p_min = 518032, p_steps = 160, p_max = 2e+07, h_min = 80000, h_max = 700000. The minimum specific enthalpy is dependent on the pressure, h_min is only reached at p_min. Interpolated data was calculated with the default models of Refprop 9.
Medium Name:	R1234YF
Library Name:	TILMedia Curve Array Model v2.0.2
Library Literature Reference:	Schulze, C. 2014, Section 2.3, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau

EOS Type:	Interpolation based method
Molar Mass:	0.1140415928 kg/mol
Triple Temperature:	219.999999999941 K
critical Temperature:	367.85 K
critical Pressure:	3382200.0 Pa
Real Part Name:	Interpolation based on a curve array
Real Part Literature Reference:	Schulze, C. 2014, Section 2.3.4, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau
Real Part Precision Comment:	Fit region: p_min = 31507.6, p_steps = 70, p_max = 9.1822e+06, h_min = -27000, h_max = 585000. The minimum specific enthalpy is dependent on the pressure, h_min is only reached at p_min. Interpolated data was calculated with the default models of Refprop 9.
Medium Name:	R134A
Library Name:	TILMedia Curve Array Model v2.0.2
Library Literature Reference:	Schulze, C. 2014, Section 2.3, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau
EOS Type:	Interpolation based method
Molar Mass:	0.102032 kg/mol
Triple Temperature:	169.851 K
critical Temperature:	374.21 K
critical Pressure:	4059280.0 Pa
Real Part Name:	Interpolation based on a curve array
Real Part Literature Reference:	Schulze, C. 2014, Section 2.3.4, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau
Real Part Precision Comment:	Fit region: p_min = 389.607, p_steps = 70, p_max = 9.85928e+06, h_min = 50000, h_max = 850000. The minimum specific enthalpy is dependent on the pressure, h_min is only reached at p_min. Interpolated data was calculated with the default models of Refprop 9.
Medium Name:	R407C
Library Name:	TILMedia Curve Array Model v2.0.2
Library Literature Reference:	Schulze, C. 2014, Section 2.3, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau
EOS Type:	Interpolation based method
Molar Mass:	0.0862036 kg/mol
Triple Temperature:	236.987063444202 K
critical Temperature:	359.248920804879 K
critical Pressure:	4642902.1181847 Pa
Real Part Name:	Interpolation based on a curve array
Real Part Literature Reference:	Schulze, C. 2014, Section 2.3.4, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau
Real Part Precision Comment:	Fit region: p_min = 103664, p_steps = 136, p_max = 8.9144e+06, h_min = 105000, h_max = 700000. The minimum specific enthalpy is dependent on the pressure, h_min is only reached at p_min. Interpolated data was calculated with the default models of Refprop 9.
Medium Name:	R410A
Library Name:	TILMedia Curve Array Model v2.0.2
Library Literature Reference:	Schulze, C. 2014, Section 2.3, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau

EOS Type:	Interpolation based method
Molar Mass:	0.0725854 kg/mol
Triple Temperature:	200.079911164109 K
critical Temperature:	344.494 K
critical Pressure:	4901200.0 Pa
Real Part Name:	Interpolation based on a curve array
Real Part Literature Reference:	Schulze, C. 2014, Section 2.3.4, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau
Real Part Precision Comment:	Fit region: p_min = 29160.3, p_steps = 73, p_max = 7.86943e+06, h_min = 100000, h_max = 650000. The minimum specific enthalpy is dependent on the pressure, h_min is only reached at p_min. Interpolated data was calculated with the default models of Refprop 9.
Medium Name:	WATER
Library Name:	TILMedia Curve Array Model v2.0.2
Library Literature Reference:	Schulze, C. 2014, Section 2.3, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau
EOS Type:	Interpolation based method
Molar Mass:	0.018015268 kg/mol
Triple Temperature:	273.160000004362 K
critical Temperature:	647.096 K
critical Pressure:	22064000.0 Pa
Real Part Name:	Interpolation based on a curve array
Real Part Literature Reference:	Schulze, C. 2014, Section 2.3.4, 'A Contribution to Numerically Efficient Modelling of Thermodynamic Systems', PhD thesis, Technische Universität Braunschweig, Fakultät für Maschinenbau
Real Part Precision Comment:	Fit region: p_min = 611.655, p_steps = 160, p_max = 3.4649e+07, h_min = 0, h_max = 4e+06. The minimum specific enthalpy is dependent on the pressure, h_min is only reached at p_min. Interpolated data was calculated with the default models of Refprop 9.
Medium Name:	AMMONIA
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Medium Name:	ARGON
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Medium Name:	CARBON_DIOXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0

Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Medium Name:	CARBON_MONOXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Medium Name:	DRYAIR
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Medium Name:	HYDROGEN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Medium Name:	METHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Medium Name:	NITROGEN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW

EOS Selected model:	PR
Medium Name:	NITROUS_OXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Medium Name:	OXYGEN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Medium Name:	SULFUR_DIOXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Medium Name:	WATER
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR

4.2 VDIWA VLEFluids

Tabelle 9: VDIWA-VLEFluidnames

Medium Name:	1,1,1-TRICHLOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished

EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H3Cl3
Molar Mass:	0.13341 kg/mol
Normal Boiling Point:	347.35 K
critical Temperature:	545.0 K
critical Pressure:	4300000.0 Pa
Acentric Factor:	0.217
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3875.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3875.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,1,1-TRIFLUOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H3F3
Molar Mass:	0.08404 kg/mol
Triple Temperature:	161.34 K
Normal Boiling Point:	225.85 K
critical Temperature:	346.3 K
critical Pressure:	3760000.0 Pa
Acentric Factor:	0.256
Ideal Part Name:	ideal gas heat capacity

Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3621.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3621.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,1,2,2-TETRACHLORODIFLUOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2Cl4F2
Molar Mass:	0.20383 kg/mol
Normal Boiling Point:	366.15 K
critical Temperature:	551.0 K
critical Pressure:	3430000.0 Pa
Acentric Factor:	0.29
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	2588.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	2588.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity

Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,1,2,2-TETRACHLOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H2Cl4
Molar Mass:	0.16785 kg/mol
Normal Boiling Point:	418.45 K
critical Temperature:	645.0 K
critical Pressure:	4090000.0 Pa
Acentric Factor:	0.246
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4031.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4031.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)

EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2Cl3F3
Molar Mass:	0.18738 kg/mol
Triple Temperature:	236.93 K
Normal Boiling Point:	320.65 K
critical Temperature:	487.3 K
critical Pressure:	3410000.0 Pa
Acentric Factor:	0.252
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3800.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3800.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,1-DICHLOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H4Cl2
Molar Mass:	0.09895999999999999 kg/mol
Normal Boiling Point:	330.25 K
critical Temperature:	523.0 K
critical Pressure:	5070000.0 Pa
Acentric Factor:	0.233
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Ideal Part T_min:	2.0 K
Ideal Part T_max:	4185.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4185.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,1-DICHLOROETHENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H2Cl2
Molar Mass:	0.09694 kg/mol
Normal Boiling Point:	304.75 K
critical Temperature:	482.1 K
critical Pressure:	5190000.0 Pa
Acentric Factor:	0.272
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4093.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4093.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,2,3,4-TETRAMETHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C10H14
Molar Mass:	0.13422 kg/mol
Normal Boiling Point:	478.15 K
critical Temperature:	693.0 K
critical Pressure:	3110000.0 Pa
Acentric Factor:	0.417
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5740.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5740.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,2,3,5-TETRAMETHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW

EOS Selected model:	PR
Chemical Formula:	C10H14
Molar Mass:	0.13422 kg/mol
Normal Boiling Point:	471.25 K
critical Temperature:	679.0 K
critical Pressure:	2970000.0 Pa
Acentric Factor:	0.424
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5416.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5416.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,2,3-TRIMETHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C9H12
Molar Mass:	0.1202 kg/mol
Normal Boiling Point:	449.25 K
critical Temperature:	664.5 K
critical Pressure:	3450000.0 Pa
Acentric Factor:	0.367
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5914.0 K

Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5914.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,2,4,5-TETRAMETHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C10H14
Molar Mass:	0.13422 kg/mol
Normal Boiling Point:	469.85 K
critical Temperature:	676.0 K
critical Pressure:	2900000.0 Pa
Acentric Factor:	0.422
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1865.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1865.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented

Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,2,4-TRIMETHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C9H12
Molar Mass:	0.1202 kg/mol
Normal Boiling Point:	442.65 K
critical Temperature:	649.0 K
critical Pressure:	3230000.0 Pa
Acentric Factor:	0.378
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	2060.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	2060.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,2-BUTADIENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR

Chemical Formula:	C4H6
Molar Mass:	0.054090000000000006 kg/mol
Normal Boiling Point:	284.05 K
critical Temperature:	452.0 K
critical Pressure:	4360000.0 Pa
Acentric Factor:	0.166
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4500.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4500.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,2-DIBROMOETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H4Br2
Molar Mass:	0.18787 kg/mol
Normal Boiling Point:	404.35 K
critical Temperature:	650.2 K
critical Pressure:	5480000.0 Pa
Acentric Factor:	0.207
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4571.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4571.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2Cl2F4
Molar Mass:	0.17092 kg/mol
Triple Temperature:	180.63 K
Normal Boiling Point:	276.75 K
critical Temperature:	418.9 K
critical Pressure:	3260000.0 Pa
Acentric Factor:	0.252
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3555.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3555.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,2-DICHLOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H4Cl2
Molar Mass:	0.09895999999999999 kg/mol
Normal Boiling Point:	356.85 K
critical Temperature:	566.0 K
critical Pressure:	5360000.0 Pa
Acentric Factor:	0.25
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4476.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4476.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,2-PENTADIENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H8

Molar Mass:	0.06812 kg/mol
Normal Boiling Point:	317.95 K
critical Temperature:	500.0 K
critical Pressure:	3800000.0 Pa
Acentric Factor:	0.154
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5491.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5491.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,3,5-TRIMETHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C9H12
Molar Mass:	0.1202 kg/mol
Normal Boiling Point:	437.85 K
critical Temperature:	637.3 K
critical Pressure:	3130000.0 Pa
Acentric Factor:	0.399
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	26.0 K
Ideal Part T_max:	4787.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	26.0 K
Real Part T_max:	4787.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,3-BUTADIENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H6
Molar Mass:	0.054090000000000006 kg/mol
Normal Boiling Point:	268.75 K
critical Temperature:	425.1 K
critical Pressure:	4280000.0 Pa
Acentric Factor:	0.189
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	15.0 K
Ideal Part T_max:	3836.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	15.0 K
Real Part T_max:	3836.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,3-PENTADIENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H8
Molar Mass:	0.06812 kg/mol
Normal Boiling Point:	315.15 K
critical Temperature:	500.1 K
critical Pressure:	3740000.0 Pa
Acentric Factor:	0.116
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5275.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5275.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,3-PROPYLENGLYCOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H8O2
Molar Mass:	0.0761 kg/mol

Normal Boiling Point:	487.25 K
critical Temperature:	724.0 K
critical Pressure:	9500000.0 Pa
Acentric Factor:	0.738
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3714.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3714.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,4-DIOXANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H8O2
Molar Mass:	0.08811 kg/mol
Normal Boiling Point:	374.55 K
critical Temperature:	587.0 K
critical Pressure:	5210000.0 Pa
Acentric Factor:	0.279
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	72.0 K
Ideal Part T_max:	4343.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	72.0 K
Real Part T_max:	4343.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1,4-PENTADIENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H8
Molar Mass:	0.06811 kg/mol
Normal Boiling Point:	299.05 K
critical Temperature:	479.0 K
critical Pressure:	3740000.0 Pa
Acentric Factor:	0.084
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4150.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4150.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-BUTENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H8
Molar Mass:	0.05611 kg/mol
Triple Temperature:	87.8 K
Normal Boiling Point:	266.85 K
critical Temperature:	419.9 K
critical Pressure:	4040000.0 Pa
Acentric Factor:	0.189
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1940.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1940.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-CHLOROBUTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H9Cl

Molar Mass:	0.09257 kg/mol
Normal Boiling Point:	351.65 K
critical Temperature:	542.0 K
critical Pressure:	3680000.0 Pa
Acentric Factor:	0.226
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4891.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4891.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-CHLOROPENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H11Cl
Molar Mass:	0.1066 kg/mol
Normal Boiling Point:	380.75 K
critical Temperature:	568.0 K
critical Pressure:	3350000.0 Pa
Acentric Factor:	0.318
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4401.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4401.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-CHLOROPROPANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H7Cl
Molar Mass:	0.07854000000000001 kg/mol
Normal Boiling Point:	319.75 K
critical Temperature:	503.1 K
critical Pressure:	4580000.0 Pa
Acentric Factor:	0.227
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5581.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5581.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-ETHYLNAPHTHALENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C12H12
Molar Mass:	0.15622999999999998 kg/mol
Normal Boiling Point:	531.35 K
critical Temperature:	776.0 K
critical Pressure:	3320000.0 Pa
Acentric Factor:	0.407
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	57.0 K
Ideal Part T_max:	4045.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	57.0 K
Real Part T_max:	4045.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-HEPTENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H14
Molar Mass:	0.09819 kg/mol

Normal Boiling Point:	373.95 K
critical Temperature:	572.1 K
critical Pressure:	3470000.0 Pa
Acentric Factor:	0.236
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	77.0 K
Ideal Part T_max:	4661.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	77.0 K
Real Part T_max:	4661.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-HEXENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H12
Molar Mass:	0.08416 kg/mol
Normal Boiling Point:	336.65 K
critical Temperature:	504.1 K
critical Pressure:	3140000.0 Pa
Acentric Factor:	0.28
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	14.0 K
Ideal Part T_max:	4250.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	14.0 K
Real Part T_max:	4250.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-METHYLNAPHTHALENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C11H10
Molar Mass:	0.1422 kg/mol
Normal Boiling Point:	517.45 K
critical Temperature:	772.0 K
critical Pressure:	3600000.0 Pa
Acentric Factor:	0.342
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	133.0 K
Ideal Part T_max:	1963.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	133.0 K
Real Part T_max:	1963.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-OCTENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H16
Molar Mass:	0.11222 kg/mol
Normal Boiling Point:	394.45 K
critical Temperature:	567.0 K
critical Pressure:	2680000.0 Pa
Acentric Factor:	0.392
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	21.0 K
Ideal Part T_max:	4219.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	21.0 K
Real Part T_max:	4219.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-PENTENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H10
Molar Mass:	0.07014 kg/mol

Normal Boiling Point:	303.15 K
critical Temperature:	464.8 K
critical Pressure:	3560000.0 Pa
Acentric Factor:	0.237
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	2019.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	2019.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	1-PHENYLETHANONE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H8O
Molar Mass:	0.12015 kg/mol
Normal Boiling Point:	475.55 K
critical Temperature:	709.5 K
critical Pressure:	3840000.0 Pa
Acentric Factor:	0.364
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	74.0 K
Ideal Part T_max:	4494.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	74.0 K
Real Part T_max:	4494.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2,2-DIMETHYLBUTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H14
Molar Mass:	0.08618 kg/mol
Normal Boiling Point:	322.85 K
critical Temperature:	489.0 K
critical Pressure:	3100000.0 Pa
Acentric Factor:	0.234
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5815.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5815.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2,2-DIMETHYLPROPANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H12
Molar Mass:	0.07215 kg/mol
Triple Temperature:	256.6 K
Normal Boiling Point:	282.65 K
critical Temperature:	433.8 K
critical Pressure:	3200000.0 Pa
Acentric Factor:	0.196
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	22.0 K
Ideal Part T_max:	4290.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	22.0 K
Real Part T_max:	4290.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2,3-DIMETHYLBUTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H14

Molar Mass:	0.08618 kg/mol
Normal Boiling Point:	331.05 K
critical Temperature:	500.0 K
critical Pressure:	3150000.0 Pa
Acentric Factor:	0.249
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	31.0 K
Ideal Part T_max:	4309.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	31.0 K
Real Part T_max:	4309.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2,3-PENTADIENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H8
Molar Mass:	0.06811 kg/mol
Normal Boiling Point:	321.45 K
critical Temperature:	497.0 K
critical Pressure:	3800000.0 Pa
Acentric Factor:	0.218
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1910.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1910.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2,4,6-TRIMETHYL-1,3,5-TRIOXANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H12O3
Molar Mass:	0.13216 kg/mol
Normal Boiling Point:	397.25 K
critical Temperature:	579.0 K
critical Pressure:	3500000.0 Pa
Acentric Factor:	0.437
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	126.0 K
Ideal Part T_max:	2999.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	126.0 K
Real Part T_max:	2999.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2-ETHYLNAPHTHALENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C12H12
Molar Mass:	0.15622999999999998 kg/mol
Normal Boiling Point:	531.45 K
critical Temperature:	771.0 K
critical Pressure:	3170000.0 Pa
Acentric Factor:	0.421
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	51.0 K
Ideal Part T_max:	4108.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	51.0 K
Real Part T_max:	4108.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2-HYDROXYBENZALDEHYDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H6O2
Molar Mass:	0.12212 kg/mol

Normal Boiling Point:	469.35 K
critical Temperature:	680.0 K
critical Pressure:	4990000.0 Pa
Acentric Factor:	0.619
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	40.0 K
Ideal Part T_max:	4077.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	40.0 K
Real Part T_max:	4077.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2-METHYLBUTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H12
Molar Mass:	0.07215 kg/mol
Triple Temperature:	112.65 K
Normal Boiling Point:	300.95 K
critical Temperature:	460.4 K
critical Pressure:	3390000.0 Pa
Acentric Factor:	0.229
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5523.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5523.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2-METHYLNAPHTHALENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C11H10
Molar Mass:	0.1422 kg/mol
Normal Boiling Point:	514.75 K
critical Temperature:	761.0 K
critical Pressure:	3500000.0 Pa
Acentric Factor:	0.378
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	59.0 K
Ideal Part T_max:	4075.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	59.0 K
Real Part T_max:	4075.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2-METHYLPENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H14
Molar Mass:	0.08618 kg/mol
Triple Temperature:	119.6 K
Normal Boiling Point:	333.35 K
critical Temperature:	497.6 K
critical Pressure:	3010000.0 Pa
Acentric Factor:	0.277
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	7.0 K
Ideal Part T_max:	4784.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	7.0 K
Real Part T_max:	4784.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2-METHYLPROPAN-1-OL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H10O

Molar Mass:	0.07412 kg/mol
Normal Boiling Point:	380.75 K
critical Temperature:	547.8 K
critical Pressure:	4300000.0 Pa
Acentric Factor:	0.589
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4759.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4759.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	2-METHYLPROPANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H10
Molar Mass:	0.05812 kg/mol
Triple Temperature:	113.73 K
Normal Boiling Point:	261.25 K
critical Temperature:	407.8 K
critical Pressure:	3640000.0 Pa
Acentric Factor:	0.184
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	301.0 K
Ideal Part T_max:	1550.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	301.0 K
Real Part T_max:	1550.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	3-METHYLPENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H14
Molar Mass:	0.08618 kg/mol
Normal Boiling Point:	336.35 K
critical Temperature:	504.6 K
critical Pressure:	3120000.0 Pa
Acentric Factor:	0.27
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	10.0 K
Ideal Part T_max:	5045.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	10.0 K
Real Part T_max:	5045.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ACETALDEHYDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H4O
Molar Mass:	0.04405 kg/mol
Normal Boiling Point:	294.25 K
critical Temperature:	466.1 K
critical Pressure:	5550000.0 Pa
Acentric Factor:	0.262
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1753.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1753.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ACETIC ANHYDRIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H6O3
Molar Mass:	0.10209 kg/mol

Normal Boiling Point:	412.65 K
critical Temperature:	606.0 K
critical Pressure:	4000000.0 Pa
Acentric Factor:	0.454
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	31.0 K
Ideal Part T_max:	4125.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	31.0 K
Real Part T_max:	4125.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ACETONITRILE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H3N
Molar Mass:	0.041049999999999996 kg/mol
Normal Boiling Point:	354.65 K
critical Temperature:	545.5 K
critical Pressure:	4830000.0 Pa
Acentric Factor:	0.334
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1816.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1816.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ACETYLENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H2
Molar Mass:	0.02604 kg/mol
Normal Boiling Point:	188.45 K
critical Temperature:	308.4 K
critical Pressure:	6140000.0 Pa
Acentric Factor:	0.19
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3605.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3605.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	AMMONIA
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	NH3
Molar Mass:	0.01703 kg/mol
Triple Temperature:	195.5 K
Normal Boiling Point:	239.75 K
critical Temperature:	405.6 K
critical Pressure:	11280000.0 Pa
Acentric Factor:	0.25
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1905.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1905.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ARGON
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	Ar

Molar Mass:	0.03995 kg/mol
Triple Temperature:	83.806 K
Normal Boiling Point:	87.25 K
critical Temperature:	150.8 K
critical Pressure:	4900000.0 Pa
Acentric Factor:	-0.003
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	10000.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	10000.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BENZALDEHYDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H6O
Molar Mass:	0.10612 kg/mol
Normal Boiling Point:	451.85 K
critical Temperature:	695.0 K
critical Pressure:	4650000.0 Pa
Acentric Factor:	0.322
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	48.0 K
Ideal Part T_max:	3981.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	48.0 K
Real Part T_max:	3981.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H6
Molar Mass:	0.07811 kg/mol
Triple Temperature:	278.67 K
Normal Boiling Point:	353.35 K
critical Temperature:	562.0 K
critical Pressure:	4900000.0 Pa
Acentric Factor:	0.21
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	90.0 K
Ideal Part T_max:	3763.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	90.0 K
Real Part T_max:	3763.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BENZONITRILE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H5N
Molar Mass:	0.10312 kg/mol
Normal Boiling Point:	463.85 K
critical Temperature:	699.4 K
critical Pressure:	4220000.0 Pa
Acentric Factor:	0.367
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	5.0 K
Ideal Part T_max:	4541.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	5.0 K
Real Part T_max:	4541.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BENZOPHENONE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C13H10O

Molar Mass:	0.18222 kg/mol
Normal Boiling Point:	579.05 K
critical Temperature:	830.0 K
critical Pressure:	3350000.0 Pa
Acentric Factor:	0.5
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	72.0 K
Ideal Part T_max:	4231.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	72.0 K
Real Part T_max:	4231.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BIPHENYL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C12H10
Molar Mass:	0.15421 kg/mol
Normal Boiling Point:	528.15 K
critical Temperature:	789.0 K
critical Pressure:	3850000.0 Pa
Acentric Factor:	0.365
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	108.0 K
Ideal Part T_max:	3691.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	108.0 K
Real Part T_max:	3691.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BROMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	Br2
Molar Mass:	0.15982 kg/mol
Normal Boiling Point:	331.85 K
critical Temperature:	584.1 K
critical Pressure:	10300000.0 Pa
Acentric Factor:	0.129
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5872.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5872.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BROMOBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H5Br
Molar Mass:	0.15702000000000002 kg/mol
Normal Boiling Point:	429.05 K
critical Temperature:	670.2 K
critical Pressure:	4520000.0 Pa
Acentric Factor:	0.251
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	33.0 K
Ideal Part T_max:	4068.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	33.0 K
Real Part T_max:	4068.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BROMOCYANIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	BrCN
Molar Mass:	0.10593000000000001 kg/mol

Normal Boiling Point:	333.15 K
critical Temperature:	518.4 K
critical Pressure:	6200000.0 Pa
Acentric Factor:	0.197
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	2554.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	2554.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BROMOETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H5Br
Molar Mass:	0.10897 kg/mol
Normal Boiling Point:	311.35 K
critical Temperature:	503.8 K
critical Pressure:	6230000.0 Pa
Acentric Factor:	0.252
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4300.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4300.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BROMOMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH3Br
Molar Mass:	0.09494 kg/mol
Normal Boiling Point:	276.75 K
critical Temperature:	467.1 K
critical Pressure:	8000000.0 Pa
Acentric Factor:	0.191
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1914.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1914.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BUTAN-1-AMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H11N
Molar Mass:	0.07314 kg/mol
Normal Boiling Point:	350.55 K
critical Temperature:	532.0 K
critical Pressure:	4200000.0 Pa
Acentric Factor:	0.329
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5295.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5295.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BUTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H10
Molar Mass:	0.05812 kg/mol

Triple Temperature:	134.9 K
Normal Boiling Point:	272.65 K
critical Temperature:	425.1 K
critical Pressure:	3800000.0 Pa
Acentric Factor:	0.2
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1785.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1785.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BUTANENITRILE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H7N
Molar Mass:	0.06911 kg/mol
Normal Boiling Point:	390.55 K
critical Temperature:	582.3 K
critical Pressure:	3790000.0 Pa
Acentric Factor:	0.371
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4788.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4788.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BUTANOIC ACID
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H8O2
Molar Mass:	0.08811 kg/mol
Normal Boiling Point:	436.75 K
critical Temperature:	615.8 K
critical Pressure:	4060000.0 Pa
Acentric Factor:	0.681
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4599.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4599.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BUTANOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H10O
Molar Mass:	0.07412 kg/mol
Normal Boiling Point:	391.05 K
critical Temperature:	563.0 K
critical Pressure:	4420000.0 Pa
Acentric Factor:	0.591
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5365.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5365.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BUTYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C10H14
Molar Mass:	0.13422 kg/mol

Normal Boiling Point:	456.55 K
critical Temperature:	660.5 K
critical Pressure:	2890000.0 Pa
Acentric Factor:	0.394
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	47.0 K
Ideal Part T_max:	4302.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	47.0 K
Real Part T_max:	4302.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BUTYLCYCLOHEXANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C10H20
Molar Mass:	0.14027 kg/mol
Normal Boiling Point:	454.15 K
critical Temperature:	667.0 K
critical Pressure:	2570000.0 Pa
Acentric Factor:	0.274
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	64.0 K
Ideal Part T_max:	4302.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	64.0 K
Real Part T_max:	4302.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	BUTYLCYCLOPENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C9H18
Molar Mass:	0.12624 kg/mol
Normal Boiling Point:	429.65 K
critical Temperature:	621.0 K
critical Pressure:	2720000.0 Pa
Acentric Factor:	0.372
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	37.0 K
Ideal Part T_max:	5369.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	37.0 K
Real Part T_max:	5369.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CARBOMETHENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H2O
Molar Mass:	0.04204 kg/mol
Normal Boiling Point:	223.45 K
critical Temperature:	370.1 K
critical Pressure:	5810000.0 Pa
Acentric Factor:	0.125
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5674.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5674.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CARBON DIOXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CO2
Molar Mass:	0.04401 kg/mol

Triple Temperature:	216.59 K
Normal Boiling Point:	185.85 K
critical Temperature:	304.3 K
critical Pressure:	7380000.0 Pa
Acentric Factor:	0.224
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	7938.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	7938.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CARBON DISULFIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CS2
Molar Mass:	0.07614 kg/mol
Normal Boiling Point:	319.45 K
critical Temperature:	552.0 K
critical Pressure:	7900000.0 Pa
Acentric Factor:	0.121
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3771.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3771.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CARBON MONOXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CO
Molar Mass:	0.02801 kg/mol
Triple Temperature:	68.16 K
Normal Boiling Point:	81.65 K
critical Temperature:	132.9 K
critical Pressure:	3500000.0 Pa
Acentric Factor:	0.048
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	2001.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	2001.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CARBON SUBOXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3O2
Molar Mass:	0.06803000000000001 kg/mol
Normal Boiling Point:	279.55 K
critical Temperature:	427.6 K
critical Pressure:	6940000.0 Pa
Acentric Factor:	0.522
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4525.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4525.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CARBONYL SULFIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	COS

Molar Mass:	0.06007 kg/mol
Triple Temperature:	134.3 K
Normal Boiling Point:	222.95 K
critical Temperature:	378.8 K
critical Pressure:	6350000.0 Pa
Acentric Factor:	0.097
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3924.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3924.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLORINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	Cl2
Molar Mass:	0.07091 kg/mol
Normal Boiling Point:	239.15 K
critical Temperature:	417.1 K
critical Pressure:	7790000.0 Pa
Acentric Factor:	0.069
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4535.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4535.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLOROACETIC ACID
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H3ClO2
Molar Mass:	0.0945 kg/mol
Normal Boiling Point:	462.55 K
critical Temperature:	686.0 K
critical Pressure:	5780000.0 Pa
Acentric Factor:	0.546
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4261.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4261.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLOROBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H5Cl
Molar Mass:	0.11256000000000001 kg/mol
Normal Boiling Point:	405.15 K
critical Temperature:	632.4 K
critical Pressure:	4520000.0 Pa
Acentric Factor:	0.25
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	32.0 K
Ideal Part T_max:	3911.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	32.0 K
Real Part T_max:	3911.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLOROCYANIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	ClCN
Molar Mass:	0.06147 kg/mol

Normal Boiling Point:	285.85 K
critical Temperature:	449.1 K
critical Pressure:	5990000.0 Pa
Acentric Factor:	0.323
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4894.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4894.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLORODIFLUOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CHClF2
Molar Mass:	0.08647 kg/mol
Triple Temperature:	115.73 K
Normal Boiling Point:	232.35 K
critical Temperature:	369.3 K
critical Pressure:	4970000.0 Pa
Acentric Factor:	0.22
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3667.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3667.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H5Cl
Molar Mass:	0.06452 kg/mol
Normal Boiling Point:	285.55 K
critical Temperature:	460.4 K
critical Pressure:	5270000.0 Pa
Acentric Factor:	0.192
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4346.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4346.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLOROETHYLENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H3Cl
Molar Mass:	0.0625 kg/mol
Normal Boiling Point:	259.15 K
critical Temperature:	432.1 K
critical Pressure:	5670000.0 Pa
Acentric Factor:	0.1
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4767.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4767.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH3Cl
Molar Mass:	0.05049 kg/mol

Triple Temperature:	175.0 K
Normal Boiling Point:	248.95 K
critical Temperature:	416.3 K
critical Pressure:	6680000.0 Pa
Acentric Factor:	0.154
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1994.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1994.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLOROMETHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H7Cl
Molar Mass:	0.12659 kg/mol
Normal Boiling Point:	453.45 K
critical Temperature:	686.0 K
critical Pressure:	3910000.0 Pa
Acentric Factor:	0.314
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	34.0 K
Ideal Part T_max:	4097.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	34.0 K
Real Part T_max:	4097.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLOROTRIFLUOROETHYLENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2ClF3
Molar Mass:	0.11647 kg/mol
Normal Boiling Point:	245.15 K
critical Temperature:	379.1 K
critical Pressure:	4050000.0 Pa
Acentric Factor:	0.242
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3928.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3928.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CHLOROTRIFLUOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CClF3
Molar Mass:	0.10446 kg/mol
Triple Temperature:	92.0 K
Normal Boiling Point:	191.75 K
critical Temperature:	302.1 K
critical Pressure:	3870000.0 Pa
Acentric Factor:	0.172
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3132.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3132.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CYANOGEN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2N2

Molar Mass:	0.052039999999999996 kg/mol
Normal Boiling Point:	252.05 K
critical Temperature:	400.1 K
critical Pressure:	5980000.0 Pa
Acentric Factor:	0.278
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5037.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5037.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CYCLOBUTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H8
Molar Mass:	0.05611 kg/mol
Normal Boiling Point:	285.75 K
critical Temperature:	460.0 K
critical Pressure:	4980000.0 Pa
Acentric Factor:	0.185
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	65.0 K
Ideal Part T_max:	1631.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	65.0 K
Real Part T_max:	1631.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CYCLOHEXANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H12
Molar Mass:	0.08416 kg/mol
Triple Temperature:	279.47 K
Normal Boiling Point:	353.85 K
critical Temperature:	553.5 K
critical Pressure:	4070000.0 Pa
Acentric Factor:	0.21
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	81.0 K
Ideal Part T_max:	1470.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	81.0 K
Real Part T_max:	1470.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CYCLOHEXANOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H12O
Molar Mass:	0.10016 kg/mol
Normal Boiling Point:	434.15 K
critical Temperature:	650.0 K
critical Pressure:	4260000.0 Pa
Acentric Factor:	0.37
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	63.0 K
Ideal Part T_max:	1484.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	63.0 K
Real Part T_max:	1484.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CYCLOHEXENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H10

Molar Mass:	0.08215 kg/mol
Normal Boiling Point:	356.05 K
critical Temperature:	560.5 K
critical Pressure:	4350000.0 Pa
Acentric Factor:	0.211
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	69.0 K
Ideal Part T_max:	4687.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	69.0 K
Real Part T_max:	4687.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CYCLOPENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H10
Molar Mass:	0.07014 kg/mol
Triple Temperature:	179.7 K
Normal Boiling Point:	322.35 K
critical Temperature:	511.8 K
critical Pressure:	4500000.0 Pa
Acentric Factor:	0.196
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	100.0 K
Ideal Part T_max:	4623.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	100.0 K
Real Part T_max:	4623.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CYCLOPENTENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H8
Molar Mass:	0.06812 kg/mol
Normal Boiling Point:	317.55 K
critical Temperature:	507.0 K
critical Pressure:	4800000.0 Pa
Acentric Factor:	0.196
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	67.0 K
Ideal Part T_max:	4561.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	67.0 K
Real Part T_max:	4561.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	CYCLOPROPANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H6
Molar Mass:	0.04208 kg/mol
Triple Temperature:	145.7 K
Normal Boiling Point:	240.35 K
critical Temperature:	397.9 K
critical Pressure:	5500000.0 Pa
Acentric Factor:	0.133
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	73.0 K
Ideal Part T_max:	3795.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	73.0 K
Real Part T_max:	3795.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DECANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C10H22

Molar Mass:	0.14229 kg/mol
Triple Temperature:	243.5 K
Normal Boiling Point:	447.45 K
critical Temperature:	617.8 K
critical Pressure:	2110000.0 Pa
Acentric Factor:	0.49
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	22.0 K
Ideal Part T_max:	4364.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	22.0 K
Real Part T_max:	4364.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIBROMOMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH2Br2
Molar Mass:	0.17385 kg/mol
Normal Boiling Point:	370.15 K
critical Temperature:	611.0 K
critical Pressure:	7170000.0 Pa
Acentric Factor:	0.209
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4423.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4423.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DICHLOROACETIC ACID
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H2Cl2O2
Molar Mass:	0.12894 kg/mol
Normal Boiling Point:	467.25 K
critical Temperature:	686.0 K
critical Pressure:	5170000.0 Pa
Acentric Factor:	0.555
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4628.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4628.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DICHLORODIFLUOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CCl2F2
Molar Mass:	0.12090999999999999 kg/mol
Triple Temperature:	116.1 K
Normal Boiling Point:	243.35 K
critical Temperature:	384.9 K
critical Pressure:	4130000.0 Pa
Acentric Factor:	0.179
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3826.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3826.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DICHLOROFLUOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CHCl2F

Molar Mass:	0.10292 kg/mol
Triple Temperature:	142.8 K
Normal Boiling Point:	281.95 K
critical Temperature:	451.6 K
critical Pressure:	5180000.0 Pa
Acentric Factor:	0.205
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3901.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3901.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DICHLOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH2Cl2
Molar Mass:	0.08493 kg/mol
Normal Boiling Point:	312.85 K
critical Temperature:	510.1 K
critical Pressure:	6080000.0 Pa
Acentric Factor:	0.198
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4525.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4525.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIETHYL KETONE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H10O
Molar Mass:	0.08613 kg/mol
Normal Boiling Point:	374.85 K
critical Temperature:	561.0 K
critical Pressure:	3740000.0 Pa
Acentric Factor:	0.345
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1751.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1751.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIETHYL SULFIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H10S
Molar Mass:	0.09018999999999999 kg/mol
Normal Boiling Point:	365.25 K
critical Temperature:	557.1 K
critical Pressure:	3960000.0 Pa
Acentric Factor:	0.29
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4771.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4771.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIETHYLAMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H11N
Molar Mass:	0.07314 kg/mol

Normal Boiling Point:	328.85 K
critical Temperature:	496.6 K
critical Pressure:	3710000.0 Pa
Acentric Factor:	0.302
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5090.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5090.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIFLUOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH2F2
Molar Mass:	0.052020000000000004 kg/mol
Triple Temperature:	136.34 K
Normal Boiling Point:	221.35 K
critical Temperature:	351.6 K
critical Pressure:	5830000.0 Pa
Acentric Factor:	0.273
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1991.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1991.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIMETHYL SULFIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H6S
Molar Mass:	0.062130000000000005 kg/mol
Normal Boiling Point:	310.55 K
critical Temperature:	503.1 K
critical Pressure:	5530000.0 Pa
Acentric Factor:	0.194
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1806.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1806.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIMETHYLACETYLENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H6
Molar Mass:	0.054090000000000006 kg/mol
Normal Boiling Point:	300.15 K
critical Temperature:	473.3 K
critical Pressure:	4870000.0 Pa
Acentric Factor:	0.239
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	6705.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	6705.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIMETHYLAMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H7N
Molar Mass:	0.045090000000000005 kg/mol

Normal Boiling Point:	280.15 K
critical Temperature:	437.3 K
critical Pressure:	5340000.0 Pa
Acentric Factor:	0.298
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4880.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4880.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIMETHYLENEMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H4
Molar Mass:	0.04007 kg/mol
Normal Boiling Point:	238.75 K
critical Temperature:	393.1 K
critical Pressure:	5090000.0 Pa
Acentric Factor:	0.131
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4327.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4327.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DINITROGEN TETROXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	N2O4
Molar Mass:	0.09201000000000001 kg/mol
Normal Boiling Point:	294.45 K
critical Temperature:	431.1 K
critical Pressure:	10130000.0 Pa
Acentric Factor:	0.853
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3850.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3850.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIPHENYLAMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C12H11N
Molar Mass:	0.16923 kg/mol
Normal Boiling Point:	575.85 K
critical Temperature:	817.0 K
critical Pressure:	3180000.0 Pa
Acentric Factor:	0.53
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	88.0 K
Ideal Part T_max:	3869.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	88.0 K
Real Part T_max:	3869.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DIPHENYLMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C13H12
Molar Mass:	0.16823 kg/mol

Normal Boiling Point:	537.75 K
critical Temperature:	760.0 K
critical Pressure:	2710000.0 Pa
Acentric Factor:	0.482
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	76.0 K
Ideal Part T_max:	4005.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	76.0 K
Real Part T_max:	4005.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DODECANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C12H26
Molar Mass:	0.17034 kg/mol
Triple Temperature:	263.6 K
Normal Boiling Point:	489.55 K
critical Temperature:	658.0 K
critical Pressure:	1820000.0 Pa
Acentric Factor:	0.576
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4801.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4801.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	DRYAIR
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	DryAir
Molar Mass:	0.02896 kg/mol
Normal Boiling Point:	77.35 K
critical Temperature:	126.3 K
critical Pressure:	3400000.0 Pa
Acentric Factor:	0.038
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1046.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1046.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHANAMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H7N
Molar Mass:	0.045090000000000005 kg/mol
Normal Boiling Point:	289.95 K
critical Temperature:	456.1 K
critical Pressure:	5620000.0 Pa
Acentric Factor:	0.285
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5164.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5164.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H6
Molar Mass:	0.03007 kg/mol

Triple Temperature:	90.368 K
Normal Boiling Point:	184.55 K
critical Temperature:	305.4 K
critical Pressure:	4870000.0 Pa
Acentric Factor:	0.099
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1890.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1890.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHANETHIOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H6S
Molar Mass:	0.062130000000000005 kg/mol
Normal Boiling Point:	308.15 K
critical Temperature:	499.1 K
critical Pressure:	5490000.0 Pa
Acentric Factor:	0.188
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	952.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	952.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHANOIC ACID
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H4O2
Molar Mass:	0.06005 kg/mol
Normal Boiling Point:	391.15 K
critical Temperature:	592.0 K
critical Pressure:	5790000.0 Pa
Acentric Factor:	0.463
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1429.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1429.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHANOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H6O
Molar Mass:	0.04607 kg/mol
Triple Temperature:	159.0 K
Normal Boiling Point:	351.45 K
critical Temperature:	514.0 K
critical Pressure:	6150000.0 Pa
Acentric Factor:	0.645
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4680.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4680.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H4

Molar Mass:	0.028050000000000002 kg/mol
Triple Temperature:	103.99 K
Normal Boiling Point:	169.35 K
critical Temperature:	282.4 K
critical Pressure:	5040000.0 Pa
Acentric Factor:	0.086
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1698.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1698.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHOXYETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H10O
Molar Mass:	0.07412 kg/mol
Normal Boiling Point:	307.55 K
critical Temperature:	466.8 K
critical Pressure:	3640000.0 Pa
Acentric Factor:	0.281
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1813.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1813.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHOXYPROPANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H12O
Molar Mass:	0.08815 kg/mol
Normal Boiling Point:	336.95 K
critical Temperature:	500.2 K
critical Pressure:	3370000.0 Pa
Acentric Factor:	0.347
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5008.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5008.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYL-ACETATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H8O2
Molar Mass:	0.08811 kg/mol
Normal Boiling Point:	350.35 K
critical Temperature:	523.2 K
critical Pressure:	3830000.0 Pa
Acentric Factor:	0.361
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5377.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5377.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYL-BENZOATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C9H10O2
Molar Mass:	0.15018 kg/mol

Normal Boiling Point:	486.75 K
critical Temperature:	698.0 K
critical Pressure:	3180000.0 Pa
Acentric Factor:	0.477
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	81.0 K
Ideal Part T_max:	3780.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	81.0 K
Real Part T_max:	3780.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYL-BUTANOATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H12O2
Molar Mass:	0.11616 kg/mol
Normal Boiling Point:	394.55 K
critical Temperature:	571.0 K
critical Pressure:	2950000.0 Pa
Acentric Factor:	0.401
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	30.0 K
Ideal Part T_max:	3404.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	30.0 K
Real Part T_max:	3404.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYL-FORMATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H6O2
Molar Mass:	0.07408 kg/mol
Normal Boiling Point:	327.55 K
critical Temperature:	508.4 K
critical Pressure:	4740000.0 Pa
Acentric Factor:	0.276
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1693.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1693.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYL-PROPIONATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H10O2
Molar Mass:	0.10213 kg/mol
Normal Boiling Point:	372.55 K
critical Temperature:	546.0 K
critical Pressure:	3360000.0 Pa
Acentric Factor:	0.389
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	34.0 K
Ideal Part T_max:	3315.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	34.0 K
Real Part T_max:	3315.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYLACETYLENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H6
Molar Mass:	0.054090000000000006 kg/mol

Normal Boiling Point:	281.25 K
critical Temperature:	440.0 K
critical Pressure:	4600000.0 Pa
Acentric Factor:	0.247
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3643.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3643.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H10
Molar Mass:	0.10617 kg/mol
Triple Temperature:	178.2 K
Normal Boiling Point:	409.35 K
critical Temperature:	617.1 K
critical Pressure:	3610000.0 Pa
Acentric Factor:	0.304
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	64.0 K
Ideal Part T_max:	3994.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	64.0 K
Real Part T_max:	3994.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYLCYCLEPENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H14
Molar Mass:	0.09818 kg/mol
Normal Boiling Point:	376.55 K
critical Temperature:	569.5 K
critical Pressure:	3400000.0 Pa
Acentric Factor:	0.27
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	75.0 K
Ideal Part T_max:	4213.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	75.0 K
Real Part T_max:	4213.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYLCYCLOHEXANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H16
Molar Mass:	0.11222 kg/mol
Normal Boiling Point:	404.95 K
critical Temperature:	609.1 K
critical Pressure:	3040000.0 Pa
Acentric Factor:	0.246
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	69.0 K
Ideal Part T_max:	4641.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	69.0 K
Real Part T_max:	4641.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYLENE OXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H4O
Molar Mass:	0.04405 kg/mol

Normal Boiling Point:	283.55 K
critical Temperature:	469.1 K
critical Pressure:	7190000.0 Pa
Acentric Factor:	0.197
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	39.0 K
Ideal Part T_max:	4060.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	39.0 K
Real Part T_max:	4060.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ETHYLENGLYCOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H6O2
Molar Mass:	0.06207 kg/mol
Normal Boiling Point:	470.15 K
critical Temperature:	719.1 K
critical Pressure:	8200000.0 Pa
Acentric Factor:	0.513
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4962.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4962.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	FLUORINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	F2
Molar Mass:	0.038 kg/mol
Triple Temperature:	53.481 K
Normal Boiling Point:	85.05 K
critical Temperature:	144.2 K
critical Pressure:	5170000.0 Pa
Acentric Factor:	0.053
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4717.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4717.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	FLUOROBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H5F
Molar Mass:	0.09609999999999999 kg/mol
Normal Boiling Point:	358.35 K
critical Temperature:	560.0 K
critical Pressure:	4550000.0 Pa
Acentric Factor:	0.248
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	58.0 K
Ideal Part T_max:	3791.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	58.0 K
Real Part T_max:	3791.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	FLUOROCYANIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CFN

Molar Mass:	0.045020000000000004 kg/mol
Normal Boiling Point:	227.15 K
critical Temperature:	355.6 K
critical Pressure:	5220000.0 Pa
Acentric Factor:	0.291
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3066.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3066.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	FLUOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H5F
Molar Mass:	0.048060000000000005 kg/mol
Triple Temperature:	130.0 K
Normal Boiling Point:	235.55 K
critical Temperature:	375.4 K
critical Pressure:	5030000.0 Pa
Acentric Factor:	0.22
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4573.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4573.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	FLUOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH3F
Molar Mass:	0.03403 kg/mol
Triple Temperature:	129.82 K
Normal Boiling Point:	194.85 K
critical Temperature:	317.4 K
critical Pressure:	5880000.0 Pa
Acentric Factor:	0.196
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1803.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1803.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	FURAN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H4O
Molar Mass:	0.06808 kg/mol
Normal Boiling Point:	304.55 K
critical Temperature:	490.1 K
critical Pressure:	5500000.0 Pa
Acentric Factor:	0.203
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	82.0 K
Ideal Part T_max:	3521.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	82.0 K
Real Part T_max:	3521.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	FURAN-2-CARBALDEHYDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H4O2

Molar Mass:	0.09608 kg/mol
Normal Boiling Point:	434.55 K
critical Temperature:	670.2 K
critical Pressure:	5660000.0 Pa
Acentric Factor:	0.368
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	13.0 K
Ideal Part T_max:	4230.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	13.0 K
Real Part T_max:	4230.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	GLYCERIN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H8O3
Molar Mass:	0.09209 kg/mol
Normal Boiling Point:	560.85 K
critical Temperature:	850.0 K
critical Pressure:	7500000.0 Pa
Acentric Factor:	0.512
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3525.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3525.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HELIUM
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	He
Molar Mass:	0.004 kg/mol
Triple Temperature:	2.1768 K
Normal Boiling Point:	4.25 K
critical Temperature:	5.3 K
critical Pressure:	230000.0 Pa
Acentric Factor:	-0.39
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	10000.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	10000.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEPTADECANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C17H36
Molar Mass:	0.24047 kg/mol
Normal Boiling Point:	575.65 K
critical Temperature:	736.0 K
critical Pressure:	1340000.0 Pa
Acentric Factor:	0.769
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	19.0 K
Ideal Part T_max:	4332.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	19.0 K
Real Part T_max:	4332.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEPTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H16

Molar Mass:	0.10021 kg/mol
Triple Temperature:	182.55 K
Normal Boiling Point:	371.55 K
critical Temperature:	540.3 K
critical Pressure:	2740000.0 Pa
Acentric Factor:	0.351
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	16.0 K
Ideal Part T_max:	4388.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	16.0 K
Real Part T_max:	4388.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEPTANOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H16O
Molar Mass:	0.1162 kg/mol
Normal Boiling Point:	449.55 K
critical Temperature:	632.6 K
critical Pressure:	3060000.0 Pa
Acentric Factor:	0.567
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	24.0 K
Ideal Part T_max:	4207.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	24.0 K
Real Part T_max:	4207.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEXACHLOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2Cl6
Molar Mass:	0.23674 kg/mol
Normal Boiling Point:	457.45 K
critical Temperature:	695.0 K
critical Pressure:	3340000.0 Pa
Acentric Factor:	0.238
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3887.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3887.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEXADECANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C16H34
Molar Mass:	0.22644999999999998 kg/mol
Normal Boiling Point:	559.85 K
critical Temperature:	723.0 K
critical Pressure:	1400000.0 Pa
Acentric Factor:	0.717
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	19.0 K
Ideal Part T_max:	4336.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	19.0 K
Real Part T_max:	4336.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEXAMETHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C12H13
Molar Mass:	0.16228 kg/mol

Normal Boiling Point:	536.65 K
critical Temperature:	758.0 K
critical Pressure:	2770000.0 Pa
Acentric Factor:	0.496
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5094.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5094.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEXANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H14
Molar Mass:	0.08618 kg/mol
Triple Temperature:	177.83 K
Normal Boiling Point:	341.95 K
critical Temperature:	507.6 K
critical Pressure:	3030000.0 Pa
Acentric Factor:	0.301
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	13.0 K
Ideal Part T_max:	4436.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	13.0 K
Real Part T_max:	4436.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEXANOIC ACID
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H12O2
Molar Mass:	0.11616 kg/mol
Normal Boiling Point:	478.75 K
critical Temperature:	660.2 K
critical Pressure:	3310000.0 Pa
Acentric Factor:	0.73
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4361.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4361.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEXANOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H14O
Molar Mass:	0.10218 kg/mol
Normal Boiling Point:	430.85 K
critical Temperature:	611.4 K
critical Pressure:	3510000.0 Pa
Acentric Factor:	0.578
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	21.0 K
Ideal Part T_max:	4221.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	21.0 K
Real Part T_max:	4221.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEXYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C12H18
Molar Mass:	0.16227 kg/mol

Normal Boiling Point:	499.45 K
critical Temperature:	698.0 K
critical Pressure:	2380000.0 Pa
Acentric Factor:	0.479
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	46.0 K
Ideal Part T_max:	4238.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	46.0 K
Real Part T_max:	4238.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEXYLCYCLOHEXANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C12H24
Molar Mass:	0.16832 kg/mol
Normal Boiling Point:	497.05 K
critical Temperature:	693.6 K
critical Pressure:	2260000.0 Pa
Acentric Factor:	0.468
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	44.0 K
Ideal Part T_max:	4690.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	44.0 K
Real Part T_max:	4690.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HEXYLCYCLOPENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C11H22
Molar Mass:	0.15430000000000002 kg/mol
Normal Boiling Point:	476.35 K
critical Temperature:	660.1 K
critical Pressure:	2140000.0 Pa
Acentric Factor:	0.476
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	37.0 K
Ideal Part T_max:	4600.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	37.0 K
Real Part T_max:	4600.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HYDROGEN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	H2
Molar Mass:	0.00202 kg/mol
Triple Temperature:	13.957 K
Normal Boiling Point:	20.35 K
critical Temperature:	33.1 K
critical Pressure:	1310000.0 Pa
Acentric Factor:	-0.216
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	6130.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	6130.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HYDROGEN BROMIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	HBr

Molar Mass:	0.08092 kg/mol
Normal Boiling Point:	206.55 K
critical Temperature:	363.1 K
critical Pressure:	8550000.0 Pa
Acentric Factor:	0.073
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	2317.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	2317.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HYDROGEN CHLORIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	HCl
Molar Mass:	0.03646 kg/mol
Triple Temperature:	131.4 K
Normal Boiling Point:	188.05 K
critical Temperature:	324.6 K
critical Pressure:	8310000.0 Pa
Acentric Factor:	0.131
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	2519.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	2519.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HYDROGEN CYANIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	HCN
Molar Mass:	0.027030000000000002 kg/mol
Normal Boiling Point:	298.85 K
critical Temperature:	456.6 K
critical Pressure:	5390000.0 Pa
Acentric Factor:	0.41
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4581.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4581.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HYDROGEN FLUORIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	HF
Molar Mass:	0.02001 kg/mol
Normal Boiling Point:	292.85 K
critical Temperature:	461.1 K
critical Pressure:	6480000.0 Pa
Acentric Factor:	0.381
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	10000.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	10000.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HYDROGEN IODIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	HI
Molar Mass:	0.12791 kg/mol

Normal Boiling Point:	237.75 K
critical Temperature:	423.9 K
critical Pressure:	8310000.0 Pa
Acentric Factor:	0.038
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	2025.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	2025.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	HYDROGEN SULFIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	H2S
Molar Mass:	0.03408 kg/mol
Triple Temperature:	187.7 K
Normal Boiling Point:	212.95 K
critical Temperature:	373.6 K
critical Pressure:	8960000.0 Pa
Acentric Factor:	0.095
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1849.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1849.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ICOSANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C20H42
Molar Mass:	0.28256 kg/mol
Normal Boiling Point:	617.05 K
critical Temperature:	769.6 K
critical Pressure:	1130000.0 Pa
Acentric Factor:	0.875
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	6028.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	6028.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	IODINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	I2
Molar Mass:	0.2538 kg/mol
Normal Boiling Point:	457.55 K
critical Temperature:	819.1 K
critical Pressure:	11650000.0 Pa
Acentric Factor:	0.112
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3791.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3791.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	IODINECYANIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	ICN
Molar Mass:	0.15292 kg/mol

Normal Boiling Point:	415.05 K
critical Temperature:	652.3 K
critical Pressure:	5400000.0 Pa
Acentric Factor:	0.032
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	2594.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	2594.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	IODOBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H5I
Molar Mass:	0.20401 kg/mol
Normal Boiling Point:	461.65 K
critical Temperature:	721.2 K
critical Pressure:	4520000.0 Pa
Acentric Factor:	0.247
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	30.0 K
Ideal Part T_max:	4029.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	30.0 K
Real Part T_max:	4029.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ISOPENTYL ALCOHOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H12O
Molar Mass:	0.08815 kg/mol
Normal Boiling Point:	404.05 K
critical Temperature:	577.3 K
critical Pressure:	3930000.0 Pa
Acentric Factor:	0.595
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	13.0 K
Ideal Part T_max:	4373.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	13.0 K
Real Part T_max:	4373.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ISOPROPYL ALCOHOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H8O
Molar Mass:	0.0601 kg/mol
Normal Boiling Point:	355.25 K
critical Temperature:	508.3 K
critical Pressure:	4760000.0 Pa
Acentric Factor:	0.663
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4300.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4300.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	ISOPROPYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C9H12
Molar Mass:	0.1202 kg/mol

Normal Boiling Point:	425.65 K
critical Temperature:	631.0 K
critical Pressure:	3210000.0 Pa
Acentric Factor:	0.327
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	55.0 K
Ideal Part T_max:	4120.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	55.0 K
Real Part T_max:	4120.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	KRYPTON
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	Kr
Molar Mass:	0.0838 kg/mol
Triple Temperature:	115.78 K
Normal Boiling Point:	119.75 K
critical Temperature:	209.3 K
critical Pressure:	5500000.0 Pa
Acentric Factor:	0.0
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	10000.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	10000.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	M-CHLOROTOLUENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H7Cl
Molar Mass:	0.12659 kg/mol
Normal Boiling Point:	435.75 K
critical Temperature:	660.8 K
critical Pressure:	3950000.0 Pa
Acentric Factor:	0.307
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	54.0 K
Ideal Part T_max:	3527.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	54.0 K
Real Part T_max:	3527.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	M-CRESOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H8O
Molar Mass:	0.10814 kg/mol
Normal Boiling Point:	475.25 K
critical Temperature:	705.9 K
critical Pressure:	4560000.0 Pa
Acentric Factor:	0.448
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	31.0 K
Ideal Part T_max:	4198.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	31.0 K
Real Part T_max:	4198.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	M-NITROTOLUENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H7NO2
Molar Mass:	0.13713999999999998 kg/mol

Normal Boiling Point:	505.45 K
critical Temperature:	734.0 K
critical Pressure:	3800000.0 Pa
Acentric Factor:	0.495
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4564.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4564.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	M-XYLENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H10
Molar Mass:	0.10617 kg/mol
Triple Temperature:	225.3 K
Normal Boiling Point:	412.25 K
critical Temperature:	617.0 K
critical Pressure:	3540000.0 Pa
Acentric Factor:	0.326
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	31.0 K
Ideal Part T_max:	5060.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	31.0 K
Real Part T_max:	5060.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHANAL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH2O
Molar Mass:	0.03003 kg/mol
Normal Boiling Point:	254.05 K
critical Temperature:	408.1 K
critical Pressure:	6590000.0 Pa
Acentric Factor:	0.281
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1455.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1455.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHANAMIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH3NO
Molar Mass:	0.04504 kg/mol
Normal Boiling Point:	492.75 K
critical Temperature:	771.0 K
critical Pressure:	7800000.0 Pa
Acentric Factor:	0.412
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4942.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4942.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH4
Molar Mass:	0.01604 kg/mol

Triple Temperature:	90.694 K
Normal Boiling Point:	111.65 K
critical Temperature:	190.6 K
critical Pressure:	4600000.0 Pa
Acentric Factor:	0.012
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1760.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1760.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHANETHIOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH4S
Molar Mass:	0.04811 kg/mol
Normal Boiling Point:	279.05 K
critical Temperature:	469.9 K
critical Pressure:	7230000.0 Pa
Acentric Factor:	0.158
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1476.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1476.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHANOIC ACID
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH2O2
Molar Mass:	0.04603 kg/mol
Normal Boiling Point:	373.95 K
critical Temperature:	588.0 K
critical Pressure:	5810000.0 Pa
Acentric Factor:	0.316
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1681.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1681.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHANOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH4O
Molar Mass:	0.03204 kg/mol
Triple Temperature:	175.61 K
Normal Boiling Point:	337.75 K
critical Temperature:	512.5 K
critical Pressure:	8080000.0 Pa
Acentric Factor:	0.565
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1835.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1835.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHOXYMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H6O

Molar Mass:	0.04607 kg/mol
Normal Boiling Point:	248.35 K
critical Temperature:	400.1 K
critical Pressure:	5240000.0 Pa
Acentric Factor:	0.188
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1712.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1712.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHOXYPROPANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H10O
Molar Mass:	0.07412 kg/mol
Normal Boiling Point:	312.05 K
critical Temperature:	476.3 K
critical Pressure:	3800000.0 Pa
Acentric Factor:	0.277
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1682.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1682.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYL ETHYL KETONE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H8O
Molar Mass:	0.07211 kg/mol
Normal Boiling Point:	352.45 K
critical Temperature:	535.5 K
critical Pressure:	4150000.0 Pa
Acentric Factor:	0.323
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1841.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1841.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYL-ACETATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H6O2
Molar Mass:	0.07408 kg/mol
Normal Boiling Point:	330.15 K
critical Temperature:	506.6 K
critical Pressure:	4750000.0 Pa
Acentric Factor:	0.331
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5744.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5744.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYL-BENZOATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H8O2
Molar Mass:	0.13615 kg/mol

Normal Boiling Point:	472.55 K
critical Temperature:	693.0 K
critical Pressure:	3590000.0 Pa
Acentric Factor:	0.421
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	85.0 K
Ideal Part T_max:	3630.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	85.0 K
Real Part T_max:	3630.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYL-BUTANOATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H10O2
Molar Mass:	0.10213 kg/mol
Normal Boiling Point:	375.85 K
critical Temperature:	554.5 K
critical Pressure:	3470000.0 Pa
Acentric Factor:	0.378
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	19.0 K
Ideal Part T_max:	3386.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	19.0 K
Real Part T_max:	3386.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYL-FORMATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2H4O2
Molar Mass:	0.06005 kg/mol
Normal Boiling Point:	304.95 K
critical Temperature:	487.3 K
critical Pressure:	6000000.0 Pa
Acentric Factor:	0.255
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4237.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4237.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYL-PROPIONATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H8O2
Molar Mass:	0.08811 kg/mol
Normal Boiling Point:	352.65 K
critical Temperature:	530.6 K
critical Pressure:	4000000.0 Pa
Acentric Factor:	0.347
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	26.0 K
Ideal Part T_max:	3128.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	26.0 K
Real Part T_max:	3128.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYL-SALICYLATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H8O3
Molar Mass:	0.15215 kg/mol

Normal Boiling Point:	493.85 K
critical Temperature:	709.0 K
critical Pressure:	4090000.0 Pa
Acentric Factor:	0.581
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	54.0 K
Ideal Part T_max:	3860.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	54.0 K
Real Part T_max:	3860.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYLACETYLENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H4
Molar Mass:	0.04007 kg/mol
Triple Temperature:	170.5 K
Normal Boiling Point:	249.95 K
critical Temperature:	402.5 K
critical Pressure:	5630000.0 Pa
Acentric Factor:	0.212
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3697.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3697.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYLAMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH5N
Molar Mass:	0.031059999999999997 kg/mol
Normal Boiling Point:	266.75 K
critical Temperature:	430.1 K
critical Pressure:	7460000.0 Pa
Acentric Factor:	0.282
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4765.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4765.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H8
Molar Mass:	0.09214 kg/mol
Triple Temperature:	178.0 K
Normal Boiling Point:	383.85 K
critical Temperature:	591.8 K
critical Pressure:	4110000.0 Pa
Acentric Factor:	0.264
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	47.0 K
Ideal Part T_max:	4573.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	47.0 K
Real Part T_max:	4573.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYLCYCLOHEXANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H14

Molar Mass:	0.09819 kg/mol
Triple Temperature:	146.7 K
Normal Boiling Point:	373.95 K
critical Temperature:	572.1 K
critical Pressure:	3470000.0 Pa
Acentric Factor:	0.236
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	77.0 K
Ideal Part T_max:	4661.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	77.0 K
Real Part T_max:	4661.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	METHYLCYCLOPENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H12
Molar Mass:	0.08416 kg/mol
Normal Boiling Point:	344.95 K
critical Temperature:	532.8 K
critical Pressure:	3790000.0 Pa
Acentric Factor:	0.231
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	88.0 K
Ideal Part T_max:	4104.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	88.0 K
Real Part T_max:	4104.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	N,N-DIETHYL-ANILIN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C10H15N
Molar Mass:	0.14924 kg/mol
Normal Boiling Point:	489.25 K
critical Temperature:	702.0 K
critical Pressure:	2850000.0 Pa
Acentric Factor:	0.426
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	80.0 K
Ideal Part T_max:	3934.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	80.0 K
Real Part T_max:	3934.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	N,N-DIMETHYL-ANILIN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H11N
Molar Mass:	0.12118000000000001 kg/mol
Normal Boiling Point:	466.55 K
critical Temperature:	687.2 K
critical Pressure:	3630000.0 Pa
Acentric Factor:	0.402
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	86.0 K
Ideal Part T_max:	4113.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	86.0 K
Real Part T_max:	4113.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	N-METHYL-ANILIN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H9N
Molar Mass:	0.10715999999999999 kg/mol

Normal Boiling Point:	468.75 K
critical Temperature:	701.5 K
critical Pressure:	5200000.0 Pa
Acentric Factor:	0.475
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	67.0 K
Ideal Part T_max:	3899.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	67.0 K
Real Part T_max:	3899.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	N-PROPYL-PROPIONATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H12O2
Molar Mass:	0.11616 kg/mol
Normal Boiling Point:	395.55 K
critical Temperature:	568.6 K
critical Pressure:	3060000.0 Pa
Acentric Factor:	0.449
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	39.0 K
Ideal Part T_max:	3251.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	39.0 K
Real Part T_max:	3251.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	NAPHTHALENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C10H8
Molar Mass:	0.12816999999999998 kg/mol
Normal Boiling Point:	491.05 K
critical Temperature:	748.5 K
critical Pressure:	4050000.0 Pa
Acentric Factor:	0.304
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	68.0 K
Ideal Part T_max:	4222.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	68.0 K
Real Part T_max:	4222.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	NEON
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	Ne
Molar Mass:	0.02018 kg/mol
Triple Temperature:	24.556 K
Normal Boiling Point:	27.05 K
critical Temperature:	44.4 K
critical Pressure:	2650000.0 Pa
Acentric Factor:	-0.04
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	10000.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	10000.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	NITRIC OXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	NO

Molar Mass:	0.030010000000000002 kg/mol
Normal Boiling Point:	121.35 K
critical Temperature:	180.2 K
critical Pressure:	6480000.0 Pa
Acentric Factor:	0.583
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1657.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1657.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	NITROBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H5NO2
Molar Mass:	0.12311 kg/mol
Normal Boiling Point:	483.75 K
critical Temperature:	719.0 K
critical Pressure:	4400000.0 Pa
Acentric Factor:	0.443
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4412.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4412.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	NITROGEN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	N2
Molar Mass:	0.02801 kg/mol
Triple Temperature:	63.151 K
Normal Boiling Point:	77.35 K
critical Temperature:	126.3 K
critical Pressure:	3400000.0 Pa
Acentric Factor:	0.036
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	2094.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	2094.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	NITROGEN DIOXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	NO2
Molar Mass:	0.046009999999999995 kg/mol
Normal Boiling Point:	294.35 K
critical Temperature:	431.1 K
critical Pressure:	10130000.0 Pa
Acentric Factor:	0.851
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	7885.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	7885.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	NITROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CH3NO2

Molar Mass:	0.06104 kg/mol
Normal Boiling Point:	374.35 K
critical Temperature:	588.2 K
critical Pressure:	6310000.0 Pa
Acentric Factor:	0.348
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	38.0 K
Ideal Part T_max:	1942.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	38.0 K
Real Part T_max:	1942.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	NITROUS OXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	N2O
Molar Mass:	0.04401 kg/mol
Triple Temperature:	182.33 K
Normal Boiling Point:	184.75 K
critical Temperature:	309.6 K
critical Pressure:	7250000.0 Pa
Acentric Factor:	0.14
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4690.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4690.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	NONADECANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C19H40
Molar Mass:	0.26853 kg/mol
Normal Boiling Point:	603.25 K
critical Temperature:	758.0 K
critical Pressure:	1210000.0 Pa
Acentric Factor:	0.852
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	15.0 K
Ideal Part T_max:	4487.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	15.0 K
Real Part T_max:	4487.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	NONANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C9H20
Molar Mass:	0.12825999999999999 kg/mol
Triple Temperature:	219.7 K
Normal Boiling Point:	423.85 K
critical Temperature:	594.5 K
critical Pressure:	2290000.0 Pa
Acentric Factor:	0.443
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	21.0 K
Ideal Part T_max:	4339.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	21.0 K
Real Part T_max:	4339.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	O-CRESOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H8O

Molar Mass:	0.10814 kg/mol
Normal Boiling Point:	464.15 K
critical Temperature:	697.5 K
critical Pressure:	5010000.0 Pa
Acentric Factor:	0.433
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	13.0 K
Ideal Part T_max:	4428.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	13.0 K
Real Part T_max:	4428.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	O-NITROTOLUENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H7NO2
Molar Mass:	0.13713999999999998 kg/mol
Normal Boiling Point:	495.45 K
critical Temperature:	720.0 K
critical Pressure:	3800000.0 Pa
Acentric Factor:	0.48
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4552.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4552.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	O-XYLENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H10
Molar Mass:	0.10617 kg/mol
Triple Temperature:	247.99 K
Normal Boiling Point:	417.45 K
critical Temperature:	630.3 K
critical Pressure:	3730000.0 Pa
Acentric Factor:	0.312
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	31.0 K
Ideal Part T_max:	4431.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	31.0 K
Real Part T_max:	4431.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	OCTADECANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C18H38
Molar Mass:	0.2545 kg/mol
Normal Boiling Point:	589.45 K
critical Temperature:	747.0 K
critical Pressure:	1270000.0 Pa
Acentric Factor:	0.811
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	16.0 K
Ideal Part T_max:	4467.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	16.0 K
Real Part T_max:	4467.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	OCTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H18

Molar Mass:	0.11423 kg/mol
Triple Temperature:	216.37 K
Normal Boiling Point:	398.85 K
critical Temperature:	568.8 K
critical Pressure:	2490000.0 Pa
Acentric Factor:	0.398
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	18.0 K
Ideal Part T_max:	4408.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	18.0 K
Real Part T_max:	4408.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	OCTANOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H18O
Molar Mass:	0.13022999999999998 kg/mol
Normal Boiling Point:	468.45 K
critical Temperature:	652.5 K
critical Pressure:	2860000.0 Pa
Acentric Factor:	0.593
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	25.0 K
Ideal Part T_max:	4206.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	25.0 K
Real Part T_max:	4206.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	OXYGEN
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	O2
Molar Mass:	0.032 kg/mol
Triple Temperature:	54.361 K
Normal Boiling Point:	90.25 K
critical Temperature:	154.6 K
critical Pressure:	5040000.0 Pa
Acentric Factor:	0.023
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1932.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1932.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	P-CRESOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H8O
Molar Mass:	0.10814 kg/mol
Normal Boiling Point:	474.95 K
critical Temperature:	704.6 K
critical Pressure:	5150000.0 Pa
Acentric Factor:	0.509
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	42.0 K
Ideal Part T_max:	3988.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	42.0 K
Real Part T_max:	3988.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	P-NITROTOLUENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H7NO2

Molar Mass:	0.13713999999999998 kg/mol
Normal Boiling Point:	512.05 K
critical Temperature:	743.0 K
critical Pressure:	3210000.0 Pa
Acentric Factor:	0.42
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4572.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4572.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	P-XYLENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H10
Molar Mass:	0.10617 kg/mol
Triple Temperature:	286.4 K
Normal Boiling Point:	411.55 K
critical Temperature:	616.3 K
critical Pressure:	3510000.0 Pa
Acentric Factor:	0.322
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	32.0 K
Ideal Part T_max:	5068.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	32.0 K
Real Part T_max:	5068.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PENTACHLOROETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2HCl5
Molar Mass:	0.2023 kg/mol
Normal Boiling Point:	433.05 K
critical Temperature:	646.0 K
critical Pressure:	3480000.0 Pa
Acentric Factor:	0.337
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3766.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3766.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PENTADECANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C15H32
Molar Mass:	0.21242 kg/mol
Normal Boiling Point:	543.65 K
critical Temperature:	708.0 K
critical Pressure:	1480000.0 Pa
Acentric Factor:	0.685
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	18.0 K
Ideal Part T_max:	4346.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	18.0 K
Real Part T_max:	4346.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PENTAMETHYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C11H16
Molar Mass:	0.14824 kg/mol

Normal Boiling Point:	504.55 K
critical Temperature:	719.2 K
critical Pressure:	2870000.0 Pa
Acentric Factor:	0.464
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5661.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5661.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H12
Molar Mass:	0.07215 kg/mol
Triple Temperature:	143.47 K
Normal Boiling Point:	309.25 K
critical Temperature:	469.7 K
critical Pressure:	3380000.0 Pa
Acentric Factor:	0.252
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	3.0 K
Ideal Part T_max:	4829.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	3.0 K
Real Part T_max:	4829.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PENTANOIC ACID
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H10O2
Molar Mass:	0.10213 kg/mol
Normal Boiling Point:	448.65 K
critical Temperature:	634.0 K
critical Pressure:	3890000.0 Pa
Acentric Factor:	0.647
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	4375.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	4375.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PENTANOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H12O
Molar Mass:	0.08815 kg/mol
Normal Boiling Point:	411.05 K
critical Temperature:	586.1 K
critical Pressure:	3880000.0 Pa
Acentric Factor:	0.591
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5292.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5292.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PENTYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C11H16
Molar Mass:	0.14825 kg/mol

Normal Boiling Point:	478.75 K
critical Temperature:	679.9 K
critical Pressure:	2600000.0 Pa
Acentric Factor:	0.438
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	47.0 K
Ideal Part T_max:	4240.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	47.0 K
Real Part T_max:	4240.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PENTYLCYCLOHEXANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C11H22
Molar Mass:	0.15430000000000002 kg/mol
Normal Boiling Point:	476.75 K
critical Temperature:	667.8 K
critical Pressure:	2200000.0 Pa
Acentric Factor:	0.43
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	50.0 K
Ideal Part T_max:	4632.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	50.0 K
Real Part T_max:	4632.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PENTYLCYCLOPENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C10H20
Molar Mass:	0.14027 kg/mol
Normal Boiling Point:	453.65 K
critical Temperature:	656.2 K
critical Pressure:	2470000.0 Pa
Acentric Factor:	0.329
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	45.0 K
Ideal Part T_max:	4530.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	45.0 K
Real Part T_max:	4530.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PHENOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H6O
Molar Mass:	0.09411 kg/mol
Normal Boiling Point:	455.05 K
critical Temperature:	694.3 K
critical Pressure:	6130000.0 Pa
Acentric Factor:	0.442
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	45.0 K
Ideal Part T_max:	3896.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	45.0 K
Real Part T_max:	3896.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PHENYLAMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H7N
Molar Mass:	0.09312999999999999 kg/mol

Normal Boiling Point:	457.05 K
critical Temperature:	699.0 K
critical Pressure:	5310000.0 Pa
Acentric Factor:	0.378
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	31.0 K
Ideal Part T_max:	4098.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	31.0 K
Real Part T_max:	4098.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PHENYLHYDRAZINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H8N2
Molar Mass:	0.10814 kg/mol
Normal Boiling Point:	517.15 K
critical Temperature:	761.0 K
critical Pressure:	4910000.0 Pa
Acentric Factor:	0.535
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	52.0 K
Ideal Part T_max:	3918.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	52.0 K
Real Part T_max:	3918.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PHENYLMETHANOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H8O
Molar Mass:	0.10814 kg/mol
Normal Boiling Point:	477.75 K
critical Temperature:	720.1 K
critical Pressure:	4500000.0 Pa
Acentric Factor:	0.362
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	86.0 K
Ideal Part T_max:	3723.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	86.0 K
Real Part T_max:	3723.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PHOSGENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CCl2O
Molar Mass:	0.09892000000000001 kg/mol
Normal Boiling Point:	280.85 K
critical Temperature:	455.1 K
critical Pressure:	5670000.0 Pa
Acentric Factor:	0.201
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3986.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3986.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PIPERIDINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H11N
Molar Mass:	0.08515 kg/mol

Normal Boiling Point:	379.45 K
critical Temperature:	594.0 K
critical Pressure:	4650000.0 Pa
Acentric Factor:	0.243
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	74.0 K
Ideal Part T_max:	3822.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	74.0 K
Real Part T_max:	3822.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H8
Molar Mass:	0.0441 kg/mol
Triple Temperature:	85.525 K
Normal Boiling Point:	231.05 K
critical Temperature:	369.9 K
critical Pressure:	4250000.0 Pa
Acentric Factor:	0.152
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	1783.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	1783.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPANENITRILE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H5N
Molar Mass:	0.05508 kg/mol
Normal Boiling Point:	370.85 K
critical Temperature:	564.4 K
critical Pressure:	4180000.0 Pa
Acentric Factor:	0.324
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5375.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5375.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPANOIC ACID
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H6O2
Molar Mass:	0.07408 kg/mol
Normal Boiling Point:	414.25 K
critical Temperature:	600.9 K
critical Pressure:	4620000.0 Pa
Acentric Factor:	0.576
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4298.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4298.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPANOL
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H8O
Molar Mass:	0.0601 kg/mol

Normal Boiling Point:	370.35 K
critical Temperature:	536.8 K
critical Pressure:	5180000.0 Pa
Acentric Factor:	0.621
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1932.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1932.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPANONE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H6O
Molar Mass:	0.05808 kg/mol
Normal Boiling Point:	329.35 K
critical Temperature:	508.3 K
critical Pressure:	4700000.0 Pa
Acentric Factor:	0.306
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1738.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1738.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPANOYL PROPANOATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H10O3
Molar Mass:	0.13013999999999998 kg/mol
Normal Boiling Point:	440.35 K
critical Temperature:	623.0 K
critical Pressure:	3270000.0 Pa
Acentric Factor:	0.56
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	6.0 K
Ideal Part T_max:	4291.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	6.0 K
Real Part T_max:	4291.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H6
Molar Mass:	0.04208 kg/mol
Triple Temperature:	87.953 K
Normal Boiling Point:	225.45 K
critical Temperature:	364.9 K
critical Pressure:	4610000.0 Pa
Acentric Factor:	0.142
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1604.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1604.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPOXYPROPANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H14O

Molar Mass:	0.10218 kg/mol
Normal Boiling Point:	363.15 K
critical Temperature:	530.6 K
critical Pressure:	3030000.0 Pa
Acentric Factor:	0.369
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	5444.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	5444.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPYL KETONE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C7H14O
Molar Mass:	0.11418 kg/mol
Normal Boiling Point:	417.35 K
critical Temperature:	602.0 K
critical Pressure:	2920000.0 Pa
Acentric Factor:	0.412
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	1740.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	1740.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPYL-ACETATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H10O2
Molar Mass:	0.10213 kg/mol
Normal Boiling Point:	374.65 K
critical Temperature:	549.8 K
critical Pressure:	3360000.0 Pa
Acentric Factor:	0.39
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5009.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5009.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPYL-FORMATE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H8O2
Molar Mass:	0.08811 kg/mol
Normal Boiling Point:	354.15 K
critical Temperature:	538.0 K
critical Pressure:	4020000.0 Pa
Acentric Factor:	0.309
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	10.0 K
Ideal Part T_max:	3822.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	10.0 K
Real Part T_max:	3822.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPYLAMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H9N
Molar Mass:	0.05911 kg/mol

Normal Boiling Point:	320.75 K
critical Temperature:	496.9 K
critical Pressure:	4740000.0 Pa
Acentric Factor:	0.28
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5030.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5030.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPYLBENZENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C9H12
Molar Mass:	0.1202 kg/mol
Normal Boiling Point:	432.35 K
critical Temperature:	638.3 K
critical Pressure:	3200000.0 Pa
Acentric Factor:	0.344
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	41.0 K
Ideal Part T_max:	4228.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	41.0 K
Real Part T_max:	4228.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPYLCYCLOHEXANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C9H18
Molar Mass:	0.12624 kg/mol
Normal Boiling Point:	429.85 K
critical Temperature:	639.2 K
critical Pressure:	2810000.0 Pa
Acentric Factor:	0.26
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	56.0 K
Ideal Part T_max:	4623.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	56.0 K
Real Part T_max:	4623.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PROPYLCYCLOPENTANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H16
Molar Mass:	0.11220999999999999 kg/mol
Normal Boiling Point:	404.05 K
critical Temperature:	596.0 K
critical Pressure:	3020000.0 Pa
Acentric Factor:	0.327
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	61.0 K
Ideal Part T_max:	4345.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	61.0 K
Real Part T_max:	4345.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	PYRIDINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C5H5N
Molar Mass:	0.07909999999999999 kg/mol

Normal Boiling Point:	388.35 K
critical Temperature:	620.0 K
critical Pressure:	5630000.0 Pa
Acentric Factor:	0.239
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	81.0 K
Ideal Part T_max:	3836.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	81.0 K
Real Part T_max:	3836.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	STYRENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C8H8
Molar Mass:	0.10415 kg/mol
Normal Boiling Point:	418.65 K
critical Temperature:	636.0 K
critical Pressure:	3840000.0 Pa
Acentric Factor:	0.295
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	29.0 K
Ideal Part T_max:	4301.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	29.0 K
Real Part T_max:	4301.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	SULFUR
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	S
Molar Mass:	0.032060000000000005 kg/mol
Normal Boiling Point:	715.95 K
critical Temperature:	1313.0 K
critical Pressure:	18210000.0 Pa
Acentric Factor:	0.246
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	2504.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	2504.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	SULFUR DIOXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	SO2
Molar Mass:	0.06406 kg/mol
Triple Temperature:	197.7 K
Normal Boiling Point:	263.15 K
critical Temperature:	430.8 K
critical Pressure:	7880000.0 Pa
Acentric Factor:	0.245
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	6889.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	6889.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	SULFUR HEXAFLUORIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	SF6

Molar Mass:	0.14605 kg/mol
Triple Temperature:	223.56 K
Normal Boiling Point:	205.65 K
critical Temperature:	318.6 K
critical Pressure:	3760000.0 Pa
Acentric Factor:	0.215
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	3.0 K
Ideal Part T_max:	2666.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	3.0 K
Real Part T_max:	2666.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	SULFUR TRIOXIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	SO3
Molar Mass:	0.08006 kg/mol
Normal Boiling Point:	317.65 K
critical Temperature:	490.9 K
critical Pressure:	8210000.0 Pa
Acentric Factor:	0.424
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3935.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3935.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	SULFURY CHLORIDE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	Cl2SO2
Molar Mass:	0.13497 kg/mol
Normal Boiling Point:	342.55 K
critical Temperature:	545.0 K
critical Pressure:	4610000.0 Pa
Acentric Factor:	0.176
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3949.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3949.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TETRABROMOMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CBr4
Molar Mass:	0.33165 kg/mol
Normal Boiling Point:	462.55 K
critical Temperature:	724.8 K
critical Pressure:	9630000.0 Pa
Acentric Factor:	0.584
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3577.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3577.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TETRACHLOROCARBON
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CCl4
Molar Mass:	0.15381999999999998 kg/mol

Normal Boiling Point:	349.85 K
critical Temperature:	556.4 K
critical Pressure:	4560000.0 Pa
Acentric Factor:	0.193
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3832.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3832.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TETRACHLOROETHENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2Cl4
Molar Mass:	0.16583 kg/mol
Normal Boiling Point:	394.25 K
critical Temperature:	620.0 K
critical Pressure:	4490000.0 Pa
Acentric Factor:	0.214
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3328.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3328.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TETRADECANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C14H30
Molar Mass:	0.19838999999999998 kg/mol
Normal Boiling Point:	526.55 K
critical Temperature:	693.0 K
critical Pressure:	1570000.0 Pa
Acentric Factor:	0.643
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	18.0 K
Ideal Part T_max:	4354.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	18.0 K
Real Part T_max:	4354.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TETRAFLUOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CF4
Molar Mass:	0.088 kg/mol
Triple Temperature:	89.54 K
Normal Boiling Point:	145.05 K
critical Temperature:	227.6 K
critical Pressure:	3740000.0 Pa
Acentric Factor:	0.178
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3268.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3268.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TETRAPHENYLMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C25H20

Molar Mass:	0.32043 kg/mol
Normal Boiling Point:	742.85 K
critical Temperature:	983.0 K
critical Pressure:	1790000.0 Pa
Acentric Factor:	0.679
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	84.0 K
Ideal Part T_max:	4109.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	84.0 K
Real Part T_max:	4109.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	THIOPHENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C4H4S
Molar Mass:	0.08414 kg/mol
Normal Boiling Point:	357.45 K
critical Temperature:	579.4 K
critical Pressure:	5690000.0 Pa
Acentric Factor:	0.197
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	33.0 K
Ideal Part T_max:	944.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	33.0 K
Real Part T_max:	944.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TRIBROMOMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CHBr3
Molar Mass:	0.25275 kg/mol
Normal Boiling Point:	422.35 K
critical Temperature:	696.0 K
critical Pressure:	6090000.0 Pa
Acentric Factor:	0.156
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3961.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3961.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TRICHLOROACETIC ACID
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2HCl3O2
Molar Mass:	0.16338999999999998 kg/mol
Normal Boiling Point:	470.85 K
critical Temperature:	688.0 K
critical Pressure:	4810000.0 Pa
Acentric Factor:	0.549
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	2934.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	2934.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TRICHLOROETHYLENE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C2HCl3
Molar Mass:	0.13138999999999998 kg/mol

Normal Boiling Point:	359.95 K
critical Temperature:	571.0 K
critical Pressure:	4910000.0 Pa
Acentric Factor:	0.21
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3825.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3825.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TRICHLOROFLUOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CCl3F
Molar Mass:	0.13737 kg/mol
Triple Temperature:	162.68 K
Normal Boiling Point:	296.85 K
critical Temperature:	471.3 K
critical Pressure:	4410000.0 Pa
Acentric Factor:	0.187
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	3062.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	3062.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TRICHLOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CHCl3
Molar Mass:	0.11938 kg/mol
Normal Boiling Point:	334.25 K
critical Temperature:	536.5 K
critical Pressure:	5550000.0 Pa
Acentric Factor:	0.229
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	3757.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	3757.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TRIDECANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C13H23
Molar Mass:	0.18437 kg/mol
Normal Boiling Point:	508.45 K
critical Temperature:	675.0 K
critical Pressure:	1680000.0 Pa
Acentric Factor:	0.618
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	16.0 K
Ideal Part T_max:	4404.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	16.0 K
Real Part T_max:	4404.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TRIETHYLAMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C6H15N
Molar Mass:	0.10119 kg/mol

Normal Boiling Point:	361.75 K
critical Temperature:	535.1 K
critical Pressure:	3040000.0 Pa
Acentric Factor:	0.318
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	5357.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	5357.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TRIFLUOROMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	CHF3
Molar Mass:	0.07001 kg/mol
Triple Temperature:	118.02 K
Normal Boiling Point:	191.05 K
critical Temperature:	299.3 K
critical Pressure:	4860000.0 Pa
Acentric Factor:	0.264
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4065.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4065.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TRIMETHYLAMINE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C3H9N
Molar Mass:	0.05911 kg/mol
Normal Boiling Point:	276.25 K
critical Temperature:	433.3 K
critical Pressure:	4100000.0 Pa
Acentric Factor:	0.206
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	7.0 K
Ideal Part T_max:	4898.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	7.0 K
Real Part T_max:	4898.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)

Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	TRIPHENYLMETHANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C11H16
Molar Mass:	0.24434 kg/mol
Normal Boiling Point:	632.55 K
critical Temperature:	865.0 K
critical Pressure:	2200000.0 Pa
Acentric Factor:	0.573
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	78.0 K
Ideal Part T_max:	4110.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	78.0 K
Real Part T_max:	4110.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	UNDECANE
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	C11H24
Molar Mass:	0.15631 kg/mol

Triple Temperature:	247.54 K
Normal Boiling Point:	469.05 K
critical Temperature:	639.0 K
critical Pressure:	1950000.0 Pa
Acentric Factor:	0.53
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	4802.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	4802.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	WATER
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	H2O
Molar Mass:	0.01802 kg/mol
Triple Temperature:	273.16 K
Normal Boiling Point:	373.15 K
critical Temperature:	647.1 K
critical Pressure:	22060000.0 Pa
Acentric Factor:	0.345
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	1.0 K
Ideal Part T_max:	2569.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	1.0 K
Real Part T_max:	2569.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity
Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented
Medium Name:	XENON
Library Name:	TILMedia Cubic Equation Of State Model 1.2.0
Library Literature Reference:	unpublished
EOS Type:	Peng-Robinson equation of state (cubic equation of state)
EOS Models:	PR, RK, SRK, VDW
EOS Selected model:	PR
Chemical Formula:	Xe
Molar Mass:	0.13129 kg/mol
Triple Temperature:	161.41 K
Normal Boiling Point:	164.96 K
critical Temperature:	289.8 K
critical Pressure:	5840000.0 Pa
Acentric Factor:	0.0
Ideal Part Name:	ideal gas heat capacity
Ideal Part Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Ideal Part T_min:	2.0 K
Ideal Part T_max:	10000.0 K
Real Part Name:	Real gas correction calculated from cubic equation of state
Real Part Literature Reference:	VDI-Wärmeatlas 2006, Da 17, Realgaskorrekturen.
Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.. The Properties of gases and liquids. New York:	McGraw-Hill, 1988.
Real Part T_min:	2.0 K
Real Part T_max:	10000.0 K
Thermal Conductivity Name:	Liquid and vapor thermal conductivity
Thermal Conductivity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Thermal Conductivity Precision Comment:	Only the thermal conductivity of saturated liquid and vapour are implemented
Viscosity Name:	Liquid and vapor dynamic viscosity

Viscosity Literature Reference:	VDI-Wärmeatlas 2006 (Dca2 pp.)
Viscosity Precision Comment:	Only the viscosity of saturated liquid and vapour are implemented

4.3 REFPROP VLEFluids

Tabelle 10: REFPROP-VLEFluidnames

Medium Name:	1,3-Butadiene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	106-99-0
Fullname:	Buta-1,3-diene
Chemical Formula:	CH2=(CH)2=CH2
Synonym:	Vinylethylene
Molar Mass:	0.054090440000000004 kg/mol
Triple Temperature:	164.25 K
Normal Boiling Point:	268.661 K
critical Temperature:	425.135 K
critical Pressure:	4305300.0 Pa
critical Density:	245.02969320000003 kg/m^3
Acentric Factor:	0.192
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1010
Family:	n-alkene
Heating Value:	46972625.846637584
Ideal Part Name:	Ideal gas heat capacity function for 1,3-butadiene of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for 1,3-butadiene of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	164.25 K
Real Part T_max:	426.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	14.12 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209

Thermal Conductivity T_min:	164.25 K
Thermal Conductivity T_max:	426.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	14.12
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	164.25 K
Viscosity T_max:	426.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	14.12
Medium Name:	Butene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	106-98-9
Fullname:	1-Butene
Chemical Formula:	CH3-CH2-CH=CH2
Synonym:	1-Butylene
Molar Mass:	0.056106319999999994 kg/mol
Triple Temperature:	87.8 K
Normal Boiling Point:	266.84 K
critical Temperature:	419.29 K
critical Pressure:	4005100.0 Pa
critical Density:	237.8907968 kg/m^3
Acentric Factor:	0.192
Dipole Moment:	0.339
Default Reference State:	NBP
UNNumber:	1012
Family:	n-alkene
Heating Value:	48422708.88555871
Ideal Part Name:	Ideal gas Helmholtz form for butene.
Ideal Part Literature Reference:	Lemmon, E.W. and Ihmels, E.C., 2005.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for 1-butene of Lemmon and Ihmels (2005).
Real Part Literature Reference:	Lemmon, E.W. and Ihmels, E.C., "Thermodynamic Properties of the Butenes. Part II. Short Fundamental Equations of State," Fluid Phase Equilib., 228-229:173-187, 2005. doi: 10.1016/j.fluid.2004.09.004
Real Part T_min:	87.8 K
Real Part T_max:	525.0 K
Real Part P_max:	70000.0 Pa

Real Part Rhomax:	14.59 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); predictive mode for butene.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	87.8 K
Thermal Conductivity T_max:	525.0 K
Thermal Conductivity P_max:	70000.0
Thermal Conductivity Rhomax:	14.59
Viscosity Name:	Extended Corresponding States model (Propane reference); predictive mode for butene.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	87.8 K
Viscosity T_max:	525.0 K
Viscosity P_max:	70000.0
Viscosity Rhomax:	14.59
Medium Name:	1-Butyne
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	107-00-6
Fullname:	But-1-yne
Chemical Formula:	C4H6
Synonym:	Ethylacetylene
Molar Mass:	0.054090440000000004 kg/mol
Triple Temperature:	147.44 K
Normal Boiling Point:	281.23 K
critical Temperature:	432.0 K
critical Pressure:	4141600.0000000005 Pa
critical Density:	251.52054600000002 kg/m^3
Acentric Factor:	0.28
Dipole Moment:	0.81
Default Reference State:	NBP
UNNumber:	2452
Family:	alkyne
Heating Value:	48007744.06715863
Ideal Part Name:	Ideal gas heat capacity function for 1-butyne of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.

Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for 1-butyne of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	147.44 K
Real Part T_max:	432.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	14.96 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	147.44 K
Thermal Conductivity T_max:	432.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	14.96
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	147.44 K
Viscosity T_max:	432.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	14.96
Medium Name:	1-Pentene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	109-67-1
Fullname:	Pent-1-ene
Chemical Formula:	C5H10
Synonym:	Propylethylene
Molar Mass:	0.07013290000000001 kg/mol
Triple Temperature:	107.797 K
Normal Boiling Point:	303.101 K
critical Temperature:	465.74 K
critical Pressure:	3598000.0 Pa
critical Density:	241.95850500000003 kg/m^3
Acentric Factor:	0.233
Dipole Moment:	0.51
Default Reference State:	NBP
UNNumber:	1108

Family:	n-alkene
Heating Value:	48128909.54174146
Ideal Part Name:	Ideal gas heat capacity function for 1-pentene of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for 1-pentene of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	107.797 K
Real Part T_max:	466.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	11.76 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	107.797 K
Thermal Conductivity T_max:	466.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	11.76
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	107.797 K
Viscosity T_max:	466.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	11.76
Medium Name:	2,2-Dimethylbutane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	75-83-2
Fullname:	2,2-Dimethylbutane
Chemical Formula:	(CH3)3CCH2CH3
Synonym:	Neohexane
Molar Mass:	0.08617535999999999 kg/mol
Triple Temperature:	174.2 K
Normal Boiling Point:	322.846 K
critical Temperature:	490.0 K
critical Pressure:	3138000.0 Pa

critical Density:	239.56750079999998 kg/m^3
Acentric Factor:	0.23
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1208, 2457
Family:	br-alkane
Heating Value:	48476966.037623756
Ideal Part Name:	Ideal gas heat capacity function for 2,2-dimethylbutane of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for 2,2-dimethylbutane of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	174.2 K
Real Part T_max:	575.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	8.77 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	174.2 K
Thermal Conductivity T_max:	575.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	8.77
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	174.2 K
Viscosity T_max:	575.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	8.77
Medium Name:	2,3-Dimethylbutane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	79-29-8
Fullname:	2,3-Dimethylbutane
Chemical Formula:	(CH3)2CHCH(CH3)2
Synonym:	Butane, 2,3-dimethyl-

Molar Mass:	0.08617535999999999 kg/mol
Triple Temperature:	145.05 K
Normal Boiling Point:	331.177 K
critical Temperature:	500.6 K
critical Pressure:	3161000.0 Pa
critical Density:	241.29100799999998 kg/m^3
Acentric Factor:	0.247
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1208, 2457
Family:	br-alkane
Heating Value:	48567014.97968793
Ideal Part Name:	Ideal gas heat capacity function for 2,3-dimethylbutane of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for 2,3-dimethylbutane of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	145.05 K
Real Part T_max:	550.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	9.12 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	145.05 K
Thermal Conductivity T_max:	550.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	9.12
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	145.05 K
Viscosity T_max:	550.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	9.12
Medium Name:	3-Methylpentane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)

EOS Selected model:	FEQ
CASnumber:	96-14-0
Fullname:	3-Methylpentane
Chemical Formula:	(CH3CH2)2CHCH3
Synonym:	Pentane, 3-methyl-
Molar Mass:	0.08617535999999999 kg/mol
Triple Temperature:	110.263 K
Normal Boiling Point:	336.379 K
critical Temperature:	506.0 K
critical Pressure:	3184500.0 Pa
critical Density:	239.56750079999998 kg/m^3
Acentric Factor:	0.268
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1208, 2457
Family:	br-alkane
Heating Value:	48620626.59210242
Ideal Part Name:	Ideal gas heat capacity function for 3-methylpentane of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for 3-methylpentane of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	110.263 K
Real Part T_max:	550.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	9.66 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	110.263 K
Thermal Conductivity T_max:	550.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	9.66
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	110.263 K
Viscosity T_max:	550.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	9.66
Medium Name:	Acetone

Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	67-64-1
Fullname:	Propanone
Chemical Formula:	(CH3)2CO
Synonym:	Dimethyl ketone
Molar Mass:	0.05807914 kg/mol
Triple Temperature:	178.5 K
Normal Boiling Point:	329.22 K
critical Temperature:	508.1 K
critical Pressure:	4692400.0 Pa
critical Density:	272.97195800000003 kg/m^3
Acentric Factor:	0.3071
Dipole Moment:	2.88
Default Reference State:	NBP
UNNumber:	1090
Family:	other
GWP:	0.5
Ideal Part Name:	Ideal gas Helmholtz form for acetone.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for acetone of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	178.5 K
Real Part T_max:	550.0 K
Real Part P_max:	700000.0 Pa
Real Part Rhomax:	15.73 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference) for acetone.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	178.5 K
Thermal Conductivity T_max:	550.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	15.73
Viscosity Name:	Extended Corresponding States model (Propane reference) for acetone.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209

Viscosity T_min:	178.5 K
Viscosity T_max:	550.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	15.73
Medium Name:	Acetylene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	74-86-2
Fullname:	Ethyne
Chemical Formula:	C2H2
Synonym:	Narcylen, vinylene
Molar Mass:	0.02603728 kg/mol
Triple Temperature:	191.75 K
Normal Boiling Point:	188.26 K
critical Temperature:	308.3 K
critical Pressure:	5988200.0 Pa
critical Density:	229.9091824 kg/m^3
Acentric Factor:	0.178
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	1001
Family:	alkyne
Heating Value:	49999846.37412203
Ideal Part Name:	Ideal gas heat capacity function for acetylene of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for acetylene of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	191.75 K
Real Part T_max:	310.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	23.74 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	191.75 K
Thermal Conductivity T_max:	310.0 K
Thermal Conductivity P_max:	10000.0

Thermal Conductivity Rhomax:	23.74
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	191.75 K
Viscosity T_max:	310.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	23.74
Medium Name:	NITROGEN.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.755704 kg/kg NITROGEN, 0.0126913 kg/kg ARGON, 0.231605 kg/kg OXYGEN
Medium Name:	Air (dry)
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	AIR-N2ARO2
Fullname:	nitrogen + oxygen + argon (0.7812/0.2096/0.0092)
Chemical Formula:	N2+Ar+O2
Synonym:	R-729
Molar Mass:	0.028965460000000002 kg/mol
Triple Temperature:	59.75 K
Normal Boiling Point:	78.903 K
critical Temperature:	132.5306 K
critical Pressure:	3786000.0 Pa
critical Density:	342.684564168 kg/m^3
Acentric Factor:	0.0335
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	????
Family:	cryogen
Heating Value:	0.0
Ideal Part Name:	Ideal gas Helmholtz form for air of Lemmon et al. (2000).
Ideal Part Literature Reference:	Lemmon, E.W., Jacobsen, R.T, Penoncello, S.G., and Friend, D.G.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for air of Lemmon et al. (2000).

Real Part Literature Reference:	Lemmon, E.W., Jacobsen, R.T, Penoncello, S.G., and Friend, D.G., "Thermodynamic Properties of Air and Mixtures of Nitrogen, Argon, and Oxygen from 60 to 2000 K at Pressures to 2000 MPa," J. Phys. Chem. Ref. Data, 29(3):331-385, 2000. doi: 10.1063/1.1285884
Real Part T_min:	59.75 K
Real Part T_max:	2000.0 K
Real Part P_max:	2000000.0 Pa
Real Part Rhomax:	53.73 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for air of Lemmon and Jacobsen (2004).
Thermal Conductivity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Thermal Conductivity T_min:	59.75 K
Thermal Conductivity T_max:	2000.0 K
Thermal Conductivity P_max:	2000000.0
Thermal Conductivity Rhomax:	53.73
Viscosity Name:	Pure fluid viscosity model for air of Lemmon and Jacobsen (2004).
Viscosity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25(1):21-69, 2004. doi: 10.1023/B:IJOT.0000022327.04529.f3
Viscosity T_min:	59.75 K
Viscosity T_max:	2000.0 K
Viscosity P_max:	2000000.0
Viscosity Rhomax:	53.73
Medium Name:	METHANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.826722 kg/kg METHANE, 0.0498073 kg/kg NITROGEN, 0.0116957 kg/kg CO2, 0.0773785 kg/kg ETHANE, 0.0207506 kg/kg PROPANE, 0.00342551 kg/kg ISOBUTAN, 0.00516304 kg/kg BUTANE, 0.00131625 kg/kg IPENTANE, 0.00181651 kg/kg PENTANE, ...
Medium Name:	Ammonia
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	7664-41-7
Fullname:	Ammonia
Chemical Formula:	NH3
Synonym:	R-717
Molar Mass:	0.01703052 kg/mol

Triple Temperature:	195.49 K
Normal Boiling Point:	239.832 K
critical Temperature:	405.56 K
critical Pressure:	11363400.0 Pa
critical Density:	233.25000192 kg/m^3
Acentric Factor:	0.256
Dipole Moment:	1.47
Default Reference State:	OTH
Ideal Part Name:	Ideal gas heat capacity function for ammonia of Gao et al. (2018).
Ideal Part Literature Reference:	Gao, K., Wu, J., Bell, I.H., and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for ammonia of Gao et al. (2018).
Real Part Literature Reference:	Gao, K., Wu, J., Bell, I.H., and Lemmon, E.W., "Thermodynamic Properties of Ammonia for Temperatures from the Melting Line to 725 K and Pressures to 1000 MPa," to be submitted to J. Phys. Chem. Ref. Data, 2018.
Real Part T_min:	195.49 K
Real Part T_max:	725.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	52.43 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for ammonia of Monogenidou et al. (2018).
Thermal Conductivity Literature Reference:	Monogenidou, S.A., Assael, M.J., and Huber, M.L., "Reference Correlations for Thermal Conductivity of Ammonia from the Triple Point to 680 K and up to 80 MPa," accepted for publication in J. Phys. Chem. Ref. Data, 2018.
Thermal Conductivity T_min:	195.49 K
Thermal Conductivity T_max:	725.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	52.43
Viscosity Name:	Pure fluid viscosity model for ammonia of Monogenidou et al. (2018)
Viscosity Literature Reference:	Monogenidou, S.A., Assael, M.J., and Huber, M.L. "Reference Correlation of the Viscosity of Ammonia from the Triple Point to 700 K and up to 50 MPa," accepted for publication in J. Phys. Chem. Ref. Data, 2018.
Viscosity T_min:	195.49 K
Viscosity T_max:	725.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	52.43
Medium Name:	Argon
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FEK, FEQ, FES, PRT
EOS Selected model:	FEQ
CASnumber:	7440-37-1

Fullname:	Argon
Chemical Formula:	Ar
Synonym:	R-740
Molar Mass:	0.039948 kg/mol
Triple Temperature:	83.8058 K
Normal Boiling Point:	87.302 K
critical Temperature:	150.687 K
critical Pressure:	4863000.0 Pa
critical Density:	535.5988152 kg/m^3
Acentric Factor:	-0.00219
Dipole Moment:	0.0
Default Reference State:	OTO
Ideal Part Name:	Ideal gas Helmholtz form for argon.
Ideal Part Literature Reference:	Tegeler, Ch., Span, R., and Wagner, W., "A New Equation of State for Argon Covering the Fluid Region for Temperatures from the Melting Line to 700 K at Pressures up to 1000 MPa," J. Phys. Chem. Ref. Data, 28(3):779-850, 1999.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for argon of Tegeler et al. (1999).
Real Part Literature Reference:	Tegeler, Ch., Span, R., and Wagner, W., "A New Equation of State for Argon Covering the Fluid Region for Temperatures from the Melting Line to 700 K at Pressures up to 1000 MPa," J. Phys. Chem. Ref. Data, 28(3):779-850, 1999.
Real Part T_min:	83.8058 K
Real Part T_max:	2000.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	50.65 kg/m^3
Thermal Conductivity Models:	TC1, TC3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for argon of Lemmon and Jacobsen (2004).
Thermal Conductivity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004. doi: 10.1023/B:IJOT.0000022327.04529.f3
Thermal Conductivity T_min:	83.8058 K
Thermal Conductivity T_max:	2000.0 K
Thermal Conductivity P_max:	1000000.0
Thermal Conductivity Rhomax:	50.65
Viscosity Models:	VS1, VS2
Viscosity Name:	Pure fluid viscosity model for argon of Lemmon and Jacobsen (2004).
Viscosity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Viscosity T_min:	83.8058 K
Viscosity T_max:	2000.0 K
Viscosity P_max:	1000000.0
Viscosity Rhomax:	50.65
Medium Name:	Benzene
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FEQ
EOS Selected model:	FEQ
CASnumber:	71-43-2
Fullname:	Benzene
Chemical Formula:	C6H6
Synonym:	Benzene
Molar Mass:	0.07811184 kg/mol
Triple Temperature:	278.674 K
Normal Boiling Point:	353.219 K
critical Temperature:	562.02 K
critical Pressure:	4907277.0 Pa
critical Density:	304.71428784 kg/m^3
Acentric Factor:	0.211
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1114
Family:	aromatic
Heating Value:	42265423.526062116
Ideal Part Name:	Ideal gas Helmholtz form for benzene of Thol et al. (2015)
Ideal Part Literature Reference:	Thol, M., Lemmon, E.W., and Span, R., 2015.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for benzene of Thol et al. (2015).
Real Part Literature Reference:	Thol, M., Lemmon, E.W., and Span, R., Unpublished equation of state, but similar to the one published in: "Equation of State for Benzene for Temperatures from the Melting Line up to 725 K with Pressures up to 500 MPa," High Temp.-High Press., 41:81-97, 2012.
Real Part T_min:	278.674 K
Real Part T_max:	725.0 K
Real Part P_max:	500000.0 Pa
Real Part Rhomax:	11.45 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for benzene of Assael et al. (2012).
Thermal Conductivity Literature Reference:	Assael, M.J., Mihailidou, E., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of Benzene from the Triple Point to 725 K and up to 500 MPa," J. Phys. Chem. Ref. Data, 41(4), 043102, 2012. doi: 10.1063/1.4755781
Thermal Conductivity T_min:	278.674 K
Thermal Conductivity T_max:	725.0 K
Thermal Conductivity P_max:	500000.0
Thermal Conductivity Rhomax:	11.45
Viscosity Models:	VS1, VS5
Viscosity Name:	Pure fluid viscosity model for benzene of Avgeri et al. (2014).

Viscosity Literature Reference:	Avgeri, S., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Viscosity of Benzene from the Triple Point to 675 K and up to 300 MPa," J. Phys. Chem. Ref. Data, 43(3), 033103, 2014. doi: 10.1063/1.4892935
Viscosity T_min:	278.674 K
Viscosity T_max:	725.0 K
Viscosity P_max:	500000.0
Viscosity Rhomax:	11.45
Medium Name:	Butane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FE3, FE4, FEK, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	106-97-8
Fullname:	n-Butane
Chemical Formula:	CH3-2(CH2)-CH3
Synonym:	R-600
Molar Mass:	0.0581222 kg/mol
Triple Temperature:	134.895 K
Normal Boiling Point:	272.66 K
critical Temperature:	425.125 K
critical Pressure:	3796000.0 Pa
critical Density:	228.00000000070858 kg/m^3
Acentric Factor:	0.201
Dipole Moment:	0.05
Default Reference State:	IIR
UNNumber:	1011
Family:	n-alkane
Heating Value:	49506040.72110141
GWP:	4.0
RCL:	1000.0
Safety Group:	A3
Ideal Part Name:	Ideal gas Helmholtz form for butane.
Ideal Part Literature Reference:	Bcker, D. and Wagner, W., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for butane of Buecker and Wagner (2006).
Real Part Literature Reference:	Bcker, D. and Wagner, W., "Reference Equations of State for the Thermodynamic Properties of Fluid Phase n-Butane and Isobutane," J. Phys. Chem. Ref. Data, 35(1):929-1019, 2006. doi: 10.1063/1.1901687
Real Part T_min:	134.895 K
Real Part T_max:	575.0 K
Real Part P_max:	200000.0 Pa
Real Part Rhomax:	13.86 kg/m^3
Thermal Conductivity Models:	TC1, TC2

Thermal Conductivity Name:	Pure fluid thermal conductivity model for butane of Perkins et al. (2002).
Thermal Conductivity Literature Reference:	Perkins, R.A, Ramires, M.L.V., Nieto de Castro, C.A., and Cusco, L., "Measurement and Correlation of the Thermal Conductivity of Butane from 135 K to 600 K at Pressures to 70 MPa," J. Chem. Eng. Data, 47(5):1263-1271, 2002. doi: 10.1021/je0101202
Thermal Conductivity T_min:	134.86 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	200000.0
Thermal Conductivity Rhomax:	13.86
Viscosity Models:	VS1, VS2, VS4, VS7
Viscosity Name:	Pure fluid viscosity model for butane of Herrman and Vogel (2018).
Viscosity Literature Reference:	Herrmann, S. and Vogel, E., "New Formulation for the Viscosity of n-Butane," J. Phys. Chem. Ref. Data, 47, 013104, 2018. doi: 10.1063/1.5020802
Viscosity T_min:	134.895 K
Viscosity T_max:	575.0 K
Viscosity P_max:	200000.0
Viscosity Rhomax:	13.86
Medium Name:	Undecane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	1120-21-4
Fullname:	Undecane
Chemical Formula:	CH3-9(CH2)-CH3
Synonym:	n-Undecane
Molar Mass:	0.15630825999999998 kg/mol
Triple Temperature:	247.606 K
Normal Boiling Point:	468.934 K
critical Temperature:	638.8 K
critical Pressure:	1990400.0 Pa
critical Density:	236.79138307399998 kg/m^3
Acentric Factor:	0.539
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	2330
Family:	n-alkane
Heating Value:	47906233.490155935
Ideal Part Name:	Ideal gas heat capacity function for undecane of Alexandrov et al. (2011).
Ideal Part Literature Reference:	Refit of the Alexandrov (2011) equation by Tim Eisenbach, 2018. Above 180 K, differences are generally less than 0.05%.

Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for undecane of Alexandrov et al. (2011).
Real Part Literature Reference:	Alexandrov, I.S., Gerasimov, A.A., and Grigor'ev, B.A., "Using Fundamental Equations of State for Calculating the Thermodynamic Properties of Normal Undecane," Thermal Engineering, 58(8):691-698, 2011. doi: 10.1134/S0040601511080027
Real Part T_min:	247.606 K
Real Part T_max:	700.0 K
Real Part P_max:	500000.0 Pa
Real Part Rhomax:	4.97 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for undecane of Assael et al. (2017).
Thermal Conductivity Literature Reference:	Assael, M.J., Papalas, T.B., and Huber, M.L., "Reference Correlations for the Viscosity and Thermal Conductivity of n-Undecane," J. Phys. Chem. Ref. Data, 46(3), 033103, 2017. doi: 10.1063/1.4996885
Thermal Conductivity T_min:	247.606 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	500000.0
Thermal Conductivity Rhomax:	4.97
Viscosity Name:	Pure fluid viscosity model for undecane of Assael et al. (2017).
Viscosity Literature Reference:	Assael, M.J., Papalas, T.B., and Huber, M.L., "Reference Correlations for the Viscosity and Thermal Conductivity of n-Undecane," J. Phys. Chem. Ref. Data, 46(3), 033103, 2017. doi: 10.1063/1.4996885
Viscosity T_min:	247.606 K
Viscosity T_max:	700.0 K
Viscosity P_max:	500000.0
Viscosity Rhomax:	4.97
Medium Name:	Dodecane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ, PRT
EOS Selected model:	FEQ
CASnumber:	112-40-3
Fullname:	Dodecane
Chemical Formula:	CH3-10(CH2)-CH3
Synonym:	n-Dodecane
Molar Mass:	0.17033484000000002 kg/mol
Triple Temperature:	263.6 K
Normal Boiling Point:	489.442 K
critical Temperature:	658.1 K
critical Pressure:	1817000.0 Pa
critical Density:	226.54533720000003 kg/m^3
Acentric Factor:	0.574
Dipole Moment:	0.0

Default Reference State:	NBP
UNNumber:	????
Family:	n-alkane
Heating Value:	47830437.977339216
Ideal Part Name:	Ideal gas heat capacity function for dodecane of Lemmon (2004).
Ideal Part Literature Reference:	Lemmon, E.W., Based on "TRC Thermodynamic Properties of Substances in the Ideal Gas State," Version 1.0M, 1994.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for dodecane of Lemmon (2004).
Real Part Literature Reference:	Lemmon, E.W. and Huber, M.L., "Thermodynamic Properties of n-Dodecane," Energy & Fuels, 18(4):960-967, 2004. doi: 10.1021/ef0341062
Real Part T_min:	263.6 K
Real Part T_max:	700.0 K
Real Part P_max:	700000.0 Pa
Real Part Rhomax:	4.53 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for dodecane of Huber et al. (2004).
Thermal Conductivity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Transport Properties of n-Dodecane," Energy & Fuels, 18:968-975, 2004.
Thermal Conductivity T_min:	200.0 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	700000.0
Thermal Conductivity Rhomax:	7.0
Viscosity Name:	Pure fluid viscosity model for dodecane of Huber et al. (2004).
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Transport Properties of n-Dodecane," Energy & Fuels, 18:968-975, 2004.
Viscosity T_min:	200.0 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	700000.0
Viscosity Rhomax:	7.0
Medium Name:	Hexadecane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	544-76-3
Fullname:	Hexadecane
Chemical Formula:	C16H34
Synonym:	n-Hexadecane
Molar Mass:	0.226441 kg/mol
Triple Temperature:	291.329 K
Normal Boiling Point:	559.903 K
critical Temperature:	722.1 K
critical Pressure:	1479850.0 Pa

critical Density:	226.441 kg/m^3
Acentric Factor:	0.749
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	????
Family:	n-alkane
Heating Value:	47593792.64355836
Ideal Part Name:	Ideal gas Helmholtz form for hexadecane.
Ideal Part Literature Reference:	Romeo, R. and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for hexadecane of Romeo and Lemmon (2018).
Real Part Literature Reference:	Romeo, R. and Lemmon, E.W., to be submitted, 2018.
Real Part T_min:	291.329 K
Real Part T_max:	800.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	3.423 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for hexadecane of Monogenidou et al. (2018).
Thermal Conductivity Literature Reference:	Monogenidou, S.A., Assael, M.J., and Huber, M.L., "Reference Correlations for Thermal Conductivity of n-Hexadecane from the Triple Point to 700 K and up to 50 MPa," J. Phys. Chem. Ref. Data, 47, 013103, 2018.
Thermal Conductivity T_min:	291.329 K
Thermal Conductivity T_max:	800.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	5.0
Viscosity Name:	Pure fluid viscosity model for C16H34 of Meng et al. (2018).
Viscosity Literature Reference:	private communication to M. Huber from V. Vesovic, Oct. 2017.
Viscosity T_min:	291.329 K
Viscosity T_max:	800.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	3.423
Medium Name:	Methylcyclohexane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	108-87-2
Fullname:	Methylcyclohexane
Chemical Formula:	C6H11(CH3)
Synonym:	Cyclohexylmethane

Molar Mass:	0.09818605999999999 kg/mol
Triple Temperature:	146.7 K
Normal Boiling Point:	374.0 K
critical Temperature:	572.2 K
critical Pressure:	3470000.0 Pa
critical Density:	267.06608320000004 kg/m^3
Acentric Factor:	0.234
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	2296
Family:	naphthene
Heating Value:	46856346.00268104
Ideal Part Name:	Ideal gas heat capacity function for methylcyclohexane of Lemmon (2007).
Ideal Part Literature Reference:	ThermoData Engine (TRC, NIST).
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for methylcyclohexane of Lemmon (2007).
Real Part Literature Reference:	Lemmon, E.W., unpublished equation, 2007.
Real Part T_min:	146.7 K
Real Part T_max:	600.0 K
Real Part P_max:	500000.0 Pa
Real Part Rhomax:	9.13 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for methylcyclohexane of Perkins et al. (2008).
Thermal Conductivity Literature Reference:	Perkins, R.A., Hammerschmidt, U., and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of Methylcyclohexane and Propylcyclohexane from 300 K to 600 K at Pressures to 60 MPa," J. Chem. Eng. Data, 53(9):2120-2127, 2008. doi: 10.1021/je800255r
Thermal Conductivity T_min:	146.7 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	10.0
Viscosity Models:	VS4, VS5
Viscosity Name:	Extended Corresponding States model (Propane reference) for methylcyclohexane.
Viscosity Literature Reference:	Huber, M.L., (2018) "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209
Viscosity T_min:	146.7 K
Viscosity T_max:	700.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	10.0
Medium Name:	Docosane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.

EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	629-97-0
Fullname:	Docosane
Chemical Formula:	C22H46
Synonym:	n-Docosane
Molar Mass:	0.310601 kg/mol
Triple Temperature:	317.04 K
Normal Boiling Point:	641.298 K
critical Temperature:	792.2 K
critical Pressure:	1174000.0 Pa
critical Density:	224.56452299999998 kg/m^3
Acentric Factor:	0.978
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	????
Family:	n-alkane
Heating Value:	47438134.45545893
Ideal Part Name:	Ideal gas Helmholtz form for docosane.
Ideal Part Literature Reference:	Romeo, R. and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for docosane of Romeo and Lemmon (2018).
Real Part Literature Reference:	Romeo, R. and Lemmon, E.W., to be submitted, 2018.
Real Part T_min:	317.04 K
Real Part T_max:	1000.0 K
Real Part P_max:	500000.0 Pa
Real Part Rhomax:	2.51 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (C12 reference); fit to extremely limited data for docosane.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	317.04 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	10.0
Viscosity Name:	Extended Corresponding States model (C12 reference); fit to extremely limited data for docosane.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	317.04 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	10.0

Medium Name:	cis-Butene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	590-18-1
Fullname:	cis-2-Butene
Chemical Formula:	CH3-CH=CH-CH3
Synonym:	(Z)-2-Butene
Molar Mass:	0.056106319999999994 kg/mol
Triple Temperature:	134.3 K
Normal Boiling Point:	276.87 K
critical Temperature:	435.75 K
critical Pressure:	4225500.0 Pa
critical Density:	238.11522207999997 kg/m^3
Acentric Factor:	0.202
Dipole Moment:	0.3
Default Reference State:	NBP
UNNumber:	1012
Family:	n-alkene
Heating Value:	48314699.66306827
Ideal Part Name:	Ideal gas heat capacity function for cis-butene of Lemmon and Ihmels (2005).
Ideal Part Literature Reference:	Lemmon, E.W. and Ihmels, E.C., 2005.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for cis-butene of Lemmon and Ihmels (2005).
Real Part Literature Reference:	Lemmon, E.W. and Ihmels, E.C., "Thermodynamic Properties of the Butenes. Part II. Short Fundamental Equations of State," Fluid Phase Equilib., 228-229:173-187, 2005. doi: 10.1016/j.fluid.2004.09.004
Real Part T_min:	134.3 K
Real Part T_max:	525.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	14.09 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); predictive mode for cis-butene.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	134.3 K
Thermal Conductivity T_max:	525.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	14.09
Viscosity Name:	Extended Corresponding States model (Propane reference); predictive mode for cis-butene.

Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	134.3 K
Viscosity T_max:	525.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	14.09
Medium Name:	Propylcyclohexane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	1678-92-8
Fullname:	n-Propylcyclohexane
Chemical Formula:	(C6H11)CH2CH2CH3
Synonym:	Propylcyclohexane
Molar Mass:	0.12623922 kg/mol
Triple Temperature:	178.2 K
Normal Boiling Point:	429.856 K
critical Temperature:	630.8 K
critical Pressure:	2860000.0 Pa
critical Density:	260.0527932 kg/m^3
Acentric Factor:	0.326
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	????
Family:	naphthene
Heating Value:	46901184.9090956
Ideal Part Name:	Ideal gas heat capacity function for propylcyclohexane of Lemmon (2007).
Ideal Part Literature Reference:	ThermoData Engine (TRC, NIST).
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for propylcyclohexane of Lemmon (2007).
Real Part Literature Reference:	Lemmon, E.W., unpublished equation, 2007.
Real Part T_min:	178.2 K
Real Part T_max:	650.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	7.03 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for propylcyclohexane of Perkins et al. (2008).
Thermal Conductivity Literature Reference:	Perkins, R.A., Hammerschmidt, U., and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of Methylcyclohexane and Propylcyclohexane from 300 K to 600 K at Pressures to 60 MPa," J. Chem. Eng. Data, 53(9):2120-2127, 2008. doi: 10.1021/je800255r
Thermal Conductivity T_min:	178.2 K

Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	10.0
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to limited data.
Viscosity Literature Reference:	Huber, M.L., (2018) "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209
Viscosity T_min:	178.2 K
Viscosity T_max:	700.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	10.0
Medium Name:	Perfluorobutane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	ECS, FEQ
EOS Selected model:	FEQ
CASnumber:	355-25-9
Fullname:	Decafluorobutane
Chemical Formula:	C4F10
Synonym:	Perfluorobutane
Molar Mass:	0.238027 kg/mol
Triple Temperature:	144.0 K
Normal Boiling Point:	271.123 K
critical Temperature:	386.326 K
critical Pressure:	2322400.0 Pa
critical Density:	627.677199 kg/m^3
Acentric Factor:	0.372
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for perfluorobutane of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for perfluorobutane of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	144.0 K
Real Part T_max:	450.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	8.61 kg/m^3

Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); predictive mode for perfluorobutane.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	189.0 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	30000.0
Thermal Conductivity Rhomax:	7.64
Viscosity Name:	Extended Corresponding States model (R134a reference); predictive mode for perfluorobutane.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	189.0 K
Viscosity T_max:	500.0 K
Viscosity P_max:	30000.0
Viscosity Rhomax:	7.64
Medium Name:	Perfluoropentane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	ECS, FEQ
EOS Selected model:	FEQ
CASnumber:	678-26-2
Fullname:	Dodecafluoropentane
Chemical Formula:	C5F12
Synonym:	Perfluoropentane
Molar Mass:	0.288034 kg/mol
Triple Temperature:	148.21 K
Normal Boiling Point:	302.453 K
critical Temperature:	421.0 K
critical Pressure:	2063000.0 Pa
critical Density:	625.03378 kg/m^3
Acentric Factor:	0.436
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for perfluoropentane of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.

Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for perfluoropentane of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	148.21 K
Real Part T_max:	500.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	7.12 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); predictive mode for perfluoropentane.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	148.21 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	30000.0
Thermal Conductivity Rhomax:	10.0
Viscosity Name:	Extended Corresponding States model (R134a reference); predictive mode for perfluoropentane.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	148.21 K
Viscosity T_max:	500.0 K
Viscosity P_max:	30000.0
Viscosity Rhomax:	10.0
Medium Name:	Perfluorohexane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	355-42-0
Fullname:	Tetradecafluorohexane
Chemical Formula:	C6F14
Synonym:	Perfluorohexane
Molar Mass:	0.33804199999999995 kg/mol
Triple Temperature:	187.07 K
Normal Boiling Point:	330.274 K
critical Temperature:	448.0 K
critical Pressure:	1741600.0 Pa
critical Density:	616.9266499999999 kg/m^3
Acentric Factor:	0.497
Dipole Moment:	0.0

Default Reference State:	NBP
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for perfluorohexane of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for perfluorohexane of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	187.07 K
Real Part T_max:	450.0 K
Real Part P_max:	40000.0 Pa
Real Part Rhomax:	5.89 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); predictive mode for perfluorohexane.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	187.07 K
Thermal Conductivity T_max:	450.0 K
Thermal Conductivity P_max:	40000.0
Thermal Conductivity Rhomax:	5.89
Viscosity Name:	Extended Corresponding States model (R134a reference); predictive mode for perfluorohexane.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	187.07 K
Viscosity T_max:	450.0 K
Viscosity P_max:	40000.0
Viscosity Rhomax:	5.89
Medium Name:	R13I1
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	2314-97-8
Fullname:	Trifluoroiodomethane
Chemical Formula:	CF3I
Synonym:	HFC-13I1
Molar Mass:	0.1959104 kg/mol
Triple Temperature:	195.15 K

Normal Boiling Point:	251.291 K
critical Temperature:	396.44 K
critical Pressure:	3953000.0 Pa
critical Density:	868.0006182400001 kg/m^3
Acentric Factor:	0.176
Dipole Moment:	0.92
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas Helmholtz form for R-13I1.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for CF3I (R-13I1) of Lemmon and Span (2015).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Thermodynamic Properties of R-227ea, R-365mfc, R-115, and R-13I1," J. Chem. Eng. Data, 60(12):3745-3758, 2015. doi: 10.1021/acs.jced.5b00684
Real Part T_min:	195.15 K
Real Part T_max:	420.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	12.62 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); predictive mode for R-13I1.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	195.15 K
Thermal Conductivity T_max:	420.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	14.1
Viscosity Name:	Extended Corresponding States model (R134a reference); predictive mode for R-13I1.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	195.15 K
Viscosity T_max:	420.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	14.1
Medium Name:	Chlorine
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ

EOS Selected model:	FEQ
CASnumber:	7782-50-5
Fullname:	Chlorine
Chemical Formula:	Cl2
Synonym:	Chlorine
Molar Mass:	0.07090600000000001 kg/mol
Triple Temperature:	172.17 K
Normal Boiling Point:	239.198 K
critical Temperature:	416.8654 K
critical Pressure:	7642400.0 Pa
critical Density:	571.5023600000001 kg/m^3
Acentric Factor:	0.07
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1017
Family:	other
Heating Value:	0.0
Ideal Part Name:	Ideal gas heat capacity function for chlorine of Herrig et al. (2018).
Ideal Part Literature Reference:	Herrig, S., Thol, M., and Span, R., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for chlorine of Herrig et al. (2018).
Real Part Literature Reference:	Herrig, S., Thol, M., and Span, R., to be submitted to J. Phys. Chem., 2018.
Real Part T_min:	172.17 K
Real Part T_max:	440.0 K
Real Part P_max:	20000.0 Pa
Real Part Rhomax:	24.61 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference) fit to limited data for chlorine.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	172.17 K
Thermal Conductivity T_max:	440.0 K
Thermal Conductivity P_max:	20000.0
Thermal Conductivity Rhomax:	24.61
Viscosity Name:	Extended Corresponding States model (Propane reference) fit to limited data for chlorine.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	172.17 K
Viscosity T_max:	440.0 K
Viscosity P_max:	20000.0
Viscosity Rhomax:	24.61
Medium Name:	Chlorobenzene

Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	108-90-7
Fullname:	Chlorobenzene
Chemical Formula:	C6H5Cl
Synonym:	Phenyl chloride
Molar Mass:	0.112557 kg/mol
Triple Temperature:	227.9 K
Normal Boiling Point:	405.21 K
critical Temperature:	632.35 K
critical Pressure:	4520600.0 Pa
critical Density:	364.68468 kg/m^3
Acentric Factor:	0.2532
Dipole Moment:	1.69
Default Reference State:	NBP
UNNumber:	1134
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for chlorobenzene of Thol et al. (2018).
Ideal Part Literature Reference:	Thol, M., Alexandrov, I.S., Span, R., and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for chlorobenzene of Thol et al. (2018).
Real Part Literature Reference:	Thol, M., Alexandrov, I.S., Span, R., and Lemmon, E.W., to be submitted to J. Chem. Eng. Data, 2018.
Real Part T_min:	227.9 K
Real Part T_max:	700.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	10.47 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); fitted to data for chlorobenzene.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	227.9 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	10.47
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data for chlorobenzene.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	227.9 K
Viscosity T_max:	700.0 K

Viscosity P_max:	100000.0
Viscosity Rhomax:	10.47
Medium Name:	Carbon monoxide
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	630-08-0
Fullname:	Carbon monoxide
Chemical Formula:	CO
Synonym:	Carbon oxide
Molar Mass:	0.028010100000000003 kg/mol
Triple Temperature:	68.16 K
Normal Boiling Point:	81.64 K
critical Temperature:	132.86 K
critical Pressure:	3494000.0 Pa
critical Density:	303.909585 kg/m^3
Acentric Factor:	0.0497
Dipole Moment:	0.1
Default Reference State:	NBP
UNNumber:	1016
Family:	cryogen
Heating Value:	10102784.35278703
Ideal Part Name:	Ideal gas Helmholtz form for carbon monoxide.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for carbon monoxide of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	68.16 K
Real Part T_max:	500.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	33.84 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (nitrogen reference); fit to limited data for carbon monoxide.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	68.16 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	100000.0

Thermal Conductivity Rhomax:	34.0
Viscosity Name:	Extended Corresponding States model (nitrogen reference); fit to limited data for carbon monoxide.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	68.16 K
Viscosity T_max:	500.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	34.0
Medium Name:	Carbon dioxide
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FEK, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	124-38-9
Fullname:	Carbon dioxide
Chemical Formula:	CO2
Synonym:	R-744
Molar Mass:	0.0440098 kg/mol
Triple Temperature:	216.592 K
Normal Boiling Point:	194.686 K
critical Temperature:	304.1282 K
critical Pressure:	7377300.0 Pa
critical Density:	467.59972402 kg/m^3
Acentric Factor:	0.22394
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	1013
Family:	other
Heating Value:	0.0
GWP:	1.0
RCL:	40000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for carbon dioxide of Span and Wagner (1996).
Ideal Part Literature Reference:	Span, R. and Wagner, W., 1996.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for carbon dioxide of Span and Wagner (1996).
Real Part Literature Reference:	Span, R. and Wagner, W., "A New Equation of State for Carbon Dioxide Covering the Fluid Region from the Triple-Point Temperature to 1100 K at Pressures up to 800 MPa," J. Phys. Chem. Ref. Data, 25(6):1509-1596, 1996.
Real Part T_min:	216.592 K
Real Part T_max:	2000.0 K

Real Part P_max:	800000.0 Pa
Real Part Rhomax:	37.24 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for carbon dioxide of Huber et al. (2016).
Thermal Conductivity Literature Reference:	Huber, M.L., Sykioti, E.A., Assael, M.J., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of Carbon Dioxide from the Triple Point to 1100 K and up to 200 MPa," J. Phys. Chem. Ref. Data, 45, 013102, 2016.
Thermal Conductivity T_min:	216.592 K
Thermal Conductivity T_max:	2000.0 K
Thermal Conductivity P_max:	800000.0
Thermal Conductivity Rhomax:	37.24
Viscosity Models:	VS1, VS4, VS7
Viscosity Name:	Pure fluid viscosity model from symbolic regression for carbon dioxide of Laesecke and Muzny (2017).
Viscosity Literature Reference:	Laesecke, A. and Muzny, C.D., "Reference Correlation for the Viscosity of Carbon Dioxide," J. Phys. Chem. Ref. Data, 46, 013107, 2017. doi: 10.1063/1.4977429
Viscosity T_min:	216.592 K
Viscosity T_max:	2000.0 K
Viscosity P_max:	800000.0
Viscosity Rhomax:	37.24
Medium Name:	carbon dioxide
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FEK, FEQ, FES
EOS Selected model:	FES
CASnumber:	124-38-9
Fullname:	carbon dioxide
Chemical Formula:	CO2
Synonym:	R-744
Molar Mass:	0.0440098 kg/mol
Triple Temperature:	216.592 K
Normal Boiling Point:	194.686 K
critical Temperature:	304.1282 K
critical Pressure:	7377300.0 Pa
critical Density:	467.59972402 kg/m^3
Acentric Factor:	0.22394
Dipole Moment:	0.0
Default Reference State:	OTH
UNNumber:	1013
Real Part Name:	equation of state specification

Real Part Literature Reference:	LITERATURE REFERENCE \ Span, R. and Wagner, W. "Equations of State for Technical Applications. III. Results for Polar Fluids," Int. J. Thermophys., 24(1):111-162, 2003. \ The uncertainties of the equation of state are approximately 0.2% (to 0.5% at high pressures) in density, 1% (in the vapor phase) to 2% in heat capacity, 1% (in the vapor phase) to 2% in the speed of sound, and 0.2% in vapor pressure, except in the critical region. \ end of info section
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	37.24 kg/m^3
Thermal Conductivity Name:	thermal conductivity model specification
Thermal Conductivity Literature Reference:	LITERATURE REFERENCE \ Vesovic, V., Wakeham, W.A., Olchowy, G.A., Sengers, J.V., Watson, J.T.R., and Millat, J., "The transport properties of carbon dioxide," J. Phys. Chem. Ref. Data, 19:763-808, 1990. \ Note: Vesovic et al. use a crossover equation of state to compute derivatives in the critical region; the default EOS is used here. Also, their "simplified" critical enhancement for thermal conductivity is used. \ The uncertainty in thermal conductivity is less than 5%. \ end of info section
Thermal Conductivity T_min:	216.58 K
Thermal Conductivity T_max:	2000.0 K
Thermal Conductivity P_max:	800000.0
Thermal Conductivity Rhomax:	37.24
Viscosity Models:	VS1, VS4
Viscosity Name:	viscosity model specification
Viscosity Literature Reference:	LITERATURE REFERENCE \ Fenghour, A., Wakeham, W.A., Vesovic, V., "The Viscosity of Carbon Dioxide," J. Phys. Chem. Ref. Data, 27:31-44, 1998. \ The uncertainty in viscosity ranges from 0.3% in the dilute gas near room temperature to 5% at the highest pressures. \ end of info section
Viscosity T_min:	216.592 K
Viscosity T_max:	2000.0 K
Viscosity P_max:	800000.0
Viscosity Rhomax:	37.24
Medium Name:	Carbonyl sulfide
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	463-58-1
Fullname:	Carbon oxide sulfide
Chemical Formula:	COS
Synonym:	Carbon oxysulfide
Molar Mass:	0.0600751 kg/mol
Triple Temperature:	134.3 K
Normal Boiling Point:	222.99 K
critical Temperature:	378.77 K
critical Pressure:	6370000.0 Pa

critical Density:	445.156491 kg/m^3
Acentric Factor:	0.0978
Dipole Moment:	0.7152
Default Reference State:	NBP
UNNumber:	2204
Family:	other
Heating Value:	9125744.276746938
Ideal Part Name:	Ideal gas Helmholtz form for carbonyl sulfide.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for carbonyl sulfide of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	134.3 K
Real Part T_max:	650.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	22.52 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference) fit to extremely limited or predicted data for carbonyl sulfide.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	134.3 K
Thermal Conductivity T_max:	650.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	22.52
Viscosity Name:	Extended Corresponding States model (Propane reference) fit to extremely limited or predicted data for carbonyl sulfide.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	134.3 K
Viscosity T_max:	650.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	22.52
Medium Name:	Cyclobutene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	822-35-5

Fullname:	1-Cyclobutene
Chemical Formula:	C4H6
Synonym:	Cyclobutan-1,2-diyl
Molar Mass:	0.054090440000000004 kg/mol
Triple Temperature:	150.0 K
Normal Boiling Point:	275.73 K
critical Temperature:	448.0 K
critical Pressure:	5149500.0 Pa
critical Density:	279.64757480000003 kg/m^3
Acentric Factor:	0.163
Dipole Moment:	0.136
Default Reference State:	NBP
UNNumber:	????
Family:	other
Heating Value:	47850045.22056022
Ideal Part Name:	Ideal gas heat capacity function for cyclobutene of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for cyclobutene of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	150.0 K
Real Part T_max:	448.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	15.94 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	150.0 K
Thermal Conductivity T_max:	448.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	15.94
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	150.0 K
Viscosity T_max:	448.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	15.94
Medium Name:	Cyclohexane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.

EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	110-82-7
Fullname:	Cyclohexane
Chemical Formula:	cyclo-C6H12
Synonym:	Cyclohexane
Molar Mass:	0.08415948000000001 kg/mol
Triple Temperature:	279.86 K
Normal Boiling Point:	353.865 K
critical Temperature:	553.6 K
critical Pressure:	4080500.0 Pa
critical Density:	271.33016352000004 kg/m^3
Acentric Factor:	0.2096
Dipole Moment:	0.3
Default Reference State:	NBP
UNNumber:	1145
Family:	naphthene
Heating Value:	46969871.96213664
Ideal Part Name:	Ideal gas Helmholtz form for cyclohexane.
Ideal Part Literature Reference:	Zhou, Y., Liu, J., Penoncello, S.G., and Lemmon, E.W., 2014.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for cyclohexane of Zhou et al. (2014).
Real Part Literature Reference:	Zhou, Y., Liu, J., Penoncello, S.G., and Lemmon, E.W., An Equation of State for the Thermodynamic Properties of Cyclohexane, J. Phys. Chem. Ref. Data, 43, 043105, 2014.
Real Part T_min:	279.86 K
Real Part T_max:	700.0 K
Real Part P_max:	250000.0 Pa
Real Part Rhomax:	10.3 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for cyclohexane of Koutian et al. (2017).
Thermal Conductivity Literature Reference:	Koutian, A., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of Cyclohexane from the Triple Point to 640 K and up to 175 MPa," J. Phys. Chem. Ref. Data, 46, 013102, 2017. doi: 10.1063/1.4974325
Thermal Conductivity T_min:	279.86 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	250000.0
Thermal Conductivity Rhomax:	10.3
Viscosity Name:	Pure fluid viscosity model for cyclohexane of Tariq et al. (2014).
Viscosity Literature Reference:	Tariq, U., Jusoh, A.R.B., Riesco, N., and Vesovic, V., "Reference Correlation of the Viscosity of Cyclohexane from the Triple Point to 700 K and up to 110 MPa," J. Phys. Chem. Ref. Data, 43, 033101, 2014.
Viscosity T_min:	279.47 K
Viscosity T_max:	700.0 K
Viscosity P_max:	250000.0

Viscosity Rhomax:	10.3
Medium Name:	Cyclopentane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FEQ
EOS Selected model:	FEQ
CASnumber:	287-92-3
Fullname:	Cyclopentane
Chemical Formula:	C5H10
Synonym:	C5H10
Molar Mass:	0.07013290000000001 kg/mol
Triple Temperature:	179.7 K
Normal Boiling Point:	322.4 K
critical Temperature:	511.72 K
critical Pressure:	4582800.0 Pa
critical Density:	274.920968 kg/m^3
Acentric Factor:	0.202
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1146
Family:	naphthene
Heating Value:	47332849.49003962
Ideal Part Name:	Ideal gas Helmholtz form for cyclopentane of Gedanitz et al. (2015).
Ideal Part Literature Reference:	Gedanitz, H., Dvila, M.J., and Lemmon, E.W., 2015.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for cyclopentane of Gedanitz et al. (2015).
Real Part Literature Reference:	Gedanitz, H., Dvila, M.J., and Lemmon, E.W., "Speed of Sound Measurements and a Fundamental Equation of State for Cyclopentane," J. Chem. Eng. Data, 60(5):1311-1337, 2015.
Real Part T_min:	179.7 K
Real Part T_max:	550.0 K
Real Part P_max:	250000.0 Pa
Real Part Rhomax:	12.11 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for cyclopentane of Vassiliou 2015.
Thermal Conductivity Literature Reference:	Vassiliou, C.-M., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlatons of the Thermal Conductivity of Cyclopentane, iso-Pentane, and n-Pentane," J. Phys. Chem. Ref. Data, 44(3), 033102, 2015.
Thermal Conductivity T_min:	179.7 K
Thermal Conductivity T_max:	550.0 K
Thermal Conductivity P_max:	250000.0

Thermal Conductivity Rhomax:	12.11
Viscosity Name:	Extended Corresponding States model (Propane reference) for cyclopentane.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., (2018) "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209
Viscosity T_min:	179.7 K
Viscosity T_max:	600.0 K
Viscosity P_max:	200000.0
Viscosity Rhomax:	12.2
Medium Name:	Cyclopropane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	75-19-4
Fullname:	Cyclopropane
Chemical Formula:	cyclo-C3H6
Synonym:	Trimethylene
Molar Mass:	0.042081 kg/mol
Triple Temperature:	145.7 K
Normal Boiling Point:	241.67 K
critical Temperature:	398.3 K
critical Pressure:	5579700.0 Pa
critical Density:	258.4993749 kg/m^3
Acentric Factor:	0.1305
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	1027
Family:	naphthene
Heating Value:	49697725.81450061
Ideal Part Name:	Ideal gas heat capacity function for cyclopropane of Polt et al. (1992).
Ideal Part Literature Reference:	Thol, M., 2013.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for cyclopropane of Polt et al. (1992).
Real Part Literature Reference:	Polt, A., Platzer, B., and Maurer, G., "Parameter der Thermischen Zustandsgleichung von Bender fuer 14 Mehratomige Reine Stoffe," Chem. Tech. (Leipzig), 44(6):216-224, 1992.
Real Part T_min:	273.0 K
Real Part T_max:	473.0 K
Real Part P_max:	28000.0 Pa
Real Part Rhomax:	15.6 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (C3 reference); predictive mode for cyclopropane.

Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	273.0 K
Thermal Conductivity T_max:	473.0 K
Thermal Conductivity P_max:	28000.0
Thermal Conductivity Rhomax:	15.6
Viscosity Name:	Extended Corresponding States model (C3 reference); predictive mode for cyclopropane.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	273.0 K
Viscosity T_max:	473.0 K
Viscosity P_max:	28000.0
Viscosity Rhomax:	15.6
Medium Name:	Deuterium
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FEQ
EOS Selected model:	FEQ
CASnumber:	7782-39-0
Fullname:	Deuterium
Chemical Formula:	D2
Synonym:	Deuterium
Molar Mass:	0.0040282 kg/mol
Triple Temperature:	18.724 K
Normal Boiling Point:	23.661 K
critical Temperature:	38.34 K
critical Pressure:	1679600.0 Pa
critical Density:	69.405886 kg/m^3
Acentric Factor:	-0.136
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1957
Family:	cryogen
Ideal Part Name:	Ideal gas Helmholtz form for deuterium.
Ideal Part Literature Reference:	Richardson, I.A., Leachman, J.W., and Lemmon, E.W., 2014.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for deuterium of Richardson et al. (2014).

Real Part Literature Reference:	Richardson, I.A., Leachman, J.W., and Lemmon, E.W., J. Phys. Chem. Ref. Data, 43(1), 013103, 2014.
Real Part T_min:	18.724 K
Real Part T_max:	600.0 K
Real Part P_max:	2000000.0 Pa
Real Part Rhomax:	43.351 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for deuterium of Assael et al. (2011).
Thermal Conductivity Literature Reference:	unpublished; based on scaling the Assael correlation: Assael, M.J., Assael, J.-A.M., Huber, M.L., Perkins, R.A., and Takata, Y., "Correlation of the Thermal Conductivity of Normal and Parahydrogen from the Triple Point to 1000 K and up to 100 MPa," J. Phys. Chem. Ref. Data, 40(3):1-13, 2011.
Thermal Conductivity T_min:	18.724 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	2000000.0
Thermal Conductivity Rhomax:	43.351
Viscosity Name:	Pure fluid viscosity model from symbolic regression for deuterium of Muzny et al. (2013).
Viscosity Literature Reference:	Muzny, C.D., Huber, M.L., and Kazakov, A.F., "Correlation for the Viscosity of Normal Hydrogen Obtained from Symbolic Regression," J. Chem. Eng. Data, 58:969-979, 2013.
Viscosity T_min:	18.724 K
Viscosity T_max:	600.0 K
Viscosity P_max:	2000000.0
Viscosity Rhomax:	43.351
Medium Name:	Heavy water
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	7789-20-0
Fullname:	Deuterium oxide
Chemical Formula:	D2O
Synonym:	Deuterium oxide
Molar Mass:	0.020027508 kg/mol
Triple Temperature:	276.969 K
Normal Boiling Point:	374.549 K
critical Temperature:	643.847 K
critical Pressure:	21661800.0 Pa
critical Density:	355.9999698294 kg/m^3
Acentric Factor:	0.364
Dipole Moment:	1.9
Default Reference State:	OTH

Ideal Part Name:	Ideal gas heat capacity function for heavy water of Herrig et al. (2018).
Ideal Part Literature Reference:	Herrig, S., Thol, M., Span, R., Harvey, A.H., and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for heavy water of Herrig et al. (2018).
Real Part Literature Reference:	Herrig, S., Thol, M., Span, R., Harvey, A.H., and Lemmon, E.W., "A Reference Equation of State for Heavy Water," to be submitted to J. Phys. Chem. Ref. Data, 2018.
Real Part T_min:	276.969 K
Real Part T_max:	825.0 K
Real Part P_max:	1200000.0 Pa
Real Part Rhomax:	73.72 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for heavy water of IAPWS (1994).
Thermal Conductivity Literature Reference:	WEB: http://www.iapws.org/relguide/TransD2O-2007.pdf International Association for the Properties of Water and Steam, "Viscosity and Thermal Conductivity of Heavy Water Substance," Physical Chemistry of Aqueous Systems: Proceedings of the 12th International Conference on the Properties of Water and Steam, Orlando, Florida, September 11-16, A107-A138, 1994.
Thermal Conductivity T_min:	276.969 K
Thermal Conductivity T_max:	825.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	65.0
Viscosity Name:	Pure fluid viscosity model for heavy water of IAPWS (1994).
Viscosity Literature Reference:	WEB: http://www.iapws.org/relguide/TransD2O-2007.pdf International Association for the Properties of Water and Steam, "Viscosity and Thermal Conductivity of Heavy Water Substance," Physical Chemistry of Aqueous Systems: Proceedings of the 12th International Conference on the Properties of Water and Steam, Orlando, Florida, September 11-16, A107-A138, 1994.
Viscosity T_min:	276.969 K
Viscosity T_max:	825.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	65.0
Medium Name:	D4
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	556-67-2
Fullname:	Octamethylcyclotetrasiloxane
Chemical Formula:	C8H24O4Si4
Synonym:	D4
Molar Mass:	0.29661576 kg/mol
Triple Temperature:	290.25 K

Normal Boiling Point:	448.891 K
critical Temperature:	586.5 K
critical Pressure:	1347200.0 Pa
critical Density:	309.37023768 kg/m^3
Acentric Factor:	0.598
Dipole Moment:	1.09
Default Reference State:	NBP
UNNumber:	????
Family:	siloxane
Ideal Part Name:	Ideal gas heat capacity function for octamethylcyclotetrasiloxane of Thol et al. (2016).
Ideal Part Literature Reference:	Thol, M., Rutkai, G., Kster, A., Dubberke, F.H., Windmann, T., Span, R., and Vrabec, J., 2016.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for octamethylcyclotetrasiloxane of Thol et al. (2016).
Real Part Literature Reference:	Thol, M., Rutkai, G., Kster, A., Dubberke, F.H., Windmann, T., Span, R., and Vrabec, J., "Thermodynamic Properties for Octamethylcyclotetrasiloxane," J. Chem. Eng. Data, 61(7):2580-2595, 2016.
Real Part T_min:	290.25 K
Real Part T_max:	590.0 K
Real Part P_max:	180000.0 Pa
Real Part Rhomax:	3.24 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for D4.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	290.25 K
Thermal Conductivity T_max:	590.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	4.0
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for D4.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	290.25 K
Viscosity T_max:	590.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	4.0
Medium Name:	D5
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ

EOS Selected model:	FEQ
CASnumber:	541-02-6
Fullname:	Decamethylcyclopentasiloxane
Chemical Formula:	C10H30O5Si5
Synonym:	D5
Molar Mass:	0.3707697 kg/mol
Triple Temperature:	226.0 K
Normal Boiling Point:	484.06 K
critical Temperature:	618.3 K
critical Pressure:	1093400.0 Pa
critical Density:	304.03115399999996 kg/m^3
Acentric Factor:	0.637
Dipole Moment:	1.349
Default Reference State:	NBP
UNNumber:	????
Family:	siloxane
Ideal Part Name:	Ideal gas heat capacity function for decamethylcyclopentasiloxane of Thol et al. (2018).
Ideal Part Literature Reference:	Thol, M., Javed, M.A., Baumhoegger, E., Span, R., and Vrabec, J., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for decamethylcyclopentasiloxane of Thol et al. (2018).
Real Part Literature Reference:	Thol, M., Javed, M.A., Baumhoegger, E., Span, R., and Vrabec, J., "Thermodynamic Properties of Dodecamethylpentasiloxane, Tetradecamethylhexasiloxane, and Decamethylcyclopentasiloxane," to be submitted to Fluid Phase Equilib., 2018.
Real Part T_min:	226.0 K
Real Part T_max:	630.0 K
Real Part P_max:	125000.0 Pa
Real Part Rhomax:	2.78 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for D5.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	226.0 K
Thermal Conductivity T_max:	673.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	4.0
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for D5.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	226.0 K
Viscosity T_max:	673.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	4.0

Medium Name:	D6
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	540-97-6
Fullname:	Dodecamethylcyclohexasiloxane
Chemical Formula:	C12H36Si6O6
Synonym:	D6
Molar Mass:	0.444924 kg/mol
Triple Temperature:	270.2 K
Normal Boiling Point:	518.11 K
critical Temperature:	645.78 K
critical Pressure:	961000.0 Pa
critical Density:	279.0957298413672 kg/m^3
Acentric Factor:	0.736
Dipole Moment:	1.559
Default Reference State:	NBP
UNNumber:	????
Family:	siloxane
Ideal Part Name:	Ideal gas heat capacity function for D6 of Colonna et al. (2008).
Ideal Part Literature Reference:	Refit of Colonna, P., Nannan, N.R., and Guardone, A., 2008, by E.W. Lemmon, 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for D6 of Colonna et al. (2008).
Real Part Literature Reference:	Colonna, P., Nannan, N.R., and Guardone, A., "Multiparameter Equations of State for Siloxanes," Fluid Phase Equilib., 263:115-130, 2008.
Real Part T_min:	270.2 K
Real Part T_max:	673.0 K
Real Part P_max:	30000.0 Pa
Real Part Rhomax:	2.246 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fit to very limited data for D6.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	270.2 K
Thermal Conductivity T_max:	673.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	2.246
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fit to very limited data for D6.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209

Viscosity T_min:	270.2 K
Viscosity T_max:	673.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	2.246
Medium Name:	Diethanolamine
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	111-42-2
Fullname:	2,2'-Iminodiethanol
Chemical Formula:	HN(CH2CH2OH)2
Synonym:	bis(2-hydroxyethyl)Amine
Molar Mass:	0.1051356 kg/mol
Triple Temperature:	301.1 K
Normal Boiling Point:	541.234 K
critical Temperature:	736.5 K
critical Pressure:	4950750.0 Pa
critical Density:	346.94748 kg/m^3
Acentric Factor:	1.013
Dipole Moment:	2.78994
Default Reference State:	NBP
UNNumber:	3082
Family:	other
Ideal Part Name:	Ideal gas heat capacity function for diethanolamine of Herrig et al. (2018).
Ideal Part Literature Reference:	Herrig, S., Thol, M., Kortmann, M., Lemmon, E.W., and Span, R., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for diethanolamine of Herrig et al. (2018).
Real Part Literature Reference:	Herrig, S., Thol, M., Kortmann, M., Lemmon, E.W., and Span, R., unpublished equation, 2018.
Real Part T_min:	301.1 K
Real Part T_max:	740.0 K
Real Part P_max:	5000.0 Pa
Real Part Rhomax:	10.4 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	305.0 K
Thermal Conductivity T_max:	740.0 K
Thermal Conductivity P_max:	5000.0

Thermal Conductivity Rhomax:	10.4
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	305.0 K
Viscosity T_max:	740.0 K
Viscosity P_max:	5000.0
Viscosity Rhomax:	10.4
Medium Name:	Decane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	124-18-5
Fullname:	Decane
Chemical Formula:	CH3-8(CH2)-CH3
Synonym:	n-Decane
Molar Mass:	0.14228168 kg/mol
Triple Temperature:	243.5 K
Normal Boiling Point:	447.27 K
critical Temperature:	617.7 K
critical Pressure:	2103000.0 Pa
critical Density:	233.34195519999997 kg/m^3
Acentric Factor:	0.4884
Dipole Moment:	0.07
Default Reference State:	NBP
UNNumber:	2247
Family:	n-alkane
Heating Value:	48001752.57981211
Ideal Part Name:	Ideal gas Helmholtz form for decane.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for decane of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	243.5 K
Real Part T_max:	675.0 K
Real Part P_max:	800000.0 Pa
Real Part Rhomax:	5.41 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for decane of Huber and Perkins (2005).

Thermal Conductivity Literature Reference:	Huber, M.L. and Perkins, R.A., "Thermal Conductivity Correlations for Minor Constituent Fluids in Natural Gas: n-Octane, n-Nonane and n-Decane," Fluid Phase Equilib., 227:47-55, 2005.
Thermal Conductivity T_min:	243.0 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	800000.0
Thermal Conductivity Rhomax:	8.0
Viscosity Name:	Pure fluid viscosity model for decane of Huber et al. (2004).
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Xiang, H.W., "Viscosity Correlations for Minor Constituent Fluids in Natural Gas: n-Octane, n-Nonane and n-Decane," Fluid Phase Equilib., 224:263-270, 2004.
Viscosity T_min:	243.5 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	800000.0
Viscosity Rhomax:	8.0
Medium Name:	Diethyl ether
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	60-29-7
Fullname:	Diethyl ether
Chemical Formula:	C4H10O
Synonym:	Ethyl ether
Molar Mass:	0.0741216 kg/mol
Triple Temperature:	156.92 K
Normal Boiling Point:	307.604 K
critical Temperature:	466.7 K
critical Pressure:	3720200.0 Pa
critical Density:	263.99890272 kg/m^3
Acentric Factor:	0.29
Dipole Moment:	1.151
Default Reference State:	NBP
UNNumber:	1155
Family:	ether
Ideal Part Name:	Ideal gas Helmholtz form for diethyl ether.
Ideal Part Literature Reference:	Thol, M., Piazza, L., and Span, R., 2014.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for diethyl ether of Thol et al. (2014).
Real Part Literature Reference:	Thol, M., Piazza, L., and Span, R., "A New Functional Form for Equations of State for Some Polar and Weakly Associating Fluids," Int. J. Thermophys., 35(5):783-811, 2014.
Real Part T_min:	270.0 K

Real Part T_max:	500.0 K
Real Part P_max:	40000.0 Pa
Real Part Rhomax:	11.48 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference) for diethyl ether.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	230.0 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	40000.0
Thermal Conductivity Rhomax:	11.48
Viscosity Name:	Extended Corresponding States model (Propane reference) for diethyl ether.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	230.0 K
Viscosity T_max:	500.0 K
Viscosity P_max:	40000.0
Viscosity Rhomax:	11.48
Medium Name:	Dimethyl carbonate
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	616-38-6
Fullname:	Dimethyl ester carbonic acid
Chemical Formula:	C3H6O3
Synonym:	DMC
Molar Mass:	0.0900779 kg/mol
Triple Temperature:	277.06 K
Normal Boiling Point:	363.256 K
critical Temperature:	557.0 K
critical Pressure:	4908800.0 Pa
critical Density:	360.3116 kg/m^3
Acentric Factor:	0.346
Dipole Moment:	0.899
Default Reference State:	NBP
UNNumber:	1161
Family:	other
Ideal Part Name:	Ideal gas Helmholtz form for dimethyl carbonate.
Ideal Part Literature Reference:	Zhou, Y., Wu, J., and Lemmon, E.W., 2011.

Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for dimethyl carbonate of Zhou et al. (2011).
Real Part Literature Reference:	Zhou, Y., Wu, J., and Lemmon, E.W., "Thermodynamic Properties of Dimethyl Carbonate," J. Phys. Chem. Ref. Data, 40, 043106, 2011.
Real Part T_min:	277.06 K
Real Part T_max:	600.0 K
Real Part P_max:	60000.0 Pa
Real Part Rhomax:	12.112 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fit to data for dimethyl carbonate.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	277.06 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	12.112
Viscosity Name:	Extended Corresponding States model (Propane reference); fit to data for dimethyl carbonate.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	277.06 K
Viscosity T_max:	600.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	12.112
Medium Name:	Dimethyl ether
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	115-10-6
Fullname:	Methoxymethane
Chemical Formula:	(CH3)2O
Synonym:	RE-170
Molar Mass:	0.04606844 kg/mol
Triple Temperature:	131.66 K
Normal Boiling Point:	248.368 K
critical Temperature:	400.378 K
critical Pressure:	5336845.0 Pa
critical Density:	273.64653360000005 kg/m^3
Acentric Factor:	0.196
Dipole Moment:	1.301

Default Reference State:	NBP
UNNumber:	1033
Family:	ether
GWP:	1.0
RCL:	8500.0
Safety Group:	A3
Ideal Part Name:	Ideal gas Helmholtz form for dimethylether.
Ideal Part Literature Reference:	Wu et al., 2011.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for dimethylether of Wu et al. (2011).
Real Part Literature Reference:	Wu, J., Zhou, Y., and Lemmon, E.W., "An Equation of State for the Thermodynamic Properties of Dimethyl Ether," J. Phys. Chem. Ref. Data, 40, 023104, 2011.
Real Part T_min:	131.66 K
Real Part T_max:	525.0 K
Real Part P_max:	40000.0 Pa
Real Part Rhomax:	19.15 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for dimethylether.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY ***
Thermal Conductivity T_min:	131.66 K
Thermal Conductivity T_max:	450.0 K
Thermal Conductivity P_max:	20000.0
Thermal Conductivity Rhomax:	19.24
Viscosity Name:	Pure fluid viscosity model for dimethylether of Meng et al. (2012).
Viscosity Literature Reference:	Meng, X., Zhang, J., Wu, J., and Liu, Z., "Experimental Measurement and Modeling of the Viscosity of Dimethyl Ether," J. Chem. Eng. Data, 57:988-993, 2012.
Viscosity T_min:	131.66 K
Viscosity T_max:	525.0 K
Viscosity P_max:	40000.0
Viscosity Rhomax:	19.15
Medium Name:	Ethylbenzene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	100-41-4
Fullname:	Phenylethane
Chemical Formula:	C8H10
Synonym:	Benzene, ethyl-
Molar Mass:	0.10616500000000001 kg/mol

Triple Temperature:	178.2 K
Normal Boiling Point:	409.314 K
critical Temperature:	617.12 K
critical Pressure:	3622400.0 Pa
critical Density:	290.99996364000003 kg/m^3
Acentric Factor:	0.305
Dipole Moment:	0.6
Default Reference State:	NBP
UNNumber:	????
Family:	aromatic
Heating Value:	43396128.66763999
Ideal Part Name:	Ideal gas Helmholtz form for ethylbenzene of Zhou et al. (2012).
Ideal Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J., 2012.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for ethylbenzene of Zhou et al. (2012).
Real Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J., "Thermodynamic Properties of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene," J. Phys. Chem. Ref. Data, 41, 023103, 2012.
Real Part T_min:	178.2 K
Real Part T_max:	700.0 K
Real Part P_max:	60000.0 Pa
Real Part Rhomax:	9.124 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for ethylbenzene of Mylona et al. (2014).
Thermal Conductivity Literature Reference:	Mylona, S.K., Antoniadis, K.D., Assael, M.J. Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene from the Triple Point to 700 K and Moderate Pressures," J. Phys. Chem. Ref. Data, 48, 043104, 2014.
Thermal Conductivity T_min:	178.2 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	9.124
Viscosity Name:	Pure fluid viscosity model for ethylbenzene of Meng et al. (2017).
Viscosity Literature Reference:	Meng, X.Y., Cao, F.L., Wu, J.T., and Vesovic, V., "Reference Correlation of the Viscosity of Ethylbenzene from Triple Point to 673 K and up to 110 MPa," J. Phys. Chem. Ref. Data, 46, 013101, 2017.
Viscosity T_min:	178.2 K
Viscosity T_max:	700.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	9.124
Medium Name:	Ethylene glycol
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)

EOS Selected model:	FEQ
CASnumber:	107-21-1
Fullname:	1,2-Ethandiol
Chemical Formula:	OH(CH2CH2)OH
Synonym:	Glycol alcohol
Molar Mass:	0.06206784 kg/mol
Triple Temperature:	260.6 K
Normal Boiling Point:	470.313 K
critical Temperature:	719.0 K
critical Pressure:	10508700.0 Pa
critical Density:	364.95889919999996 kg/m^3
Acentric Factor:	0.619
Dipole Moment:	2.41
Default Reference State:	NBP
UNNumber:	3082
Family:	other
Ideal Part Name:	Ideal gas heat capacity function for ethylene glycol of Zhou and Lemmon (2018).
Ideal Part Literature Reference:	Zhou, Y. and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for ethylene glycol of Zhou and Lemmon (2018).
Real Part Literature Reference:	Zhou, Y. and Lemmon, E.W., unpublished equation, 2018.
Real Part T_min:	260.6 K
Real Part T_max:	750.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	18.31 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY---
Thermal Conductivity T_min:	260.0 K
Thermal Conductivity T_max:	750.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	18.31
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	*** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY---
Viscosity T_min:	260.0 K
Viscosity T_max:	750.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	18.31
Medium Name:	METHANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.734324 kg/kg METHANE, 0.0150277 kg/kg NITROGEN, 0.0350662 kg/kg CO2, 0.136053 kg/kg ETHANE, 0.0540741 kg/kg PROPANE, 0.0107957 kg/kg ISOBUTAN, 0.0108577 kg/kg BUTANE, 0.00195672 kg/kg IPENTANE, 0.00184524 kg/kg PENTANE
Medium Name:	Ethane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FEK, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	74-84-0
Fullname:	Ethane
Chemical Formula:	CH3CH3
Synonym:	R-170
Molar Mass:	0.030069040000000002 kg/mol
Triple Temperature:	90.368 K
Normal Boiling Point:	184.569 K
critical Temperature:	305.322 K
critical Pressure:	4872200.0 Pa
critical Density:	206.1800000067324 kg/m^3
Acentric Factor:	0.0995
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1035
Family:	n-alkane
Heating Value:	51903552.62422744
GWP:	5.5
RCL:	7000.0
Safety Group:	A3
Ideal Part Name:	Ideal gas Helmholtz form for ethane of Buecker and Wagner (2006).
Ideal Part Literature Reference:	Bcker, D. and Wagner, W., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for ethane of Buecker and Wagner (2006).
Real Part Literature Reference:	Bcker, D. and Wagner, W., "A Reference Equation of State for the Thermodynamic Properties of Ethane for Temperatures from the Melting Line to 675 K and Pressures up to 900 MPa," J. Phys. Chem. Ref. Data, 35(1):205-266, 2006.
Real Part T_min:	90.368 K
Real Part T_max:	675.0 K
Real Part P_max:	900000.0 Pa
Real Part Rhomax:	22.419 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for ethane of Friend et al. (1991).

Thermal Conductivity Literature Reference:	Friend, D.G., Ingham, H., and Ely, J.F., "Thermophysical Properties of Ethane," J. Phys. Chem. Ref. Data, 20(2):275-347, 1991.
Thermal Conductivity T_min:	90.352 K
Thermal Conductivity T_max:	625.0 K
Thermal Conductivity P_max:	70000.0
Thermal Conductivity Rhomax:	22.419
Viscosity Models:	VS1, VS2, VS4, VS7
Viscosity Name:	Pure fluid viscosity model for ethane of Vogel et al. (2015).
Viscosity Literature Reference:	Vogel, E., Span, R., and Herrmann, S., "Reference Correlation for the Viscosity of Ethane," J. Phys. Chem. Ref. Data, 44, 043101, 2015. doi: 10.1063/1.4930838
Viscosity T_min:	90.352 K
Viscosity T_max:	625.0 K
Viscosity P_max:	70000.0
Viscosity Rhomax:	22.419
Medium Name:	Ethanol
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FEQ, PRT
EOS Selected model:	FEQ
CASnumber:	64-17-5
Fullname:	Ethyl alcohol
Chemical Formula:	C2H6O
Synonym:	Methyl carbinol
Molar Mass:	0.04606844 kg/mol
Triple Temperature:	159.0 K
Normal Boiling Point:	351.57 K
critical Temperature:	514.71 K
critical Pressure:	6268000.0 Pa
critical Density:	273.1858492 kg/m^3
Acentric Factor:	0.646
Dipole Moment:	1.6909
Default Reference State:	NBP
UNNumber:	1170
Family:	alcohol
Heating Value:	30015364.0974168
Ideal Part Name:	Ideal gas Helmholtz form for ethanol.
Ideal Part Literature Reference:	Schroeder, J.A., Penoncello, S.G., and Schroeder, J.S., 2014.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for ethanol of Schroeder et al. (2014).

Real Part Literature Reference:	Schroeder, J.A., Penoncello, S.G., and Schroeder, J.S., "A New Fundamental Equation for Ethanol," J. Phys. Chem. Ref. Data, 43, 043102, 2014. doi: 10.1063/1.4895394
Real Part T_min:	159.0 K
Real Part T_max:	650.0 K
Real Part P_max:	280000.0 Pa
Real Part Rhomax:	19.74 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for ethanol of Assael et al. (2013).
Thermal Conductivity Literature Reference:	Assael, M.J., Sykioti, E.A., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of Ethanol From the Triple Point to 600 K and up to 245 MPa," J. Phys. Chem. Ref. Data, 42(2), 023102, 2013. doi: 10.1063/1.4797368
Thermal Conductivity T_min:	159.0 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	280000.0
Thermal Conductivity Rhomax:	19.74
Viscosity Name:	Pure fluid viscosity model for ethanol of Huber (2005).
Viscosity Literature Reference:	Kiselev, S.B., Ely, J.F., Abdulagatov, I.M., and Huber, M.L., "Generalized SAFT-DFT/DMT Model for the Thermodynamic, Interfacial, and Transport Properties of Associating Fluids: Application for n-Alkanols," Ind. Eng. Chem. Res., 44:6916-6927, 2005.
Viscosity T_min:	159.0 K
Viscosity T_max:	650.0 K
Viscosity P_max:	280000.0
Viscosity Rhomax:	19.74
Medium Name:	Ethylene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	74-85-1
Fullname:	Ethene
Chemical Formula:	CH2=CH2
Synonym:	R-1150
Molar Mass:	0.02805376 kg/mol
Triple Temperature:	103.986 K
Normal Boiling Point:	169.379 K
critical Temperature:	282.35 K
critical Pressure:	5041800.0 Pa
critical Density:	214.24656511999999 kg/m^3
Acentric Factor:	0.0866
Dipole Moment:	0.0
Default Reference State:	NBP

UNNumber:	1962
Family:	n-alkene
Heating Value:	50302704.52160423
GWP:	3.7
Safety Group:	A3
Ideal Part Name:	Ideal gas heat capacity function for ethylene of Smukala et al. (2000).
Ideal Part Literature Reference:	Smukala, J., Span, R., and Wagner, W., 2000.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for ethylene of Smukala et al. (2000).
Real Part Literature Reference:	Smukala, J., Span, R., and Wagner, W., "A New Equation of State for Ethylene Covering the Fluid Region for Temperatures from the Melting Line to 450 K at Pressures up to 300 MPa," J. Phys. Chem. Ref. Data, 29(5):1053-1122, 2000.
Real Part T_min:	103.986 K
Real Part T_max:	450.0 K
Real Part P_max:	300000.0 Pa
Real Part Rhomax:	27.03 kg/m^3
Thermal Conductivity Models:	TC1, TC7
Thermal Conductivity Name:	Pure fluid thermal conductivity model for ethylene of Assael et al. (2016).
Thermal Conductivity Literature Reference:	Assael, M.J., Koutian, A., Huber, M.L., and Perkins, R.A., "Reference Correlations of the Thermal Conductivity of Ethylene and Propylene," J. Phys. Chem. Ref. Data, 45(3), 033104, 2016. doi: 10.1063/1.4958984
Thermal Conductivity T_min:	103.986 K
Thermal Conductivity T_max:	450.0 K
Thermal Conductivity P_max:	300000.0
Thermal Conductivity Rhomax:	27.03
Viscosity Models:	VS2, VS7
Viscosity Name:	Pure fluid viscosity model for ethylene of Holland et al. (1983).
Viscosity Literature Reference:	Holland, P.M., Eaton, B.E., and Hanley, H.J.M., "A Correlation of the Viscosity and Thermal Conductivity Data of Gaseous and Liquid Ethylene," J. Phys. Chem. Ref. Data, 12(4):917-932, 1983.
Viscosity T_min:	103.986 K
Viscosity T_max:	450.0 K
Viscosity P_max:	300000.0
Viscosity Rhomax:	27.03
Medium Name:	**Ethylene oxide**
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	75-21-8
Fullname:	Ethylene oxide

Chemical Formula:	C2H4O
Synonym:	Oxirane
Molar Mass:	0.04405256 kg/mol
Triple Temperature:	160.654 K
Normal Boiling Point:	283.66 K
critical Temperature:	468.92 K
critical Pressure:	3704700.0 Pa
critical Density:	315.8568552 kg/m^3
Acentric Factor:	0.21
Dipole Moment:	1.89
Default Reference State:	NBP
UNNumber:	1040
Family:	other
Ideal Part Name:	Ideal gas heat capacity function for ethylene oxide of Thol et al. (2015).
Ideal Part Literature Reference:	Thol, M., Rutkai, G., Koester, A., Kortmann, M., Span, R., and Vrabec, J., 2015.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for ethylene oxide of Thol et al. (2015).
Real Part Literature Reference:	Thol, M., Rutkai, G., Koester, A., Kortmann, M., Span, R., and Vrabec, J., Corrigendum to "Fundamental Equation of State for Ethylene Oxide Based On a Hybrid Dataset," Journal of Chemical Engineering Science, 121, 2015.
Real Part T_min:	160.654 K
Real Part T_max:	500.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	23.7 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference) for ethylene oxide.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	160.654 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	23.7
Viscosity Name:	Extended Corresponding States model (Propane reference) for ethylene oxide.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	160.654 K
Viscosity T_max:	500.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	23.7
Medium Name:	Fluorine
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE2, FEQ
EOS Selected model:	FEQ
CASnumber:	7782-41-4
Fullname:	Fluorine
Chemical Formula:	F2
Synonym:	Fluorine
Molar Mass:	0.037996810000000006 kg/mol
Triple Temperature:	53.4811 K
Normal Boiling Point:	85.0368 K
critical Temperature:	144.414 K
critical Pressure:	5172400.0 Pa
critical Density:	592.86422643 kg/m^3
Acentric Factor:	0.0449
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1045
Family:	cryogen
Heating Value:	0.0
Ideal Part Name:	Ideal gas Helmholtz form for fluorine.
Ideal Part Literature Reference:	de Reuck, K.M., 1990.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for fluorine of de Reuck (1990).
Real Part Literature Reference:	de Reuck, K.M., "International Thermodynamic Tables of the Fluid State-11 Fluorine," International Union of Pure and Applied Chemistry, Pergamon Press, Oxford, 1990.
Real Part T_min:	53.4811 K
Real Part T_max:	300.0 K
Real Part P_max:	20000.0 Pa
Real Part Rhomax:	45.47 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); predictive mode for fluorine.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	53.4811 K
Thermal Conductivity T_max:	300.0 K
Thermal Conductivity P_max:	20000.0
Thermal Conductivity Rhomax:	45.47
Viscosity Name:	Extended Corresponding States model (Propane reference); predictive mode for fluorine.

Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	53.4811 K
Viscosity T_max:	300.0 K
Viscosity P_max:	20000.0
Viscosity Rhomax:	45.47
Medium Name:	METHANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.921761 kg/kg METHANE, 0.00432728 kg/kg NITROGEN, 0.0156032 kg/kg CO2, 0.0325513 kg/kg ETHANE, 0.0120639 kg/kg PROPANE, 0.00338024 kg/kg ISOBUTAN, 0.00348403 kg/kg BUTANE, 0.00203143 kg/kg IPENTANE, 0.00139151 kg/kg PENTANE, ...
Medium Name:	Hydrogen sulfide
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FE3, FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	7783-06-4
Fullname:	Hydrogen sulfide
Chemical Formula:	H2S
Synonym:	Dihydrogen monosulfide
Molar Mass:	0.03408088 kg/mol
Triple Temperature:	187.7 K
Normal Boiling Point:	212.85 K
critical Temperature:	373.1 K
critical Pressure:	9000000.0 Pa
critical Density:	347.2841672 kg/m^3
Acentric Factor:	0.1005
Dipole Moment:	0.97
Default Reference State:	NBP
UNNumber:	1053
Family:	other
Heating Value:	16490477.945405165
Ideal Part Name:	Ideal gas Helmholtz form for hydrogen sulfide.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for hydrogen sulfide of Lemmon and Span (2006).

Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	187.7 K
Real Part T_max:	760.0 K
Real Part P_max:	170000.0 Pa
Real Part Rhomax:	29.12 kg/m^3
Viscosity Models:	VS2, VS4
Viscosity Name:	Friction theory viscosity model for hydrogen sulfide of Schmidt (2008).
Viscosity Literature Reference:	Schmidt, K.A.G., Carroll, J.J., Quinones-Cisneros, S.E., and Kvamme, B., "Hydrogen Sulphide Viscosity Model," proceedings of the 86th Annual GPA Convention, March 11-14, San Antonio, TX, 2007. See also: Schmidt, K.A.G., Quinones-Cisneros, S.E., Carroll, J.J., and Kvamme, B., "Hydrogen Sulfide Viscosity Modeling," Energy & Fuels, 22, 3424-3434.
Viscosity T_min:	187.7 K
Viscosity T_max:	760.0 K
Viscosity P_max:	170000.0
Viscosity Rhomax:	29.12
Medium Name:	Hydrogen chloride
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	7647-01-0
Fullname:	Hydrogen chloride
Chemical Formula:	HCl
Synonym:	Hydrogen chloride
Molar Mass:	0.036460940000000004 kg/mol
Triple Temperature:	159.07 K
Normal Boiling Point:	188.173 K
critical Temperature:	324.68 K
critical Pressure:	8313500.0 Pa
critical Density:	432.79135779999996 kg/m^3
Acentric Factor:	0.129
Dipole Moment:	1.079
Default Reference State:	NBP
UNNumber:	1789
Family:	other
Ideal Part Name:	Ideal gas heat capacity function for hydrogen chloride of Thol et al. (2018).
Ideal Part Literature Reference:	Thol, M., Dubberke, F.H., Baumhgger, E., Span, R., and Vrabec, J., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for hydrogen chloride of Thol et al. (2018).
Real Part Literature Reference:	Thol, M., Dubberke, F.H., Baumhgger, E., Span, R., and Vrabec, J., to be submitted to J. Chem. Eng. Data, 2018.

Real Part T_min:	159.07 K
Real Part T_max:	670.0 K
Real Part P_max:	200000.0 Pa
Real Part Rhomax:	34.5 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference) for hydrogen chloride.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	159.07 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	34.39
Viscosity Name:	Extended Corresponding States model (Propane reference) for hydrogen chloride.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	159.07 K
Viscosity T_max:	700.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	34.39
Medium Name:	Helium
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FE2, FEK, FEQ, PRT
EOS Selected model:	FEQ
CASnumber:	7440-59-7
Fullname:	Helium-4
Chemical Formula:	He
Synonym:	R-704
Molar Mass:	0.004002602 kg/mol
Triple Temperature:	2.1768 K
Normal Boiling Point:	4.2238 K
critical Temperature:	5.1953 K
critical Pressure:	228320.0 Pa
critical Density:	69.58003238740001 kg/m^3
Acentric Factor:	-0.3836
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1046
Family:	cryogen

Heating Value:	0.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for helium of Ortiz-Vega et al. (2015).
Ideal Part Literature Reference:	Ortiz-Vega, D.O., Hall, K.R., Holste, J.C., Arp, V.D., Harvey, A.H., and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for helium of Ortiz-Vega et al. (2015).
Real Part Literature Reference:	Ortiz-Vega, D.O., Hall, K.R., Holste, J.C., Arp, V.D., Harvey, A.H., and Lemmon, E.W., final equation of state, to be submitted to J. Phys. Chem. Ref. Data, 2018.
Real Part T_min:	2.1768 K
Real Part T_max:	2000.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	141.22 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for helium of Hands and Arp (1981).
Thermal Conductivity Literature Reference:	Hands, B.A. and Arp, V.D., "A Correlation of Thermal Conductivity Data for Helium," Cryogenics, 21(12):697-703, 1981.
Thermal Conductivity T_min:	2.1768 K
Thermal Conductivity T_max:	1500.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	88.73
Viscosity Name:	Pure fluid viscosity model for helium of Arp et al. (1998).
Viscosity Literature Reference:	WEB: https://nvlpubs.nist.gov/nistpubs/Legacy/TN/nbstechnicalnote1334.pdf Arp, V.D., McCarty, R.D., and Friend, D.G., "Thermophysical Properties of Helium-4 from 0.8 to 1500 K with Pressures to 2000 MPa," NIST Technical Note 1334 (revised), 1998.
Viscosity T_min:	2.1768 K
Viscosity T_max:	1500.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	88.73
Medium Name:	Heptane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE3, FE4, FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	142-82-5
Fullname:	Heptane
Chemical Formula:	CH3-5(CH2)-CH3
Synonym:	n-Heptane
Molar Mass:	0.100202 kg/mol
Triple Temperature:	182.55 K
Normal Boiling Point:	371.55 K
critical Temperature:	540.2 K

critical Pressure:	2735730.0 Pa
critical Density:	233.47066 kg/m^3
Acentric Factor:	0.349
Dipole Moment:	0.07
Default Reference State:	NBP
UNNumber:	1206
Family:	n-alkane
Heating Value:	48436458.35412467
Ideal Part Name:	Ideal gas heat capacity function for heptane of Tenji et al. (2018).
Ideal Part Literature Reference:	Tenji, D., Thol, M., Lemmon, E.W. and Span, R., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for heptane of Tenji et al. (2018).
Real Part Literature Reference:	Tenji, D., Thol, M., Lemmon, E.W. and Span, R., "Fundamental Equation of State for n-Heptane," to be submitted to Int. J. Thermophys., 2018.
Real Part T_min:	182.55 K
Real Part T_max:	600.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	7.743 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for heptane of Assael et al. (2013).
Thermal Conductivity Literature Reference:	Assael, M.J., Bogdanou, I., Mylona, S.K., Huber, M.L., Perkins, R.A., and Vesovic, V., "Reference Correlation of the Thermal Conductivity of n-Heptane from the Triple Point to 600 K and up to 250 MPa," J. Phys. Chem. Ref. Data, 42(2), 023101, 2013.
Thermal Conductivity T_min:	182.55 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	500000.0
Thermal Conductivity Rhomax:	8.5
Viscosity Models:	VS1, VS2, VS4
Viscosity Name:	Pure fluid viscosity model for heptane of Michailidou et al. (2014).
Viscosity Literature Reference:	Michailidou, E.K., Assael, M.J., Huber, M.L., Abdulagatov, I.M., and Perkins, R.A., "Reference Correlation of the Viscosity of n-Heptane from the Triple Point to 600 K and up to 248 MPa," J. Phys. Chem. Ref. Data, 43(2), 023103, 2014. doi: 10.1063/1.4875930
Viscosity T_min:	182.55 K
Viscosity T_max:	600.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	7.75
Medium Name:	Hexane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FE3, FEK, FEQ

EOS Selected model:	FEQ
CASnumber:	110-54-3
Fullname:	Hexane
Chemical Formula:	CH3-4(CH2)-CH3
Synonym:	n-Hexane
Molar Mass:	0.08617535999999999 kg/mol
Triple Temperature:	177.83 K
Normal Boiling Point:	341.866 K
critical Temperature:	507.82 K
critical Pressure:	3044100.0 Pa
critical Density:	233.19052416 kg/m^3
Acentric Factor:	0.3
Dipole Moment:	0.07
Default Reference State:	NBP
UNNumber:	1208
Family:	n-alkane
Heating Value:	48679228.02991481
Ideal Part Name:	Ideal gas heat capacity function for hexane of Thol et al. (2018).
Ideal Part Literature Reference:	Thol, M., Wang, Y., Lemmon, E.W., and Span, R., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for hexane of Thol et al. (2018).
Real Part Literature Reference:	Thol, M., Wang, Y., Lemmon, E.W., and Span, R., "Fundamental Equations of State for Hydrocarbons. Part II. n-Hexane," to be published, 2018.
Real Part T_min:	177.83 K
Real Part T_max:	600.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	8.81 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for hexane of Assael et al. (2013).
Thermal Conductivity Literature Reference:	Assael, M.J., Mylona, S.K., Tsiglifisi, Ch.A., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of n-Hexane from the Triple Point to 600 K and up to 500 MPa," J. Phys. Chem. Ref. Data, 42, 013106, 2013. doi: 10.1063/1.4793335
Thermal Conductivity T_min:	177.83 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	220000.0
Thermal Conductivity Rhomax:	8.85
Viscosity Models:	VS1, VS2, VS4
Viscosity Name:	Pure fluid viscosity model for hexane of Michailidou et al. (2013).
Viscosity Literature Reference:	Michailidou, E.K., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Viscosity of n-Hexane from the Triple Point to 600 K and up to 100 MPa," J. Phys. Chem. Ref. Data, 42(3), 033104, 2013. doi: 10.1063/1.4818980
Viscosity T_min:	177.83 K
Viscosity T_max:	600.0 K
Viscosity P_max:	100000.0

Viscosity Rhomax:	8.85
Medium Name:	HFE-7100
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Translated Peng-Robinson equation (cubic equation of state)
EOS Selected model:	PRT
CASnumber:	163702-08-7
Fullname:	Methyl Nonafluorobutylether
Chemical Formula:	C4F9OCH3
Synonym:	HFE-7100
Molar Mass:	0.25 kg/mol
Triple Temperature:	138.15 K
Normal Boiling Point:	334.15 K
critical Temperature:	468.45 K
critical Pressure:	2228000.0 Pa
critical Density:	548.0 kg/m^3
Acentric Factor:	0.436459854
Dipole Moment:	2.357
Default Reference State:	ASH
Real Part Name:	equation of state specification
Real Part Literature Reference:	LITERATURE REFERENCES \ volume translation of Peng Robinson EOS translation computed so that density at Tr=0.7 matches experimental data. end of info section
Real Part P_max:	30000.0 Pa
Real Part Rhomax:	20.0 kg/m^3
Medium Name:	HFE-7200
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Translated Peng-Robinson equation (cubic equation of state)
EOS Selected model:	PRT
CASnumber:	163702-05-4
Fullname:	HFE-7200
Chemical Formula:	C4F9OC2H5
Synonym:	HFE-7200
Molar Mass:	0.264 kg/mol
Triple Temperature:	135.15 K
Normal Boiling Point:	349.15 K
critical Temperature:	482.01 K
critical Pressure:	1970000.0 Pa
critical Density:	517.823856 kg/m^3
Acentric Factor:	0.458855

Dipole Moment:	2.658
Default Reference State:	ASH
Real Part Name:	equation of state specification
Real Part Literature Reference:	LITERATURE REFERENCES \ volume translation of Peng Robinson EOS translation computed so that density at Tr=0.7 matches experimental data. end of info section
Real Part P_max:	30000.0 Pa
Real Part Rhomax:	40.0 kg/m^3
Medium Name:	HFE-7300
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Translated Peng-Robinson equation (cubic equation of state)
EOS Selected model:	PRT
CASnumber:	132182-92-4
Fullname:	HFE-7300
Chemical Formula:	C6F13OCH3
Synonym:	HFE-7300
Molar Mass:	0.35 kg/mol
Triple Temperature:	235.15 K
Normal Boiling Point:	371.15 K
critical Temperature:	516.45 K
critical Pressure:	1877000.0 Pa
critical Density:	570.4971475 kg/m^3
Acentric Factor:	0.39991
Default Reference State:	NBP
Real Part Name:	equation of state specification
Real Part Literature Reference:	LITERATURE REFERENCES \ volume translation of Peng Robinson EOS translation computed so that density at Tr=0.7 matches that from thermodynamic tables from Rowley tables end of info section
Real Part P_max:	30000.0 Pa
Real Part Rhomax:	40.0 kg/m^3
Medium Name:	HFE-7500
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	297730-93-9
Fullname:	3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-trifluoromethyl-hexane
Chemical Formula:	C7F15OC2H5
Synonym:	HFE-7500
Molar Mass:	0.414 kg/mol
Triple Temperature:	173.15 K

Normal Boiling Point:	403.15 K
critical Temperature:	534.21 K
critical Pressure:	1549750.0 Pa
critical Density:	549.999828 kg/m^3
Acentric Factor:	0.534425
Default Reference State:	ASH
Real Part Name:	equation of state specification
Real Part Literature Reference:	LITERATURE REFERENCE \ preliminary equation, 2011. \ end of info section
Real Part P_max:	105000.0 Pa
Real Part Rhomax:	100.0 kg/m^3
Thermal Conductivity Name:	transport model specification
Thermal Conductivity Literature Reference:	LITERATURE REFERENCES \ *** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- Comparisons to limited data show that deviations in the thermal conductivity are within 1% for the saturated liquid phase between 273 and 310 K, and that deviations in the viscosity are mostly within 2% for the saturated liquid phase between 230 and 315 K. Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003. \ Lennard-Jones parameters are estimated with method of Chung. \ end of info section
Thermal Conductivity T_min:	165.0 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	20.0
Viscosity Name:	transport model specification
Viscosity Literature Reference:	LITERATURE REFERENCES \ *** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- Comparisons to limited data show that deviations in the thermal conductivity are within 1% for the saturated liquid phase between 273 and 310 K, and that deviations in the viscosity are mostly within 2% for the saturated liquid phase between 230 and 315 K. Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003. \ Lennard-Jones parameters are estimated with method of Chung. \ end of info section
Viscosity T_min:	165.0 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	20.0
Medium Name:	METHANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.657059 kg/kg METHANE, 0.080556 kg/kg NITROGEN, 0.168348 kg/kg CO2, 0.0652521 kg/kg ETHANE, 0.0199032 kg/kg PROPANE, 0.00442612 kg/kg ISOBUTAN, 0.00445543 kg/kg BUTANE
Medium Name:	METHANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.700613 kg/kg METHANE, 0.202268 kg/kg NITROGEN, 0.0232456 kg/kg CO2, 0.0532094 kg/kg ETHANE, 0.0143056 kg/kg PROPANE, 0.00311671 kg/kg ISOBUTAN, 0.00324138 kg/kg BUTANE
Medium Name:	Hydrogen (normal)
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FEK, FEQ, PRT
EOS Selected model:	FEQ
CASnumber:	1333-74-0
Fullname:	Hydrogen (normal)
Chemical Formula:	H2
Synonym:	R-702
Molar Mass:	0.0020158800000000003 kg/mol
Triple Temperature:	13.957 K
Normal Boiling Point:	20.369 K
critical Temperature:	33.145 K
critical Pressure:	1296400.0 Pa
critical Density:	31.26226704 kg/m^3
Acentric Factor:	-0.219
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1049
Family:	cryogen
Heating Value:	141789193.8012183
Safety Group:	A3
Ideal Part Name:	Ideal gas Helmholtz form for hydrogen (normal).
Ideal Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., and Lemmon, E.W., 2009.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for normal hydrogen of Leachman et al. (2009).
Real Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., and Lemmon, E.W., "Fundamental Equations of State for Parahydrogen, Normal Hydrogen, and Orthohydrogen," J. Phys. Chem. Ref. Data, 38(3):721-748, 2009.
Real Part T_min:	13.957 K
Real Part T_max:	1000.0 K
Real Part P_max:	2000000.0 Pa
Real Part Rhomax:	102.0 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for hydrogen (normal) of Assael et al. (2011).
Thermal Conductivity Literature Reference:	Assael, M.J., Assael, J.-A.M., Huber, M.L., Perkins, R.A., and Takata, Y., "Correlation of the Thermal Conductivity of Normal and Parahydrogen from the Triple Point to 1000 K and up to 100 MPa," J. Phys. Chem. Ref. Data, 40(3), 033101, 2011.

Thermal Conductivity T_min:	13.957 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	2000000.0
Thermal Conductivity Rhomax:	102.0
Viscosity Models:	VS1, VS4, VS7
Viscosity Name:	Pure fluid viscosity model from symbolic regression for hydrogen (normal) of Muzny et al. (2013).
Viscosity Literature Reference:	Muzny, C.D., Huber, M.L., and Kazakov, A.F., "Correlation for the Viscosity of Normal Hydrogen Obtained from Symbolic Regression," J. Chem. Eng. Data, 58:969-979, 2013.
Viscosity T_min:	13.957 K
Viscosity T_max:	2000.0 K
Viscosity P_max:	2000000.0
Viscosity Rhomax:	102.0
Medium Name:	Isobutene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	115-11-7
Fullname:	2-Methyl-1-propene
Chemical Formula:	CH2=C(CH3)2
Synonym:	Methylpropene
Molar Mass:	0.056106319999999994 kg/mol
Triple Temperature:	132.4 K
Normal Boiling Point:	266.15 K
critical Temperature:	418.09 K
critical Pressure:	4009800.0 Pa
critical Density:	233.9633544 kg/m^3
Acentric Factor:	0.193
Dipole Moment:	0.5
Default Reference State:	NBP
UNNumber:	1055
Family:	br-alkene
Heating Value:	48157854.58750459
Ideal Part Name:	Ideal gas heat capacity function for isobutene of Lemmon and Ihmels (2005).
Ideal Part Literature Reference:	Lemmon, E.W. and Ihmels, E.C., 2005.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for isobutene of Lemmon and Ihmels (2005).
Real Part Literature Reference:	Lemmon, E.W. and Ihmels, E.C., "Thermodynamic Properties of the Butenes. Part II. Short Fundamental Equations of State," Fluid Phase Equilib., 228-229C:173-187, 2005.

Real Part T_min:	132.4 K
Real Part T_max:	550.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	13.67 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference) for isobutene.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	132.4 K
Thermal Conductivity T_max:	550.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	13.67
Viscosity Name:	Extended Corresponding States model (Propane reference) for isobutene.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	132.4 K
Viscosity T_max:	550.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	13.67
Medium Name:	Isohexane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	107-83-5
Fullname:	2-Methylpentane
Chemical Formula:	(CH3)2CH(CH2)2CH3
Synonym:	Methylpentane
Molar Mass:	0.08617535999999999 kg/mol
Triple Temperature:	119.6 K
Normal Boiling Point:	333.36 K
critical Temperature:	497.7 K
critical Pressure:	3040000.0 Pa
critical Density:	233.96610239999998 kg/m^3
Acentric Factor:	0.2797
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1208
Family:	br-alkane
Heating Value:	48590687.63971511

Ideal Part Name:	Ideal gas Helmholtz form for isohexane.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for isohexane of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	119.6 K
Real Part T_max:	550.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	9.38 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for isohexane.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	119.6 K
Thermal Conductivity T_max:	550.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	9.38
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for isohexane.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	119.6 K
Viscosity T_max:	550.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	9.38
Medium Name:	Isooctane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ, PRT
EOS Selected model:	FEQ
CASnumber:	540-84-1
Fullname:	2,2,4-Trimethylpentane
Chemical Formula:	(CH3)2CHCH2C(CH3)3
Synonym:	Isobutyltrimethylmethane
Molar Mass:	0.11422852 kg/mol
Triple Temperature:	165.77 K
Normal Boiling Point:	372.358 K
critical Temperature:	544.0 K
critical Pressure:	2572000.0 Pa

critical Density:	242.16446240000002 kg/m^3
Acentric Factor:	0.303
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1262
Family:	br-alkane
Heating Value:	48119839.07346432
Ideal Part Name:	Ideal gas heat capacity function for isooctane of Blackham and Lemmon (2018).
Ideal Part Literature Reference:	Blackham, T.M., Lemmon, A.K., and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for isooctane of Blackham et al. (2018).
Real Part Literature Reference:	Blackham, T.M., Lemmon, A.K., and Lemmon, E.W., to be submitted to Int. J. Thermophys., 2018.
Real Part T_min:	165.77 K
Real Part T_max:	600.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	6.97 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Octane reference) for isooctane.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	165.77 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	15.0
Viscosity Name:	Extended Corresponding States model (Octane reference) for isooctane.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	165.77 K
Viscosity T_max:	600.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	15.0
Medium Name:	Isopentane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	78-78-4
Fullname:	2-Methylbutane
Chemical Formula:	(CH3)2CHCH2CH3

Synonym:	R-601a
Molar Mass:	0.07214878 kg/mol
Triple Temperature:	112.65 K
Normal Boiling Point:	300.98 K
critical Temperature:	460.35 K
critical Pressure:	3378000.0 Pa
critical Density:	235.99865938 kg/m^3
Acentric Factor:	0.2274
Dipole Moment:	0.11
Default Reference State:	NBP
UNNumber:	1265
Family:	br-alkane
Heating Value:	48910459.74720571
RCL:	1000.0
Safety Group:	A3
Ideal Part Name:	Ideal gas Helmholtz form for isopentane.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for isopentane of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	112.65 K
Real Part T_max:	500.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	13.3 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for isopentane of Vassiliou et al. (2015).
Thermal Conductivity Literature Reference:	Vassiliou, C.-M., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlatons of the Thermal Conductivity of Cyclopentane, iso-Pentane, and n-Pentane," J. Phys. Chem. Ref. Data, 44(3), 033102, 2015.
Thermal Conductivity T_min:	112.65 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	1000000.0
Thermal Conductivity Rhomax:	10.94
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., (2018) "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209
Viscosity T_min:	112.65 K
Viscosity T_max:	500.0 K
Viscosity P_max:	1000000.0
Viscosity Rhomax:	13.3
Medium Name:	Isobutane
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FE3, FEK, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	75-28-5
Fullname:	2-Methylpropane
Chemical Formula:	CH(CH3)3
Synonym:	R-600a
Molar Mass:	0.0581222 kg/mol
Triple Temperature:	113.73 K
Normal Boiling Point:	261.401 K
critical Temperature:	407.81 K
critical Pressure:	3629000.0 Pa
critical Density:	225.49999998349358 kg/m^3
Acentric Factor:	0.184
Dipole Moment:	0.132
Default Reference State:	IIR
UNNumber:	1969
Family:	br-alkane
Heating Value:	49347753.52619137
RCL:	4000.0
Safety Group:	A3
Ideal Part Name:	Ideal gas Helmholtz form for isobutane.
Ideal Part Literature Reference:	Bcker, D. and Wagner, W., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for isobutane of Buecker and Wagner (2006).
Real Part Literature Reference:	Bcker, D. and Wagner, W., "Reference Equations of State for the Thermodynamic Properties of Fluid Phase n-Butane and Isobutane," J. Phys. Chem. Ref. Data, 35(1):929-1019, 2006. doi: 10.1063/1.1901687
Real Part T_min:	113.73 K
Real Part T_max:	575.0 K
Real Part P_max:	200000.0 Pa
Real Part Rhomax:	12.9 kg/m^3
Thermal Conductivity Models:	TC1, TC2
Thermal Conductivity Name:	Pure fluid thermal conductivity model for isobutane of Perkins (2002).
Thermal Conductivity Literature Reference:	Perkins, R.A., "Measurement and Correlation of the Thermal Conductivity of Isobutane from 114 K to 600 K at Pressures to 70 MPa," J. Chem. Eng. Data, 47(5):1272-1279, 2002.
Thermal Conductivity T_min:	113.55 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	70000.0
Thermal Conductivity Rhomax:	13.0

Viscosity Models:	VS1, VS2
Viscosity Name:	Pure fluid viscosity model for isobutane of Vogel et al. (2000).
Viscosity Literature Reference:	Vogel, E., Kuechenmeister, C., and Bich, E., "Viscosity Correlation for Isobutane over Wide Ranges of the Fluid Region," Int. J. Thermophys, 21(2):343-356, 2000.
Viscosity T_min:	113.55 K
Viscosity T_max:	600.0 K
Viscosity P_max:	35000.0
Viscosity Rhomax:	12.9
Medium Name:	Krypton
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	7439-90-9
Fullname:	Krypton
Chemical Formula:	Kr
Synonym:	R-784
Molar Mass:	0.083798 kg/mol
Triple Temperature:	115.775 K
Normal Boiling Point:	119.73 K
critical Temperature:	209.48 K
critical Pressure:	5525000.0 Pa
critical Density:	909.2083 kg/m^3
Acentric Factor:	-0.000894
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1056, 1970
Family:	cryogen
Heating Value:	0.0
Ideal Part Name:	Ideal gas Helmholtz form for krypton.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for krypton of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	115.775 K
Real Part T_max:	750.0 K
Real Part P_max:	200000.0 Pa
Real Part Rhomax:	33.42 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode for krypton.

Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	115.775 K
Thermal Conductivity T_max:	750.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	33.42
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); predictive mode for krypton.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	115.775 K
Viscosity T_max:	750.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	33.42
Medium Name:	MD2M
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	141-62-8
Fullname:	Decamethyltetrasiloxane
Chemical Formula:	C10H30Si4O3
Synonym:	MD2M
Molar Mass:	0.3106854 kg/mol
Triple Temperature:	205.2 K
Normal Boiling Point:	467.59 K
critical Temperature:	599.4 K
critical Pressure:	1144000.0 Pa
critical Density:	268.4321856 kg/m^3
Acentric Factor:	0.635
Dipole Moment:	1.12
Default Reference State:	NBP
UNNumber:	????
Family:	siloxane
Ideal Part Name:	Ideal gas heat capacity function for MD2M of Thol et al. (2017).
Ideal Part Literature Reference:	Thol, M., Dubberke, F.H, Baumhgger, E., Vrabec, J., and Span, R., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for MD2M of Thol et al. (2017).

Real Part Literature Reference:	Thol, M., Dubberke, F.H, Baumhgger, E., Vrabec, J., and Span, R., "Speed of Sound Measurements and Fundamental Equations of State for Octamethyltrisiloxane and Decamethyltetrasiloxane," J. Chem. Eng. Data, 62:2633-2648, 2017. doi: 10.1021/acs.jced.7b00092
Real Part T_min:	205.2 K
Real Part T_max:	600.0 K
Real Part P_max:	130000.0 Pa
Real Part Rhomax:	3.039 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for MD2M.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	205.2 K
Thermal Conductivity T_max:	673.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	3.04
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for MD2M.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	205.2 K
Viscosity T_max:	673.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	3.04
Medium Name:	MD3M
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	141-63-9
Fullname:	Dodecamethylpentasiloxane
Chemical Formula:	C12H36Si5O4
Synonym:	MD3M
Molar Mass:	0.384839 kg/mol
Triple Temperature:	192.0 K
Normal Boiling Point:	503.032 K
critical Temperature:	628.96 K
critical Pressure:	961120.0 Pa
critical Density:	269.3873 kg/m^3
Acentric Factor:	0.723
Dipole Moment:	1.223
Default Reference State:	NBP

UNNumber:	????
Family:	siloxane
Ideal Part Name:	Ideal gas heat capacity function for MD3M of Thol et al. (2018).
Ideal Part Literature Reference:	Thol, M., Javed, M.A., Baumhoegger, E., Span, R., and Vrabec, J., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for MD3M of Thol et al. (2018).
Real Part Literature Reference:	Thol, M., Javed, M.A., Baumhoegger, E., Span, R., and Vrabec, J., "Thermodynamic Properties of Dodecamethylpentasiloxane, Tetradecamethylhexasiloxane, and Decamethylcyclopentasiloxane," to be submitted to Fluid Phase Equilib., 2018
Real Part T_min:	192.0 K
Real Part T_max:	630.0 K
Real Part P_max:	125000.0 Pa
Real Part Rhomax:	2.53 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for MD3M.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	193.0 K
Thermal Conductivity T_max:	673.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	2.54
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for MD3M.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	193.0 K
Viscosity T_max:	673.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	2.54
Medium Name:	MD4M
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	107-52-8
Fullname:	Tetradecamethylhexasiloxane
Chemical Formula:	C14H42O5Si6
Synonym:	MD4M
Molar Mass:	0.45899328 kg/mol
Triple Temperature:	214.15 K

Normal Boiling Point:	532.905 K
critical Temperature:	653.2 K
critical Pressure:	840370.0 Pa
critical Density:	261.62616959999997 kg/m^3
Acentric Factor:	0.806
Dipole Moment:	1.308
Default Reference State:	NBP
UNNumber:	????
Family:	siloxane
Ideal Part Name:	Ideal gas heat capacity function for MD4M of Thol et al. (2018).
Ideal Part Literature Reference:	Thol, M., Javed, M.A., Baumhoegger, E., Span, R., and Vrabec, J., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for MD4M of Thol et al. (2018).
Real Part Literature Reference:	Thol, M., Javed, M.A., Baumhoegger, E., Span, R., and Vrabec, J., "Thermodynamic Properties of Dodecamethylpentasiloxane, Tetradecamethylhexasiloxane, and Decamethylcyclopentasiloxane," to be submitted to Fluid Phase Equilib., 2018
Real Part T_min:	214.15 K
Real Part T_max:	655.0 K
Real Part P_max:	125000.0 Pa
Real Part Rhomax:	2.108 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fit to extremely limited data for MD4M.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	214.15 K
Thermal Conductivity T_max:	655.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	2.108
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fit to extremely limited data for MD4M.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	214.15 K
Viscosity T_max:	655.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	2.108
Medium Name:	MDM
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ

EOS Selected model:	FEQ
CASnumber:	107-51-7
Fullname:	Octamethyltrisiloxane
Chemical Formula:	C8H24O2Si3
Synonym:	MDM
Molar Mass:	0.23653146 kg/mol
Triple Temperature:	187.2 K
Normal Boiling Point:	425.63 K
critical Temperature:	565.3609 K
critical Pressure:	1437500.0 Pa
critical Density:	268.22667564 kg/m^3
Acentric Factor:	0.524
Dipole Moment:	0.99
Default Reference State:	NBP
UNNumber:	????
Family:	siloxane
Ideal Part Name:	Ideal gas Helmholtz form for MDM.
Ideal Part Literature Reference:	Thol, M., Dubberke, F.H, Baumhgger, E., Vrabec, J., and Span, R., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for MDM of Thol et al. (2017).
Real Part Literature Reference:	Thol, M., Dubberke, F.H, Baumhgger, E., Vrabec, J., and Span, R., "Speed of Sound Measurements and Fundamental Equations of State for Octamethyltrisiloxane and Decamethyltetrasiloxane," J. Chem. Eng. Data, 62:2633-2648, 2017. doi: 10.1021/acs.jced.7b00092
Real Part T_min:	187.2 K
Real Part T_max:	570.0 K
Real Part P_max:	130000.0 Pa
Real Part Rhomax:	3.91 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for MDM.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	187.2 K
Thermal Conductivity T_max:	575.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	3.91
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for MDM.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	187.2 K
Viscosity T_max:	575.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	3.91

Medium Name:	Monoethanolamine
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	141-43-5
Fullname:	Ethanolamine
Chemical Formula:	HOCH2CH2NH2
Synonym:	2-Aminoethanol
Molar Mass:	0.0610831 kg/mol
Triple Temperature:	283.7 K
Normal Boiling Point:	443.564 K
critical Temperature:	671.4 K
critical Pressure:	8125000.0 Pa
critical Density:	329.237909 kg/m^3
Acentric Factor:	0.573
Dipole Moment:	2.36992
Default Reference State:	NBP
UNNumber:	2491
Family:	other
Ideal Part Name:	Ideal gas heat capacity function for monoethanolamine of Herrig et al. (2018).
Ideal Part Literature Reference:	Herrig, S., Thol, M., and Span, R., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for monoethanolamine of Herrig et al. (2018).
Real Part Literature Reference:	Herrig, S., Thol, M., and Span, R., unpublished equation, 2018.
Real Part T_min:	283.7 K
Real Part T_max:	675.0 K
Real Part P_max:	9000.0 Pa
Real Part Rhomax:	16.76 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	283.7 K
Thermal Conductivity T_max:	675.0 K
Thermal Conductivity P_max:	9000.0
Thermal Conductivity Rhomax:	16.76
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	283.7 K

Viscosity T_max:	675.0 K
Viscosity P_max:	9000.0
Viscosity Rhomax:	16.76
Medium Name:	Methane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FEK, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	74-82-8
Fullname:	Methane
Chemical Formula:	CH4
Synonym:	R-50
Molar Mass:	0.0160428 kg/mol
Triple Temperature:	90.6941 K
Normal Boiling Point:	111.667 K
critical Temperature:	190.564 K
critical Pressure:	4599200.0 Pa
critical Density:	162.6579492 kg/m^3
Acentric Factor:	0.01142
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1971, 1972
Family:	n-alkane
Heating Value:	55512753.38469595
GWP:	25.0
Safety Group:	A3
Ideal Part Name:	Ideal gas Helmholtz form for methane.
Ideal Part Literature Reference:	Setzmann, U. and Wagner, W., 1991.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for methane of Setzmann and Wagner (1991).
Real Part Literature Reference:	Setzmann, U. and Wagner, W., "A New Equation of State and Tables of Thermodynamic Properties for Methane Covering the Range from the Melting Line to 625 K at Pressures up to 1000 MPa," J. Phys. Chem. Ref. Data, 20(6):1061-1151, 1991.
Real Part T_min:	90.6941 K
Real Part T_max:	625.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	40.072 kg/m^3
Thermal Conductivity Models:	TC1, TC2
Thermal Conductivity Name:	Pure fluid thermal conductivity model for methane of Friend et al. (1989).
Thermal Conductivity Literature Reference:	WEB: https://nvlpubs.nist.gov/nistpubs/Legacy/TN/nbstechnicalnote1325.pdf Friend, D.G., Ely, J.F., and Ingham, H., "Tables for the Thermophysical Properties of Methane," NIST Technical Note 1325, 1989.

Thermal Conductivity T_min:	90.6941 K
Thermal Conductivity T_max:	625.0 K
Thermal Conductivity P_max:	1000000.0
Thermal Conductivity Rhomax:	40.072
Viscosity Models:	VS1, VS2, VS4
Viscosity Name:	Pure fluid generalized friction theory viscosity model for methane of Quinones-Cisneros et al. (2011). unpublished
Viscosity Literature Reference:	Quinones-Cisneros, S.E., Huber, M.L., and Deiters, U.K., unpublished work, 2011.
Viscosity T_min:	90.68 K
Viscosity T_max:	1200.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	40.072
Medium Name:	Methanol
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FEQ
EOS Selected model:	FEQ
CASnumber:	67-56-1
Fullname:	Methanol
Chemical Formula:	CH3OH
Synonym:	Methyl alcohol
Molar Mass:	0.03204216 kg/mol
Triple Temperature:	175.61 K
Normal Boiling Point:	337.632 K
critical Temperature:	512.6 K
critical Pressure:	8103500.0 Pa
critical Density:	275.56257600000004 kg/m^3
Acentric Factor:	0.5625
Dipole Moment:	1.7
Default Reference State:	NBP
UNNumber:	1230
Family:	alcohol
Heating Value:	23846394.874752514
GWP:	2.8
Ideal Part Name:	Ideal gas heat capacity function for methanol of de Reuck and Craven (1993).
Ideal Part Literature Reference:	de Reuck, K.M. and Craven, R.J.B., 1993.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for methanol of de Reuck and Craven (1993).

Real Part Literature Reference:	de Reuck, K.M. and Craven, R.J.B., "Methanol, International Thermodynamic Tables of the Fluid State-12," IUPAC, Blackwell Scientific Publications, London, 1993.
Real Part T_min:	175.61 K
Real Part T_max:	620.0 K
Real Part P_max:	800000.0 Pa
Real Part Rhomax:	35.57 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for methanol of Sykioti et al. (2013).
Thermal Conductivity Literature Reference:	Sykioti, E.A., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of Methanol from the Triple Point to 660 K and up to 245 MPa," J. Phys. Chem. Ref. Data, 42, 043101, 2013.
Thermal Conductivity T_min:	175.61 K
Thermal Conductivity T_max:	1620.0 K
Thermal Conductivity P_max:	800000.0
Thermal Conductivity Rhomax:	35.57
Viscosity Name:	Pure fluid viscosity model for methanol of Xiang et al. (2006).
Viscosity Literature Reference:	Xiang, H.W., Laesecke, A., and Huber, M.L., "A New Reference Correlation for the Viscosity of Methanol," J. Phys. Chem. Ref. Data, 35(4):1597-1620, 2006.
Viscosity T_min:	175.61 K
Viscosity T_max:	620.0 K
Viscosity P_max:	800000.0
Viscosity Rhomax:	35.57
Medium Name:	Methyl linoleate
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	112-63-0
Fullname:	Methyl (Z,Z)-9,12-octadecadienoate
Chemical Formula:	C19H34O2
Synonym:	Methyl ester(Z,Z)-9,12-octadecadienoic acid
Molar Mass:	0.29447206 kg/mol
Triple Temperature:	238.1 K
Normal Boiling Point:	628.84 K
critical Temperature:	799.0 K
critical Pressure:	1341000.0 Pa
critical Density:	238.05121330400002 kg/m^3
Acentric Factor:	0.805
Dipole Moment:	1.79
Default Reference State:	NBP
UNNumber:	????
Family:	FAME

Ideal Part Name:	Ideal gas heat capacity function for methyl linoleate of Huber et al. (2009).
Ideal Part Literature Reference:	TDE 3.0 internal version, March 2008, Planck-Einstein form based on estimation from Joback method, uncertainty 10%.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for methyl linoleate of Huber et al. (2009).
Real Part Literature Reference:	Huber, M.L., Lemmon, E.W., Kazakov, A., Ott, L.S., and Bruno, T.J., "Model for the Thermodynamic Properties of a Biodiesel Fuel," Energy & Fuels, 23:3790-3797, 2009.
Real Part T_min:	238.1 K
Real Part T_max:	1000.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	3.16 kg/m^3
Thermal Conductivity Models:	TC1, TC5
Thermal Conductivity Name:	Pure fluid thermal conductivity model for methyl linoleate of Perkins and Huber (2011).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivities of Biodiesel Constituent Fluids: Methyl Oleate and Methyl Linoleate," Energy & Fuels, 25:2383-2388, 2011.
Thermal Conductivity T_min:	238.1 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	3.16
Viscosity Name:	Extended Corresponding States model (Propane reference) for methyl linoleate.
Viscosity Literature Reference:	Huber, M.L., (2018) "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209
Viscosity T_min:	238.1 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	3.16
Medium Name:	Methyl linolenate
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	301-00-8
Fullname:	Methyl (Z,Z,Z)-9,12,15-octadecatrienoate
Chemical Formula:	C19H32O2
Synonym:	Methyl ester linolenic acid
Molar Mass:	0.29245618 kg/mol
Triple Temperature:	218.65 K
Normal Boiling Point:	629.13 K
critical Temperature:	772.0 K

critical Pressure:	1369000.0 Pa
critical Density:	247.79812131400004 kg/m^3
Acentric Factor:	1.14
Dipole Moment:	1.54
Default Reference State:	NBP
UNNumber:	????
Family:	FAME
Ideal Part Name:	Ideal gas heat capacity function for methyl linolenate of Huber et al. (2009).
Ideal Part Literature Reference:	TDE 3.0 internal version, March 2008, Planck-Einstein form based on estimation from Joback method, uncertainty is 10%.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for methyl linolenate of Huber et al. (2009).
Real Part Literature Reference:	Huber, M.L., Lemmon, E.W., Kazakov, A., Ott, L.S., and Bruno, T.J., "Model for the Thermodynamic Properties of a Biodiesel Fuel," Energy & Fuels, 23:3790-3797, 2009.
Real Part T_min:	218.65 K
Real Part T_max:	1000.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	3.29 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for methyl linolenate of Huber (2018).
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	235.0 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	3.29
Viscosity Name:	Extended Corresponding States model (Propane reference) for methyl linolenate.
Viscosity Literature Reference:	Huber, M.L., (2018) "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209
Viscosity T_min:	235.0 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	3.29
Medium Name:	MM
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	107-46-0

Fullname:	Hexamethyldisiloxane
Chemical Formula:	C6H18OSi2
Synonym:	MM
Molar Mass:	0.16237680000000002 kg/mol
Triple Temperature:	204.93 K
Normal Boiling Point:	373.658 K
critical Temperature:	518.7 K
critical Pressure:	1931130.0 Pa
critical Density:	268.4088504 kg/m^3
Acentric Factor:	0.418
Dipole Moment:	0.801
Default Reference State:	NBP
UNNumber:	????
Family:	siloxane
Ideal Part Name:	Ideal gas heat capacity function for hexamethyldisiloxane of Thol et al. (2016).
Ideal Part Literature Reference:	Thol, M., Dubberke, F.H., Rutkai, G., Windmann, T., Kster, A., Span, R., and Vrabec, J., 2016.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for hexamethyldisiloxane of Thol et al. (2016).
Real Part Literature Reference:	Thol, M., Dubberke, F.H., Rutkai, G., Windmann, T., Kster, A., Span, R., and Vrabec, J., "Fundamental Equation of State Correlation for Hexamethyldisiloxane Based on Experimental and Molecular Simulation Data," Fluid Phase Equilib., 418:133-151, 2016. doi: 10.1016/j.fluid.2015.09.047
Real Part T_min:	204.93 K
Real Part T_max:	580.0 K
Real Part P_max:	130000.0 Pa
Real Part Rhomax:	5.27 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (N2 reference); fit to very limited data for MM.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	204.93 K
Thermal Conductivity T_max:	580.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	6.0
Viscosity Name:	Extended Corresponding States model (N2 reference); fit to very limited data for MM.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	204.93 K
Viscosity T_max:	580.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	6.0
Medium Name:	Methyl oleate
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	112-62-9
Fullname:	Methyl cis-9-octadecenoate
Chemical Formula:	C19H36O2
Synonym:	Methyl ester oleic acid
Molar Mass:	0.29648794 kg/mol
Triple Temperature:	253.47 K
Normal Boiling Point:	627.18 K
critical Temperature:	782.0 K
critical Pressure:	1246000.0 Pa
critical Density:	241.00022202899999 kg/m^3
Acentric Factor:	0.906
Dipole Moment:	1.63
Default Reference State:	NBP
UNNumber:	????
Family:	FAME
Ideal Part Name:	Ideal gas heat capacity function for methyl oleate of Huber et al. (2009).
Ideal Part Literature Reference:	TDE 3.0 internal version, March 2008, Planck-Einstein form based on estimation from Joback method, uncertainty 10%.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for methyl oleate of Huber et al. (2009).
Real Part Literature Reference:	Huber, M.L., Lemmon, E.W., Kazakov, A., Ott, L.S., and Bruno, T.J., "Model for the Thermodynamic Properties of a Biodiesel Fuel," Energy & Fuels, 23:3790-3797, 2009.
Real Part T_min:	253.47 K
Real Part T_max:	1000.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	3.05 kg/m^3
Thermal Conductivity Models:	TC1, TC5
Thermal Conductivity Name:	Pure fluid thermal conductivity model for methyl oleate of Perkins and Huber (2011).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivities of Biodiesel Constituent Fluids: Methyl Oleate and Methyl Linoleate," Energy & Fuels, 25:2383-2388, 2011.
Thermal Conductivity T_min:	253.47 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	3.05
Viscosity Name:	Extended Corresponding States model (Propane reference) for methyl oleate.
Viscosity Literature Reference:	Huber, M.L., (2018) "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209

Viscosity T_min:	253.47 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	3.05
Medium Name:	Methyl palmitate
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	112-39-0
Fullname:	Methyl hexadecanoate
Chemical Formula:	C17H34O2
Synonym:	Methyl ester palmitic acid
Molar Mass:	0.27045066 kg/mol
Triple Temperature:	302.71 K
Normal Boiling Point:	602.269 K
critical Temperature:	755.0 K
critical Pressure:	1350000.0 Pa
critical Density:	242.59424202000002 kg/m^3
Acentric Factor:	0.91
Dipole Moment:	1.54
Default Reference State:	NBP
UNNumber:	????
Family:	FAME
Ideal Part Name:	Ideal gas heat capacity function for methyl palmitate of Huber et al. (2009).
Ideal Part Literature Reference:	TDE 3.0 internal version, March 2008, Planck-Einstein form based on estimation from Joback method, uncertainty 10%.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for methyl palmitate of Huber et al. (2009).
Real Part Literature Reference:	Huber, M.L., Lemmon, E.W., Kazakov, A., Ott, L.S., and Bruno, T.J., "Model for the Thermodynamic Properties of a Biodiesel Fuel," Energy & Fuels, 23:3790-3797, 2009.
Real Part T_min:	302.71 K
Real Part T_max:	1000.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	3.36 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for methyl palmitate of Huber (2018).
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	302.71 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	50000.0

Thermal Conductivity Rhomax:	3.36
Viscosity Name:	Extended Corresponding States model (Propane reference) for methyl palmitate.
Viscosity Literature Reference:	Huber, M.L., (2018) "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209
Viscosity T_min:	302.71 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	3.36
Medium Name:	Methyl stearate
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	112-61-8
Fullname:	Methyl octadecanoate
Chemical Formula:	C19H38O2
Synonym:	Methyl ester stearic acid
Molar Mass:	0.29850382000000003 kg/mol
Triple Temperature:	311.84 K
Normal Boiling Point:	629.56 K
critical Temperature:	775.0 K
critical Pressure:	1239000.0 Pa
critical Density:	237.10158422600003 kg/m^3
Acentric Factor:	1.02
Dipole Moment:	1.54
Default Reference State:	NBP
UNNumber:	????
Family:	FAME
Ideal Part Name:	Ideal gas heat capacity function for methyl stearate of Huber et al. (2009).
Ideal Part Literature Reference:	TDE 3.0 internal version, March 2008, Planck-Einstein form based on estimation from Joback method, uncertainty 10%.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for methyl stearate of Huber et al. (2009).
Real Part Literature Reference:	Huber, M.L., Lemmon, E.W., Kazakov, A., Ott, L.S., and Bruno, T.J., "Model for the Thermodynamic Properties of a Biodiesel Fuel," Energy & Fuels, 23:3790-3797, 2009.
Real Part T_min:	311.84 K
Real Part T_max:	1000.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	2.86 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for methyl stearate of Huber (2018).

Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	311.84 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	2.86
Viscosity Name:	Extended Corresponding States model (Propane reference) for methyl stearate.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209
Viscosity T_min:	311.84 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	2.86
Medium Name:	m-Xylene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	108-38-3
Fullname:	1,3-Dimethylbenzene
Chemical Formula:	C8H10
Synonym:	m-Xylene
Molar Mass:	0.10616500000000001 kg/mol
Triple Temperature:	225.3 K
Normal Boiling Point:	412.214 K
critical Temperature:	616.89 K
critical Pressure:	3534600.0 Pa
critical Density:	282.929725 kg/m^3
Acentric Factor:	0.326
Dipole Moment:	0.3
Default Reference State:	NBP
UNNumber:	????
Family:	aromatic
Heating Value:	43266048.13262375
Ideal Part Name:	Ideal gas Helmholtz form for m-xylene of Zhou et al. (2012).
Ideal Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J., 2012.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for m-xylene of Zhou et al. (2012).
Real Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J., "Thermodynamic Properties of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene," J. Phys. Chem. Ref. Data, 41, 023103, 2012.

Real Part T_min:	225.3 K
Real Part T_max:	700.0 K
Real Part P_max:	200000.0 Pa
Real Part Rhomax:	8.677 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for m-xylene of Mylona et al. (2014).
Thermal Conductivity Literature Reference:	Mylona, S.K., Antoniadis, K.D., Assael, M.J. Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene from the Triple Point to 700 K and Moderate Pressures," J. Phys. Chem. Ref. Data, 48, 043104, 2014.
Thermal Conductivity T_min:	225.3 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	200000.0
Thermal Conductivity Rhomax:	8.677
Viscosity Name:	Pure fluid viscosity model for m-xylene of Cao et al. (2016).
Viscosity Literature Reference:	Cao, F.L., Meng, X.Y., Wu, J.T., and Vesovic, V., "Reference Correlation of the Viscosity of Meta-Xylene from 273 K to 673 K and Up to 200 MPa," J. Phys. Chem. Ref. Data, 45, 013103, 2016. doi: 10.1063/1.4941241
Viscosity T_min:	225.3 K
Viscosity T_max:	700.0 K
Viscosity P_max:	200000.0
Viscosity Rhomax:	15.0
Medium Name:	Nitrous oxide
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	10024-97-2
Fullname:	Dinitrogen monoxide
Chemical Formula:	N2O
Synonym:	R-744A
Molar Mass:	0.0440128 kg/mol
Triple Temperature:	182.33 K
Normal Boiling Point:	184.68 K
critical Temperature:	309.52 K
critical Pressure:	7245000.0 Pa
critical Density:	452.01145599999995 kg/m^3
Acentric Factor:	0.162
Dipole Moment:	0.1608
Default Reference State:	NBP
UNNumber:	1070
Family:	other
GWP:	298.0
Ideal Part Name:	Ideal gas Helmholtz form for nitrous oxide.

Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for nitrous oxide of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	182.33 K
Real Part T_max:	525.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	28.12 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fitted to extremely limited data for nitrous oxide.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	182.33 K
Thermal Conductivity T_max:	525.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	28.12
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fitted to extremely limited data for nitrous oxide.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	182.33 K
Viscosity T_max:	525.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	28.12
Medium Name:	Neon
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	7440-01-9
Fullname:	Neon
Chemical Formula:	Ne
Synonym:	R-720
Molar Mass:	0.020179 kg/mol
Triple Temperature:	24.5561 K
Normal Boiling Point:	27.1 K
critical Temperature:	44.4 K
critical Pressure:	2661630.0 Pa

critical Density:	486.3139 kg/m^3
Acentric Factor:	-0.0355
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1065, 1913
Family:	cryogen
Heating Value:	0.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for neon of Thol et al. (2018).
Ideal Part Literature Reference:	Thol, M., Beckmller, R., Weiss, R., Harvey, A.H., Lemmon, E.W., Jacobsen, R.T, and Span, R., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for neon of Thol et al. (2018).
Real Part Literature Reference:	Thol, M., Beckmller, R., Weiss, R., Harvey, A.H., Lemmon, E.W., Jacobsen, R.T, and Span, R., "Thermodynamic Properties for Neon for Temperatures from the Triple Point to 700 K at Pressures to 700 MPa," to be submitted to Int. J. Thermophys., 2018.
Real Part T_min:	24.5561 K
Real Part T_max:	725.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	99.62 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for neon.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	24.5561 K
Thermal Conductivity T_max:	725.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	70.0
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for neon.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	24.5561 K
Viscosity T_max:	725.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	70.0
Medium Name:	Neopentane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ

EOS Selected model:	FEQ
CASnumber:	463-82-1
Fullname:	2,2-Dimethylpropane
Chemical Formula:	C(CH3)4
Synonym:	Tetramethylmethane
Molar Mass:	0.07214878 kg/mol
Triple Temperature:	256.6 K
Normal Boiling Point:	282.65 K
critical Temperature:	433.74 K
critical Pressure:	3196000.0 Pa
critical Density:	235.9265106 kg/m^3
Acentric Factor:	0.1961
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1265, 2044
Family:	br-alkane
Heating Value:	48713367.01743259
Ideal Part Name:	Ideal gas Helmholtz form for neopentane.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for neopentane of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	256.6 K
Real Part T_max:	550.0 K
Real Part P_max:	200000.0 Pa
Real Part Rhomax:	8.71 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fit to extremely limited data for neopentane.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	256.6 K
Thermal Conductivity T_max:	550.0 K
Thermal Conductivity P_max:	200000.0
Thermal Conductivity Rhomax:	10.0
Viscosity Name:	Extended Corresponding States model (Propane reference); fit to extremely limited data for neopentane.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	256.6 K
Viscosity T_max:	550.0 K
Viscosity P_max:	200000.0
Viscosity Rhomax:	10.0

Medium Name:	Nitrogen trifluoride
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Modified Benedict-Webb-Rubin equation of state
EOS Selected model:	BWR
CASnumber:	7783-54-2
Fullname:	Nitrogen trifluoride
Chemical Formula:	NF3
Synonym:	Trifluoroamine
Molar Mass:	0.071019 kg/mol
Triple Temperature:	66.36 K
Normal Boiling Point:	144.138 K
critical Temperature:	234.0 K
critical Pressure:	4460700.0 Pa
critical Density:	562.4704800000001 kg/m^3
Acentric Factor:	0.126
Dipole Moment:	0.235
Default Reference State:	NBP
UNNumber:	2451
Family:	cryogen
Ideal Part Name:	Ideal gas heat capacity function for nitrogen trifluoride of Younglove (1982).
Ideal Part Literature Reference:	Refit of the Younglove (1982) equation by Tim Eisenbach, 2018. Above 60 K, differences are generally less than 0.05%.
Ideal Part T_max:	10000.0 K
Real Part Name:	MBWR equation of state for nitrogen trifluoride of Younglove (1982).
Real Part Literature Reference:	WEB: https://srd.nist.gov/JPCRD/jpcrdS1Vol11.pdf Younglove, B.A., "Thermophysical Properties of Fluids. I. Argon, Ethylene, Parahydrogen, Nitrogen, Nitrogen Trifluoride, and Oxygen," J. Phys. Chem. Ref. Data, Vol. 11, Suppl. 1, pp. 1-11, 1982.
Real Part T_min:	85.0 K
Real Part T_max:	500.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	25.3 kg/m^3
Medium Name:	METHANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.887999 kg/kg METHANE, 0.00145079 kg/kg NITROGEN, 0.0654315 kg/kg CO2, 0.0321072 kg/kg ETHANE, 0.00610687 kg/kg PROPANE, 0.00135285 kg/kg ISOBUTAN, 0.000541139 kg/kg BUTANE, 0.000587765 kg/kg IPENTANE, 0.000461815 kg/kg PENTANE, ...
Medium Name:	Nitrogen
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FEK, FEQ, FES, PRT
EOS Selected model:	FEQ
CASnumber:	7727-37-9
Fullname:	Nitrogen
Chemical Formula:	N2
Synonym:	R-728
Molar Mass:	0.02801348 kg/mol
Triple Temperature:	63.151 K
Normal Boiling Point:	77.355 K
critical Temperature:	126.192 K
critical Pressure:	3395800.0 Pa
critical Density:	313.299958972 kg/m^3
Acentric Factor:	0.0372
Dipole Moment:	0.0
Default Reference State:	OTO
Ideal Part Name:	Ideal gas Helmholtz form for nitrogen.
Ideal Part Literature Reference:	Span, R., Lemmon, E.W., Jacobsen, R.T, Wagner, W., and Yokozeki, A., 2000.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for nitrogen of Span et al. (2000).
Real Part Literature Reference:	Span, R., Lemmon, E.W., Jacobsen, R.T, Wagner, W., and Yokozeki, A., "A Reference Equation of State for the Thermodynamic Properties of Nitrogen for Temperatures from 63.151 to 1000 K and Pressures to 2200 MPa," J. Phys. Chem. Ref. Data, 29(6):1361-1433, 2000.
Real Part T_min:	63.151 K
Real Part T_max:	2000.0 K
Real Part P_max:	2200000.0 Pa
Real Part Rhomax:	53.15 kg/m^3
Thermal Conductivity Models:	TC1, TC3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for nitrogen of Lemmon and Jacobsen (2004).
Thermal Conductivity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Thermal Conductivity T_min:	50.0 K
Thermal Conductivity T_max:	2000.0 K
Thermal Conductivity P_max:	2200000.0
Thermal Conductivity Rhomax:	53.15
Viscosity Models:	VS1, VS2
Viscosity Name:	Pure fluid viscosity model for nitrogen of Lemmon and Jacobsen (2004).
Viscosity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.

Viscosity T_min:	50.0 K
Viscosity T_max:	2000.0 K
Viscosity P_max:	2200000.0
Viscosity Rhomax:	53.15
Medium Name:	Nonane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	111-84-2
Fullname:	Nonane
Chemical Formula:	CH3-7(CH2)-CH3
Synonym:	n-Nonane
Molar Mass:	0.1282551 kg/mol
Triple Temperature:	219.7 K
Normal Boiling Point:	423.91 K
critical Temperature:	594.55 K
critical Pressure:	2281000.0 Pa
critical Density:	232.141731 kg/m^3
Acentric Factor:	0.4433
Dipole Moment:	0.07
Default Reference State:	NBP
UNNumber:	1920
Family:	n-alkane
Heating Value:	48116215.26161532
Ideal Part Name:	Ideal gas Helmholtz form for nonane.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for nonane of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	219.7 K
Real Part T_max:	600.0 K
Real Part P_max:	800000.0 Pa
Real Part Rhomax:	6.06 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for nonane of Huber and Perkins (2005).
Thermal Conductivity Literature Reference:	Huber, M.L. and Perkins, R.A., "Thermal Conductivity Correlations for Minor Constituent Fluids in Natural Gas: n-Octane, n-Nonane and n-Decane," Fluid Phase Equilib., 227:47-55, 2005.
Thermal Conductivity T_min:	219.7 K
Thermal Conductivity T_max:	1000.0 K

Thermal Conductivity P_max:	800000.0
Thermal Conductivity Rhomax:	8.0
Viscosity Name:	Pure fluid viscosity model for nonane of Huber et al. (2005).
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Xiang, H.W., "Viscosity Correlations for Minor Constituent Fluids in Natural Gas: n-Octane, n-Nonane, and n-Decane," Fluid Phase Equilib., 228-119:401-408, 2005. doi: 10.1016/j.fluid.2005.03.008
Viscosity T_min:	219.7 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	800000.0
Viscosity Rhomax:	8.0
Medium Name:	Novec 649, 1230
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	756-13-8
Fullname:	1,1,1,2,2,4,5,5,5-Nonafluoro-4-(trifluoromethyl)-3-pentanone
Chemical Formula:	CF3CF2C(=O)CF(CF3)2
Synonym:	Dodecafluoro-2-methylpentan-3-one
Molar Mass:	0.3160444 kg/mol
Triple Temperature:	165.0 K
Normal Boiling Point:	322.202 K
critical Temperature:	441.81 K
critical Pressure:	1869000.0 Pa
critical Density:	606.805248 kg/m^3
Acentric Factor:	0.471
Dipole Moment:	0.43
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas Helmholtz form for Novec 649.
Ideal Part Literature Reference:	McLinden, M.O., Perkins, R.A., Lemmon, E.W., and Fortin, T.J., 2015.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for Novec 649 of McLinden et al. (2015).
Real Part Literature Reference:	McLinden, M.O., Perkins, R.A., Lemmon, E.W., and Fortin, T.J., "Thermodynamic Properties of 1,1,1,2,2,4,5,5,5-Nonafluoro-4-(Trifluoromethyl)-3-Pentanone: Vapor Pressure, (p, rho, T) Behavior, and Speed of Sound Measurements, and an Equation of State," J. Chem. Eng. Data, 60:3646-3659, 2015. doi: 10.1021/acs.jced.5b00623
Real Part T_min:	165.0 K
Real Part T_max:	500.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	6.24 kg/m^3

Thermal Conductivity Name:	Pure fluid thermal conductivity model for Novec 649 of Perkins et al. (2018).
Thermal Conductivity Literature Reference:	Perkins, R.A., Huber, M.L., and Assael, M.J., "Measurement and Correlation of the Thermal Conductivity of 1,1,1,2,2,4,5,5,5-Nonafluoro-4-(Trifluoromethyl)-3-Pentanone," accepted for publication J. Chem. Eng. Data, 2018. Estimated uncertainty 1% in the liquid to 70 MPa, 4% in the vapor, 4% for supercritical fluid with density <200 kg/m3, 3% for supercritical fluid at 200 <rho <800 kg/m3, and 1% for supercritical fluid above 800 kg/m3. Uncertainties near critical are larger.
Thermal Conductivity T_min:	165.0 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	8.0
Viscosity Name:	Pure fluid viscosity model for Novec 649 of Wen et al. (2017).
Viscosity Literature Reference:	Wen, C., Meng, X., Huber, M.L., Wu, J., "Measurement and Correlation of the Viscosity of 1,1,1,2,2,4,5,5,5-Nonafluoro-4-(Trifluoromethyl)-3-Pentanone," J. Chem. Eng. Data, 62:3603-3609, 2017. doi: 10.1021/acs.jced.7b00572 Estimated uncertainty in the liquid phase from 240- 400 K at pressures to 40 MPa is 2%. No data for gas phase; estimated uncertainty 10%.
Viscosity T_min:	165.0 K
Viscosity T_max:	600.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	8.0
Medium Name:	HFE-7000
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Translated Peng-Robinson equation (cubic equation of state)
EOS Selected model:	PRT
CASnumber:	375-03-1
Fullname:	HFE-7000
Chemical Formula:	C3F7OCH3
Synonym:	HFE-7000
Molar Mass:	0.2 kg/mol
Triple Temperature:	150.15 K
Normal Boiling Point:	307.15 K
critical Temperature:	437.61 K
critical Pressure:	2482000.0 Pa
critical Density:	526.32 kg/m^3
Acentric Factor:	0.430898
Dipole Moment:	2.293
Default Reference State:	ASH
Real Part Name:	equation of state specification
Real Part Literature Reference:	LITERATURE REFERENCES \ volume translation of Peng Robinson EOS translation computed so that density at Tr=0.7 matches that from thermodynamic tables from Rowley tables end of info section
Real Part P_max:	30000.0 Pa

Real Part Rhomax:	20.0 kg/m^3
Medium Name:	Novec 774
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Translated Peng-Robinson equation (cubic equation of state)
EOS Selected model:	PRT
CASnumber:	813-44-5
Fullname:	C7F14O
Chemical Formula:	C7F14O
Synonym:	C7FK
Molar Mass:	0.36605 kg/mol
Triple Temperature:	195.0 K
Normal Boiling Point:	346.0 K
critical Temperature:	468.446 K
critical Pressure:	1710796.0 Pa
critical Density:	648.8851214 kg/m^3
Acentric Factor:	0.4991680692
Dipole Moment:	0.6099
Default Reference State:	NBP
Real Part Name:	equation of state specification
Real Part Literature Reference:	LITERATURE REFERENCES \ volume translation of Peng Robinson EOS translation computed so that density at Tr=0.7 matches correlation of 3M experimental data. end of info section
Real Part P_max:	30000.0 Pa
Real Part Rhomax:	9.0 kg/m^3
Thermal Conductivity Name:	transport model specification
Thermal Conductivity Literature Reference:	LITERATURE REFERENCES \ *** ESTIMATION METHOD--- NOT STANDARD REFERENCE QUALITY--- Uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a", Ind. Eng. Chem. Res., 42:3163-3178, 2003. \ the Lennard-Jones parameters are taken from: McCarty, NIST Thermophysical Properties of Pure Fluids Database, NIST12, Version 3.0, National Institute of Standards and Technology, Boulder, CO, 1992. \ end of info section
Thermal Conductivity T_min:	195.0 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	100.0
Viscosity Name:	viscosity model specification
Viscosity Literature Reference:	LITERATURE REFERENCE \ T-H. Chung, Ajlan, M., Lee, L.L. and Starling, K.E. "Generalized Multiparameter Correlation for Nonpolar and Polar Fluid Transport Properties" Ind. Eng. Chem. Res. 1998, 27, 671-679. end of info section
Viscosity T_min:	195.0 K
Viscosity T_max:	1000.0 K

Viscosity P_max:	50000.0
Viscosity Rhomax:	100.0
Medium Name:	Octane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE3, FE4, FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	111-65-9
Fullname:	Octane
Chemical Formula:	CH3-6(CH2)-CH3
Synonym:	n-Octane
Molar Mass:	0.1142285 kg/mol
Triple Temperature:	216.37 K
Normal Boiling Point:	398.794 K
critical Temperature:	568.74 K
critical Pressure:	2483590.0 Pa
critical Density:	231.9980835 kg/m^3
Acentric Factor:	0.398
Dipole Moment:	0.07
Default Reference State:	NBP
UNNumber:	1262
Family:	n-alkane
Heating Value:	48252406.36093445
Ideal Part Name:	Ideal gas heat capacity function for octane of Beckmueller et al. (2018).
Ideal Part Literature Reference:	Beckmueller, R., Thol, M., Lemmon, E.W., and Span, R.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for octane of Beckmueller et al. (2018).
Real Part Literature Reference:	Beckmueller, R., Thol, M., Lemmon, E.W., and Span, R., "Fundamental Equation of State for n-Octane," to be submitted to Int. J. Thermophys., 2018.
Real Part T_min:	216.37 K
Real Part T_max:	730.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	6.69 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for octane of Huber and Perkins (2005).
Thermal Conductivity Literature Reference:	Huber, M.L. and Perkins, R.A., "Thermal Conductivity Correlations for Minor Constituent Fluids in Natural Gas: n-Octane, n-Nonane and n-Decane," Fluid Phase Equilib., 227:47-55, 2005.
Thermal Conductivity T_min:	200.0 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	800000.0

Thermal Conductivity Rhomax:	7.6
Viscosity Models:	VS1, VS4
Viscosity Name:	Pure fluid viscosity model for octane of Huber et al. (2004).
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Xiang, H.W., "Viscosity Correlations for Minor Constituent Fluids in Natural Gas: n-Octane, n-Nonane and n-Decane," Fluid Phase Equilib., 224:263-270, 2004.
Viscosity T_min:	216.37 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	500000.0
Viscosity Rhomax:	7.6
Medium Name:	Orthohydrogen
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	1333-74-0o
Fullname:	Orthohydrogen
Chemical Formula:	H2
Synonym:	R-702
Molar Mass:	0.00201594 kg/mol
Triple Temperature:	14.008 K
Normal Boiling Point:	20.38 K
critical Temperature:	33.22 K
critical Pressure:	1310650.0 Pa
critical Density:	31.136193300000002 kg/m^3
Acentric Factor:	-0.218
Dipole Moment:	0.0
Default Reference State:	OTO
Ideal Part Name:	Ideal gas Helmholtz form for orthohydrogen.
Ideal Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., and Lemmon, E.W., 2009.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for orthohydrogen of Leachman et al. (2009).
Real Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., and Lemmon, E.W., "Fundamental Equations of State for Parahydrogen, Normal Hydrogen, and Orthohydrogen," J. Phys. Chem. Ref. Data, 38(3):721-748, 2009.
Real Part T_min:	14.008 K
Real Part T_max:	1000.0 K
Real Part P_max:	2000000.0 Pa
Real Part Rhomax:	38.21 kg/m^3
Medium Name:	Oxygen
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FEK, FEQ, FES, PRT
EOS Selected model:	FEQ
CASnumber:	7782-44-7
Fullname:	Oxygen
Chemical Formula:	O2
Synonym:	R-732
Molar Mass:	0.0319988 kg/mol
Triple Temperature:	54.361 K
Normal Boiling Point:	90.1878 K
critical Temperature:	154.581 K
critical Pressure:	5043000.0 Pa
critical Density:	436.143644 kg/m^3
Acentric Factor:	0.0222
Dipole Moment:	0.0
Default Reference State:	OTO
Ideal Part Name:	Ideal gas Helmholtz form for oxygen.
Ideal Part Literature Reference:	Refit by Roland Span of the Schmidt and Wagner equation listed above.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for oxygen of Schmidt and Wagner (1985).
Real Part Literature Reference:	Schmidt, R. and Wagner, W., "A New Form of the Equation of State for Pure Substances and its Application to Oxygen," Fluid Phase Equilib., 19:175-200, 1985.
Real Part T_min:	54.361 K
Real Part T_max:	2000.0 K
Real Part P_max:	82000.0 Pa
Real Part Rhomax:	43.348 kg/m^3
Thermal Conductivity Models:	TC1, TC3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for oxygen of Lemmon and Jacobsen (2004).
Thermal Conductivity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Thermal Conductivity T_min:	54.361 K
Thermal Conductivity T_max:	2000.0 K
Thermal Conductivity P_max:	82000.0
Thermal Conductivity Rhomax:	43.348
Viscosity Models:	VS1, VS2
Viscosity Name:	Pure fluid viscosity model for oxygen of Lemmon and Jacobsen (2004).
Viscosity Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "Viscosity and Thermal Conductivity Equations for Nitrogen, Oxygen, Argon, and Air," Int. J. Thermophys., 25:21-69, 2004.
Viscosity T_min:	54.361 K

Viscosity T_max:	2000.0 K
Viscosity P_max:	82000.0
Viscosity Rhomax:	43.348
Medium Name:	o-Xylene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	95-47-6
Fullname:	1,2-Dimethylbenzene
Chemical Formula:	C8H10
Synonym:	o-Xylene
Molar Mass:	0.10616500000000001 kg/mol
Triple Temperature:	247.985 K
Normal Boiling Point:	417.521 K
critical Temperature:	630.259 K
critical Pressure:	3737500.0 Pa
critical Density:	284.99994250000003 kg/m^3
Acentric Factor:	0.312
Dipole Moment:	0.63
Default Reference State:	NBP
UNNumber:	????
Family:	aromatic
Heating Value:	43294023.454057366
Ideal Part Name:	Ideal gas Helmholtz form for o-xylene of Zhou et al. (2012).
Ideal Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J., 2012.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for o-xylene of Zhou et al. (2012).
Real Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J., "Thermodynamic Properties of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene," J. Phys. Chem. Ref. Data, 41, 023103, 2012.
Real Part T_min:	247.985 K
Real Part T_max:	700.0 K
Real Part P_max:	70000.0 Pa
Real Part Rhomax:	8.648 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for o-xylene of Mylona et al. (2014).
Thermal Conductivity Literature Reference:	Mylona, S.K., Antoniadis, K.D., Assael, M.J. Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene from the Triple Point to 700 K and Moderate Pressures," J. Phys. Chem. Ref. Data, 48, 043104, 2014.
Thermal Conductivity T_min:	247.985 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	70000.0

Thermal Conductivity Rhomax:	9.0
Viscosity Name:	Pure fluid viscosity model for o-xylene of Cao et al. (2016).
Viscosity Literature Reference:	Cao, F.L., Meng, X.Y., Wu, J.T., and Vesovic, V., "Reference Correlation of the Viscosity of ortho-Xylene from 273 K to 673 K and up to 110 MPa," J. Phys. Chem. Ref. Data, 45, 023102, 2016. doi: 10.1063/1.4945663
Viscosity T_min:	247.985 K
Viscosity T_max:	700.0 K
Viscosity P_max:	70000.0
Viscosity Rhomax:	8.648
Medium Name:	Parahydrogen
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FEQ
EOS Selected model:	FEQ
CASnumber:	1333-74-0p
Fullname:	Parahydrogen
Chemical Formula:	H2
Synonym:	R-702p
Molar Mass:	0.0020158800000000003 kg/mol
Triple Temperature:	13.8033 K
Normal Boiling Point:	20.271 K
critical Temperature:	32.938 K
critical Pressure:	1285800.0 Pa
critical Density:	31.322743440000004 kg/m^3
Acentric Factor:	-0.219
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1049
Family:	cryogen
Heating Value:	141789193.8012183
Safety Group:	A3
Ideal Part Name:	Ideal gas Helmholtz form for parahydrogen.
Ideal Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., and Lemmon, E.W., 2009.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for parahydrogen of Leachman et al. (2009).
Real Part Literature Reference:	Leachman, J.W., Jacobsen, R.T, Penoncello, S.G., and Lemmon, E.W., "Fundamental Equations of State for Parahydrogen, Normal Hydrogen, and Orthohydrogen," J. Phys. Chem. Ref. Data, 38(3):721-748, 2009.
Real Part T_min:	13.8033 K
Real Part T_max:	1000.0 K
Real Part P_max:	2000000.0 Pa
Real Part Rhomax:	104.0 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for parahydrogen of Assael et al. (2011).

Thermal Conductivity Literature Reference:	Assael, M.J., Assael. J.-A.M., Huber, M.L., Perkins, R.A., and Takata, Y., "Correlation of the Thermal Conductivity of Normal and Parahydrogen from the Triple Point to 1000 K and up to 100 MPa," J. Phys. Chem. Ref. Data, 40(3), 033101, 2011.
Thermal Conductivity T_min:	13.8033 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	2000000.0
Thermal Conductivity Rhomax:	104.0
Viscosity Models:	VS4, VS7
Viscosity Name:	Pure fluid viscosity model from symbolic regression for parahydrogen of Muzny et al. (2013).
Viscosity Literature Reference:	Muzny, C.D., Huber, M.L., and Kazakov, A.F., "Correlation for the Viscosity of Normal Hydrogen Obtained from Symbolic Regression," J. Chem. Eng. Data, 58:969-979, 2013.
Viscosity T_min:	13.8033 K
Viscosity T_max:	2000.0 K
Viscosity P_max:	2000000.0
Viscosity Rhomax:	104.0
Medium Name:	Pentane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FE2, FE3, FEK, FEQ
EOS Selected model:	FEQ
CASnumber:	109-66-0
Fullname:	Pentane
Chemical Formula:	CH3-3(CH2)-CH3
Synonym:	R-601
Molar Mass:	0.07214878 kg/mol
Triple Temperature:	143.47 K
Normal Boiling Point:	309.209 K
critical Temperature:	469.7 K
critical Pressure:	3367500.0 Pa
critical Density:	231.5975838 kg/m^3
Acentric Factor:	0.251
Dipole Moment:	0.07
Default Reference State:	NBP
UNNumber:	1265
Family:	n-alkane
Heating Value:	49006649.86989386
RCL:	1000.0
Safety Group:	A3
Ideal Part Name:	Ideal gas heat capacity function for pentane of Thol et al. (2018).

Ideal Part Literature Reference:	Thol, M., Uhde, T., Lemmon, E.W., and Span, R., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for pentane of Thol et al. (2018).
Real Part Literature Reference:	Thol, M., Uhde, T., Lemmon, E.W., and Span, R., "Fundamental Equations of State for Hydrocarbons. Part I. n-Pentane," to be published, 2018.
Real Part T_min:	143.47 K
Real Part T_max:	650.0 K
Real Part P_max:	780000.0 Pa
Real Part Rhomax:	13.0 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for pentane of Vassiliou et al. (2015).
Thermal Conductivity Literature Reference:	Vassiliou, C.-M., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlatons of the Thermal Conductivity of Cyclopentane, iso-Pentane, and N-Pentane," J. Phys. Chem. Ref. Data, 44(3), 033102, 2015.
Thermal Conductivity T_min:	143.47 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	11.2
Viscosity Models:	VS2, VS4
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	143.47 K
Viscosity T_max:	600.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	11.2
Medium Name:	Propadiene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	463-49-0
Fullname:	1,2-Propadiene
Chemical Formula:	C3H4
Synonym:	Allene
Molar Mass:	0.04006386 kg/mol
Triple Temperature:	136.65 K
Normal Boiling Point:	240.874 K
critical Temperature:	398.0 K
critical Pressure:	5215600.0 Pa
critical Density:	236.376774 kg/m^3

Acentric Factor:	0.115
Dipole Moment:	0.2
Default Reference State:	NBP
UNNumber:	2200
Family:	n-alkene
Heating Value:	48500319.240332805
Ideal Part Name:	Ideal gas heat capacity function for propadiene of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for propadiene of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	136.65 K
Real Part T_max:	400.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	19.67 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension *** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	136.65 K
Thermal Conductivity T_max:	400.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	19.67
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension *** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	136.65 K
Viscosity T_max:	400.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	19.67
Medium Name:	Propane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FE2, FEK, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	74-98-6
Fullname:	Propane
Chemical Formula:	CH3CH2CH3

Synonym:	R-290
Molar Mass:	0.044095619999999995 kg/mol
Triple Temperature:	85.525 K
Normal Boiling Point:	231.036 K
critical Temperature:	369.89 K
critical Pressure:	4251200.0 Pa
critical Density:	220.47809999999998 kg/m^3
Acentric Factor:	0.1521
Dipole Moment:	0.084
Default Reference State:	IIR
UNNumber:	1075, 1978
Family:	n-alkane
Heating Value:	50326313.58851515
GWP:	3.3
RCL:	5300.0
Safety Group:	A3
Ideal Part Name:	Ideal gas Helmholtz form for propane.
Ideal Part Literature Reference:	Lemmon, E.W., McLinden, M.O., and Wagner, W., 2009.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for propane of Lemmon et al. (2009).
Real Part Literature Reference:	Lemmon, E.W., McLinden, M.O., and Wagner, W., "Thermodynamic Properties of Propane. III. A Reference Equation of State for Temperatures from the Melting Line to 650 K and Pressures up to 1000 MPa," J. Chem. Eng. Data, 54:3141-3180, 2009.
Real Part T_min:	85.525 K
Real Part T_max:	650.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	20.6 kg/m^3
Thermal Conductivity Models:	TC1, TC2
Thermal Conductivity Name:	Pure fluid thermal conductivity model for propane of Marsh et al. (2002).
Thermal Conductivity Literature Reference:	Marsh, K., Perkins, R., and Ramires, M.L.V., "Measurement and Correlation of the Thermal Conductivity of Propane from 86 to 600 K at Pressures to 70 MPa," J. Chem. Eng. Data, 47(4):932-940, 2002.
Thermal Conductivity T_min:	85.47 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	20.6
Viscosity Models:	VS1, VS2, VS4, VS7
Viscosity Name:	Pure fluid viscosity model for propane of Vogel and Herrmann (2016).
Viscosity Literature Reference:	Vogel, E. and Herrmann, S., "New Formulation for the Viscosity of Propane," J. Phys. Chem. Ref. Data, 45, 043103, 2016. doi: 10.1063/1.4966928
Viscosity T_min:	85.525 K
Viscosity T_max:	650.0 K
Viscosity P_max:	1000000.0
Viscosity Rhomax:	20.6

Medium Name:	Propylene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FEQ
EOS Selected model:	FEQ
CASnumber:	115-07-1
Fullname:	Propene
Chemical Formula:	CH2=CH-CH3
Synonym:	R-1270
Molar Mass:	0.042079740000000004 kg/mol
Triple Temperature:	87.953 K
Normal Boiling Point:	225.531 K
critical Temperature:	364.211 K
critical Pressure:	4555000.0 Pa
critical Density:	229.62914118 kg/m^3
Acentric Factor:	0.146
Dipole Moment:	0.366
Default Reference State:	IIR
UNNumber:	1075, 1077
Family:	n-alkene
Heating Value:	48907621.57750974
GWP:	1.8
RCL:	1000.0
Safety Group:	A3
Ideal Part Name:	Ideal gas Helmholtz form for propylene of Lemmon et al. (2018).
Ideal Part Literature Reference:	Lemmon, E.W., McLinden, M.O., Overhoff, U., and Wagner, W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for propylene of Lemmon et al. (2018).
Real Part Literature Reference:	Lemmon, E.W., McLinden, M.O., Overhoff, U., and Wagner, W., "A Reference Equation of State for Propylene for Temperatures from the Melting Line to 575 K and Pressures up to 1000 MPa," to be submitted to J. Phys. Chem. Ref. Data, 2018.
Real Part T_min:	87.953 K
Real Part T_max:	575.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	23.1 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for propylene of Assael et al. (2016).
Thermal Conductivity Literature Reference:	Assael, M.J., Koutian, A., Huber, M.L., and Perkins, R.A., "Reference Correlations of the Thermal Conductivity of Ethylene and Propylene," J. Phys. Chem. Ref. Data, 45(3), 033104, 2016. doi: 10.1063/1.4958984
Thermal Conductivity T_min:	87.953 K
Thermal Conductivity T_max:	575.0 K
Thermal Conductivity P_max:	1000000.0

Thermal Conductivity Rhomax:	23.1
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for propylene.
Viscosity Literature Reference:	Huber, M.L., (2018) "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209
Viscosity T_min:	87.953 K
Viscosity T_max:	575.0 K
Viscosity P_max:	1000000.0
Viscosity Rhomax:	23.4
Medium Name:	Propylene oxide
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	75-56-9
Fullname:	1,2-Epoxypropane
Chemical Formula:	CH3CHCH2O
Synonym:	Methyloxirane
Molar Mass:	0.05807914 kg/mol
Triple Temperature:	161.244 K
Normal Boiling Point:	307.268 K
critical Temperature:	488.11 K
critical Pressure:	5436600.0 Pa
critical Density:	299.39796670000004 kg/m^3
Acentric Factor:	0.249
Dipole Moment:	2.0
Default Reference State:	NBP
UNNumber:	1280
Family:	other
Ideal Part Name:	Ideal gas heat capacity function for propylene oxide of Gao et al. (2017).
Ideal Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for propylene oxide of Gao et al. (2017).
Real Part Literature Reference:	Gao, K., Wu, J., and Lemmon, E.W., unpublished equation, 2017.
Real Part T_min:	161.244 K
Real Part T_max:	489.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	17.0 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference)
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209

Thermal Conductivity T_min:	161.244 K
Thermal Conductivity T_max:	489.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	17.0
Viscosity Name:	Extended Corresponding States model (Propane reference)
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	161.244 K
Viscosity T_max:	489.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	17.0
Medium Name:	Propyne
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	74-99-7
Fullname:	Propyne
Chemical Formula:	CH3CCH
Synonym:	Methyl acetylene
Molar Mass:	0.04006386 kg/mol
Triple Temperature:	170.5 K
Normal Boiling Point:	250.0 K
critical Temperature:	402.38 K
critical Pressure:	5626000.0 Pa
critical Density:	244.92239533799997 kg/m^3
Acentric Factor:	0.204
Dipole Moment:	0.781
Default Reference State:	IIR
UNNumber:	1060
Family:	alkyne
Heating Value:	48382582.20750572
Ideal Part Name:	Ideal gas heat capacity function for propyne of Polt et al. (1992).
Ideal Part Literature Reference:	Polt, A., Platzer, B., and Maurer, G., 1992.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for propyne of Polt et al. (1992).
Real Part Literature Reference:	Polt, A., Platzer, B., and Maurer, G., "Parameter der Thermischen Zustandsgleichung von Bender fuer 14 Mehratomige Reine Stoffe," Chem. Tech. (Leipzig), 44(6):216-224, 1992.
Real Part T_min:	273.0 K
Real Part T_max:	474.0 K
Real Part P_max:	32000.0 Pa

Real Part Rhomax:	16.28 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (C3 reference); predictive mode for propyne.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	273.0 K
Thermal Conductivity T_max:	474.0 K
Thermal Conductivity P_max:	32000.0
Thermal Conductivity Rhomax:	16.28
Viscosity Name:	Extended Corresponding States model (C3 reference); predictive mode for propyne.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	273.0 K
Viscosity T_max:	474.0 K
Viscosity P_max:	32000.0
Viscosity Rhomax:	16.28
Medium Name:	p-Xylene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	106-42-3
Fullname:	1,4-Dimethylbenzene
Chemical Formula:	C8H10
Synonym:	p-Xylene
Molar Mass:	0.10616500000000001 kg/mol
Triple Temperature:	286.4 K
Normal Boiling Point:	411.47 K
critical Temperature:	616.168 K
critical Pressure:	3531500.0 Pa
critical Density:	286.0000168 kg/m^3
Acentric Factor:	0.324
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1307
Family:	aromatic
Heating Value:	43271680.87411106
Ideal Part Name:	Ideal gas Helmholtz form for p-xylene of Zhou et al. (2012).
Ideal Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J., 2012.

Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for p-xylene of Zhou et al. (2012).
Real Part Literature Reference:	Zhou, Y., Lemmon, E.W., and Wu, J., "Thermodynamic Properties of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene," J. Phys. Chem. Ref. Data, 41, 023103, 2012.
Real Part T_min:	286.4 K
Real Part T_max:	700.0 K
Real Part P_max:	200000.0 Pa
Real Part Rhomax:	8.166 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for p-xylene of Mylona et al. (2014).
Thermal Conductivity Literature Reference:	Mylona, S.K., Antoniadis, K.D., Assael, M.J. Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene from the Triple Point to 700 K and Moderate Pressures," J. Phys. Chem. Ref. Data, 48, 043104, 2014.
Thermal Conductivity T_min:	286.4 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	200000.0
Thermal Conductivity Rhomax:	10.0
Viscosity Name:	Pure fluid viscosity model for p-xylene of Balogun et al. (2015).
Viscosity Literature Reference:	Balogun, B., Riesco, N., and Vesovic, V., "Reference Correlation of the Viscosity of para-Xylene from the Triple Point to 673 K and up to 110 MPa," J. Phys. Chem. Ref. Data, 44, 013103, 2015. doi: 10.1063/1.4908048
Viscosity T_min:	286.4 K
Viscosity T_max:	700.0 K
Viscosity P_max:	110000.0
Viscosity Rhomax:	8.166
Medium Name:	R11
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	75-69-4
Fullname:	Trichlorofluoromethane
Chemical Formula:	CCl3F
Synonym:	CFC-11
Molar Mass:	0.137368 kg/mol
Triple Temperature:	162.68 K
Normal Boiling Point:	296.858 K
critical Temperature:	471.11 K
critical Pressure:	4407638.0 Pa
critical Density:	553.999924016 kg/m^3
Acentric Factor:	0.18875

Dipole Moment:	0.45
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	4750.0
ODP:	1.0
RCL:	1100.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-11 of Jacobsen et al. (1992).
Ideal Part Literature Reference:	Jacobsen, R.T, Penoncello, S.G., and Lemmon, E.W.,
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-11 of Jacobsen et al. (1992).
Real Part Literature Reference:	Jacobsen, R.T, Penoncello, S.G., and Lemmon, E.W., "A Fundamental Equation for Trichlorofluoromethane (R-11)," Fluid Phase Equilib., 80:45-56, 1992.
Real Part T_min:	162.68 K
Real Part T_max:	625.0 K
Real Part P_max:	30000.0 Pa
Real Part Rhomax:	12.88 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-11.
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrig., 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrig., 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Thermal Conductivity T_min:	162.68 K
Thermal Conductivity T_max:	625.0 K
Thermal Conductivity P_max:	30000.0
Thermal Conductivity Rhomax:	12.88
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-11.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrig., 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrig., 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Viscosity T_min:	162.68 K
Viscosity T_max:	625.0 K
Viscosity P_max:	30000.0
Viscosity Rhomax:	12.88
Medium Name:	R1123
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.

EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	359-11-5
Fullname:	Trifluoroethylene
Chemical Formula:	CF2=CHF
Synonym:	HFO-1123
Molar Mass:	0.08202455 kg/mol
Triple Temperature:	200.0 K
Normal Boiling Point:	214.06 K
critical Temperature:	331.73 K
critical Pressure:	4542600.0 Pa
critical Density:	492.14730000000003 kg/m^3
Acentric Factor:	0.261
Dipole Moment:	1.4
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	1.0
Ideal Part Name:	Ideal gas heat capacity function for R-1123 of Akasaka et al. (2016).
Ideal Part Literature Reference:	Akasaka, R., Fukushima, M., and Lemmon, E.W., 2016.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-1123 of Akasaka et al. (2016).
Real Part Literature Reference:	WEB: https://docs.lib.purdue.edu/iracc/1698/ Akasaka, R., Fukushima, M., and Lemmon, E.W., "A Helmholtz Energy Equation of State for Trifluoroethylene (R-1123)," International Refrigeration and Air Conditioning Conference at Purdue, July 11-14, 2016.
Real Part T_min:	200.0 K
Real Part T_max:	480.0 K
Real Part P_max:	20000.0 Pa
Real Part Rhomax:	17.4 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference) totally predictive; no data available for R-1123.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	200.0 K
Thermal Conductivity T_max:	400.0 K
Thermal Conductivity P_max:	40000.0
Thermal Conductivity Rhomax:	17.4
Viscosity Name:	Extended Corresponding States model (R134a reference) totally predictive; no data available for R-1123.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	200.0 K
Viscosity T_max:	400.0 K
Viscosity P_max:	40000.0

Viscosity Rhomax:	17.4
Medium Name:	R113
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ, FES
EOS Selected model:	FEQ
CASnumber:	76-13-1
Fullname:	1,1,2-Trichloro-1,2,2-trifluoroethane
Chemical Formula:	CCl2FCClF2
Synonym:	CFC-113
Molar Mass:	0.187375 kg/mol
Triple Temperature:	236.93 K
Normal Boiling Point:	320.735 K
critical Temperature:	487.21 K
critical Pressure:	3392200.0 Pa
critical Density:	559.999980125 kg/m^3
Acentric Factor:	0.25253
Dipole Moment:	0.803
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	6130.0
ODP:	0.85
RCL:	2600.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-113 of Marx et al. (1992).
Ideal Part Literature Reference:	Marx, V., Pruss, A., and Wagner, W., 1992.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-113 of Marx et al. (1992).
Real Part Literature Reference:	Marx, V., Pruss, A., and Wagner, W., "Neue Zustandsgleichungen fuer R 12, R 22, R 11 und R 113. Beschreibung des thermodynamishchen Zustandsverhaltens bei Temperaturen bis 525 K und Druecken bis 200 MPa," Duesseldorf, VDI Verlag, Series 19 (Waermetechnik/Kaeltetechnik), No. 57, 1992.
Real Part T_min:	236.93 K
Real Part T_max:	525.0 K
Real Part P_max:	200000.0 Pa
Real Part Rhomax:	9.1 kg/m^3
Thermal Conductivity Name:	Estimation based on pure fluid thermal conductivity model for R-125 of Perkins and Huber (2006), scaled to R113.
Thermal Conductivity Literature Reference:	The model is based on a scaling of the correlation presented below. Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of Pentafluoroethane (R125) from 190 K to 512 K at Pressures to 70 MPa," J. Chem. Eng. Data, 51:898-904, 2006.
Thermal Conductivity T_min:	236.93 K

Thermal Conductivity T_max:	525.0 K
Thermal Conductivity P_max:	200000.0
Thermal Conductivity Rhomax:	9.1
Viscosity Name:	Estimation based on pure fluid viscosity model for R-134a of Huber et al. (2003), scaled to R113.
Viscosity Literature Reference:	The model is based on a scaling of the correlation presented below. Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	236.93 K
Viscosity T_max:	525.0 K
Viscosity P_max:	200000.0
Viscosity Rhomax:	9.1
Medium Name:	R114
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	76-14-2
Fullname:	1,2-Dichloro-1,1,2,2-tetrafluoroethane
Chemical Formula:	CClF2CClF2
Synonym:	CFC-114
Molar Mass:	0.170921 kg/mol
Triple Temperature:	180.63 K
Normal Boiling Point:	276.741 K
critical Temperature:	418.83 K
critical Pressure:	3257000.0 Pa
critical Density:	579.9691372 kg/m^3
Acentric Factor:	0.2523
Dipole Moment:	0.658
Default Reference State:	IIR
UNNumber:	1958
Family:	halocb
GWP:	10000.0
ODP:	0.58
RCL:	20000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-114 of Platzer et al. (1990).
Ideal Part Literature Reference:	Platzer, B., Polt, A., and Maurer, G., 1990.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-114 of Platzer et al. (1990).

Real Part Literature Reference:	WEB: https://www.springer.com/in/book/9783662026106 Platzer, B., Polt, A., and Maurer, G., "Thermophysical Properties of Refrigerants," Berlin, Springer-Verlag, 1990.
Real Part T_min:	273.15 K
Real Part T_max:	507.0 K
Real Part P_max:	21000.0 Pa
Real Part Rhomax:	8.942 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-114.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	273.15 K
Thermal Conductivity T_max:	507.0 K
Thermal Conductivity P_max:	21000.0
Thermal Conductivity Rhomax:	8.942
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-114.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	273.15 K
Viscosity T_max:	507.0 K
Viscosity P_max:	21000.0
Viscosity Rhomax:	8.942
Medium Name:	R115
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	76-15-3
Fullname:	Chloropentafluoroethane
Chemical Formula:	CClF2CF3
Synonym:	CFC-115
Molar Mass:	0.15446641600000002 kg/mol
Triple Temperature:	173.75 K
Normal Boiling Point:	233.932 K
critical Temperature:	353.1 K
critical Pressure:	3129000.0 Pa
critical Density:	614.77633568 kg/m^3
Acentric Factor:	0.248
Dipole Moment:	0.52
Default Reference State:	IIR
UNNumber:	1020

Family:	halocb
GWP:	7370.0
ODP:	0.57
RCL:	120000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas Helmholtz form for R-115.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-115 of Lemmon and Span (2015).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Thermodynamic Properties of R-227ea, R-365mfc, R-115, and R-13I1," J. Chem. Eng. Data, 60(12):3745-3758, 2015. doi: 10.1021/acs.jced.5b00684
Real Part T_min:	173.75 K
Real Part T_max:	550.0 K
Real Part P_max:	60000.0 Pa
Real Part Rhomax:	11.3 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-115.
Thermal Conductivity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Thermal Conductivity T_min:	173.75 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	200000.0
Thermal Conductivity Rhomax:	17.938
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-115.
Viscosity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	173.75 K
Viscosity T_max:	600.0 K
Viscosity P_max:	200000.0
Viscosity Rhomax:	17.938
Medium Name:	R116
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	76-16-4

Fullname:	Hexafluoroethane
Chemical Formula:	CF3CF3
Synonym:	FC-116
Molar Mass:	0.13801182 kg/mol
Triple Temperature:	173.1 K
Normal Boiling Point:	195.06 K
critical Temperature:	293.03 K
critical Pressure:	3048000.0 Pa
critical Density:	613.32452808 kg/m^3
Acentric Factor:	0.2566
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	2193
Family:	halocb
GWP:	12200.0
RCL:	97000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas Helmholtz form for R-116.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-116 of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	173.1 K
Real Part T_max:	425.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	12.31 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-134a of Perkins et al. (2000), scaled to R116.
Thermal Conductivity Literature Reference:	WEB: https://doi.org/10.6028/NIST.IR.6605 The model is based on a scaling of the correlation presented below. Perkins, R.A., Laesecke, A., Howley, J., Ramires, M.L.V., Gurova, A.N., and Cusco, L., "Experimental Thermal Conductivity Values for the IUPAC Round-Robin Sample of 1,1,1,2-Tetrafluoroethane (R134a)," NISTIR, 2000.
Thermal Conductivity T_min:	173.1 K
Thermal Conductivity T_max:	425.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	12.31
Viscosity Name:	Estimation based on pure fluid viscosity model for R-134a of Huber et al. (2003), scaled to R116.
Viscosity Literature Reference:	The model is based on a scaling of the correlation presented below. Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	173.1 K
Viscosity T_max:	425.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	12.31

Medium Name:	R12
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FEQ, FES
EOS Selected model:	FEQ
CASnumber:	75-71-8
Fullname:	Dichlorodifluoromethane
Chemical Formula:	CCl2F2
Synonym:	CFC-12
Molar Mass:	0.12091299999999999 kg/mol
Triple Temperature:	116.099 K
Normal Boiling Point:	243.398 K
critical Temperature:	385.12 K
critical Pressure:	4136100.0000000005 Pa
critical Density:	564.999969053 kg/m^3
Acentric Factor:	0.17948
Dipole Moment:	0.51
Default Reference State:	IIR
UNNumber:	1028
Family:	halocb
GWP:	10900.0
ODP:	0.82
RCL:	18000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-12 of Marx et al. (1992).
Ideal Part Literature Reference:	Marx, V., Pruss, A., and Wagner, W., 1992.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-12 of Marx et al. (1992).
Real Part Literature Reference:	Marx, V., Pruss, A., and Wagner, W., "Neue Zustandsgleichungen fuer R 12, R 22, R 11 und R 113. Beschreibung des thermodynamishchen Zustandsverhaltens bei Temperaturen bis 525 K und Druecken bis 200 MPa," Duesseldorf, VDI Verlag, Series 19 (Waermetechnik/Kaeltetechnik), No. 57, 1992.
Real Part T_min:	116.099 K
Real Part T_max:	525.0 K
Real Part P_max:	200000.0 Pa
Real Part Rhomax:	15.13 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-12.
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrig., 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrig., 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Thermal Conductivity T_min:	116.0 K

Thermal Conductivity T_max:	525.0 K
Thermal Conductivity P_max:	200000.0
Thermal Conductivity Rhomax:	15.13
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-12.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrig., 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrig., 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Viscosity T_min:	116.0 K
Viscosity T_max:	525.0 K
Viscosity P_max:	200000.0
Viscosity Rhomax:	15.13
Medium Name:	R1216
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	116-15-4
Fullname:	Hexafluoropropene
Chemical Formula:	C3F6
Synonym:	Hexafluoropropylene
Molar Mass:	0.1500225192 kg/mol
Triple Temperature:	117.654 K
Normal Boiling Point:	242.81 K
critical Temperature:	358.9 K
critical Pressure:	3149528.0 Pa
critical Density:	583.40757266496 kg/m^3
Acentric Factor:	0.333
Dipole Moment:	1.088
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for R-1216 of Zhou and Lemmon (2010).
Ideal Part Literature Reference:	Zhou, Y. and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-1216 of Zhou and Lemmon (2010).
Real Part Literature Reference:	Equations of State for RE245cb2, RE347mcc, RE245fa2, and R1216 to be submitted to J. Phys. Chem. Ref. Data, 2018.
Real Part T_min:	117.654 K
Real Part T_max:	400.0 K
Real Part P_max:	12000.0 Pa

Real Part Rhomax:	12.89 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); predictive model; exp. data not found for R-1216.
Thermal Conductivity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Thermal Conductivity T_min:	145.0 K
Thermal Conductivity T_max:	400.0 K
Thermal Conductivity P_max:	12000.0
Thermal Conductivity Rhomax:	12.89
Viscosity Name:	Extended Corresponding States model (R134a reference); predictive model; exp. data not found for R-1216.
Viscosity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	145.0 K
Viscosity T_max:	400.0 K
Viscosity P_max:	12000.0
Viscosity Rhomax:	12.89
Medium Name:	R1224yd(Z)
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	111512-60-8
Fullname:	(Z)-1-Chloro-2,3,3,3-tetrafluoropropene
Chemical Formula:	CF3CF=CHCl (cis)
Synonym:	HCFO-1224yd(Z)
Molar Mass:	0.14848670000000003 kg/mol
Triple Temperature:	263.0 K
Normal Boiling Point:	287.767 K
critical Temperature:	428.69 K
critical Pressure:	3337000.0 Pa
critical Density:	527.127785 kg/m^3
Acentric Factor:	0.322
Dipole Moment:	1.47
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	1.0
Ideal Part Name:	Ideal gas heat capacity function for R-1224yd(Z) of Akasaka et al. (2017).

Ideal Part Literature Reference:	Akasaka, R., Fukushima, M., and Lemmon, E.W., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-1224yd(Z) of Akasaka et al. (2017).
Real Part Literature Reference:	Akasaka, R., Fukushima, M., and Lemmon, E.W., "A Helmholtz Energy Equation of State for cis-1-chloro-2,3,3,3-Tetrafluoropropene (R-1224yd(Z))," European Conference on Thermophysical Properties, Graz, Austria, September 3-8, 2017.
Real Part T_min:	263.0 K
Real Part T_max:	473.15 K
Real Part P_max:	40000.0 Pa
Real Part Rhomax:	9.8 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134A reference) Predictive model; limited data
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	263.0 K
Thermal Conductivity T_max:	473.15 K
Thermal Conductivity P_max:	40000.0
Thermal Conductivity Rhomax:	9.8
Viscosity Name:	Extended Corresponding States model (R134A reference) Predictive model; limited data
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	263.0 K
Viscosity T_max:	473.15 K
Viscosity P_max:	40000.0
Viscosity Rhomax:	9.8
Medium Name:	R123
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Modified Benedict-Webb-Rubin equation of state
EOS Models:	BWR, FE1, FES
EOS Selected model:	BWR
CASnumber:	306-83-2
Fullname:	2,2-Dichloro-1,1,1-trifluoroethane
Chemical Formula:	CHCl2CF3
Synonym:	HCFC-123
Molar Mass:	0.152931 kg/mol
Triple Temperature:	166.0 K
Normal Boiling Point:	300.973 K
critical Temperature:	456.831 K
critical Pressure:	3661800.0 Pa

critical Density:	550.0036482270001 kg/m^3
Acentric Factor:	0.28192
Dipole Moment:	1.356
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	77.0
ODP:	0.01
RCL:	9100.0
Safety Group:	B1
Ideal Part Name:	Ideal gas heat capacity function for R-123 of Younglove & McLinden (1994).
Ideal Part Literature Reference:	Younglove, B.A. and McLinden, M.O., 1994.
Ideal Part T_max:	10000.0 K
Real Part Name:	MBWR equation of state for R-123 of Younglove and McLinden (1994).
Real Part Literature Reference:	Younglove, B.A. and McLinden, M.O., "An International Standard Equation of State for the Thermodynamic Properties of Refrigerant 123 (2,2-Dichloro-1,1,1-Trifluoroethane)," J. Phys. Chem. Ref. Data, 23:731-779, 1994.
Real Part T_min:	166.0 K
Real Part T_max:	600.0 K
Real Part P_max:	40000.0 Pa
Real Part Rhomax:	11.6 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-123 of Laesecke et al. (1996).
Thermal Conductivity Literature Reference:	Laesecke, A., Perkins, R.A., and Howley, J.B., "An Improved Correlation for the Thermal Conductivity of HCFC123 (2,2-Dichloro-1,1,1-Trifluoroethane)," Int. J. Refrig., 19:231-238, 1996. doi: 10.1016/0140-7007(96)00019-9
Thermal Conductivity T_min:	166.0 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	67000.0
Thermal Conductivity Rhomax:	12.42
Viscosity Name:	Pure fluid viscosity model for R-123 of Tanaka and Sotani (1995).
Viscosity Literature Reference:	Tanaka, Y. and Sotani, T., "Transport Properties (Thermal Conductivity and Viscosity)," in McLinden, M.O., editor. R123--Thermodynamic and Physical Properties. Paris, International Institute of Refrigeration, 1995.
Viscosity T_min:	166.0 K
Viscosity T_max:	600.0 K
Viscosity P_max:	40000.0
Viscosity Rhomax:	15.9
Medium Name:	R1233zd(E)
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)

EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	102687-65-0
Fullname:	trans-1-Chloro-3,3,3-trifluoro-1-propene
Chemical Formula:	CF3CH=CHCl
Synonym:	HFO-1233zd(E)
Molar Mass:	0.13049619999999998 kg/mol
Triple Temperature:	195.15 K
Normal Boiling Point:	291.413 K
critical Temperature:	439.6 K
critical Pressure:	3623700.0 Pa
critical Density:	480.22601599999996 kg/m^3
Acentric Factor:	0.3025
Dipole Moment:	1.12
Default Reference State:	IIR
UNNumber:	3163
Family:	halocb
GWP:	1.0
RCL:	16000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-1233zd(E) of Mondejar et al. (2015).
Ideal Part Literature Reference:	Mondejar, M.E., McLinden, M.O., and Lemmon, E.W., 2015.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-1233zd(E) of Mondejar et al. (2015).
Real Part Literature Reference:	Mondejar, M.E., McLinden, M.O., and Lemmon, E.W., "Thermodynamic Properties of trans-1-chloro-3,3,3-Trifluoropropene (R1233zd(E)): Vapor Pressure, P-rho-T Data, Speed of Sound Measurements and Equation of State," J. Chem. Eng. Data, 60:2477-2489, 2015. doi: 10.1021/acs.jced.5b00348
Real Part T_min:	195.15 K
Real Part T_max:	550.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	11.41 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-1233zd(E) of Perkins et al. (2017).
Thermal Conductivity Literature Reference:	Perkins, R.A., Huber, M.L., and Assael, M.J., "Measurement and Correlation of the Thermal Conductivity of trans-1-Chloro-3,3,3-Trifluoropropene (R1233zd(E))," J. Chem. Eng. Data, 62(9):2659-2665, 2017. doi: 10.1021/acs.jced.7b00106
Thermal Conductivity T_min:	195.0 K
Thermal Conductivity T_max:	550.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	11.5
Viscosity Name:	Extended Corresponding States model (R134a reference).
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	195.0 K

Viscosity T_max:	550.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	11.5
Medium Name:	R1234yf
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	754-12-1
Fullname:	2,3,3,3-Tetrafluoroprop-1-ene
Chemical Formula:	CF3CF=CH2
Synonym:	R-1234yf
Molar Mass:	0.11404159280000001 kg/mol
Triple Temperature:	122.77 K
Normal Boiling Point:	243.665 K
critical Temperature:	367.85 K
critical Pressure:	3382200.0 Pa
critical Density:	475.553441976 kg/m^3
Acentric Factor:	0.276
Dipole Moment:	2.48
Default Reference State:	IIR
UNNumber:	3161
Family:	halocb
RCL:	16000.0
Safety Group:	A2L
Ideal Part Name:	Ideal gas Helmholtz form for R-1234yf of Richter et al. (2011)
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-1234yf of Richter et al. (2011).
Real Part Literature Reference:	Richter, M., McLinden, M.O., and Lemmon, E.W., "Thermodynamic Properties of 2,3,3,3-Tetrafluoroprop-1-ene (R1234yf): Vapor Pressure and p-rho-T Measurements and an Equation of State," J. Chem. Eng. Data, 56(7):3254-3264, 2011. doi: 10.1021/je200369m
Real Part T_min:	122.77 K
Real Part T_max:	410.0 K
Real Part P_max:	30000.0 Pa
Real Part Rhomax:	13.685 kg/m^3
Thermal Conductivity Models:	TC1, TC5
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-1234yf of Perkins and Huber (2011).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of 2,3,3,3-Tetrafluoroprop-1-ene (R1234yf) and trans-1,3,3,3-Tetrafluoropeopene (R1234ze)," J. Chem. Eng. Data, 56(12):4868-4874, 2011. doi: 10.1021/je200811n
Thermal Conductivity T_min:	220.0 K

Thermal Conductivity T_max:	410.0 K
Thermal Conductivity P_max:	30000.0
Thermal Conductivity Rhomax:	12.0
Viscosity Models:	VS5, VS7
Viscosity Name:	Pure fluid viscosity model for R-1234yf of Huber and Assael (2016).
Viscosity Literature Reference:	Huber, M.L. and Assael, M.J., "Correlations for the Viscosity of 2,3,3,3-Tetrafluoroprop-1-ene (R1234yf) and trans-1,2,2,2-Tetrafluoropropene (R1234ze(E))," Int. J. Refrig., 71:39-45, 2016. doi: 10.1016/j.ijrefrig.2016.08.007
Viscosity T_min:	220.0 K
Viscosity T_max:	410.0 K
Viscosity P_max:	30000.0
Viscosity Rhomax:	12.0
Medium Name:	R1234ze(E)
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FE3, FEQ
EOS Selected model:	FEQ
CASnumber:	29118-24-9
Fullname:	trans-1,3,3,3-Tetrafluoropropene
Chemical Formula:	CHF=CHCF3 (trans)
Synonym:	HFO-1234ze(E)
Molar Mass:	0.1140416 kg/mol
Triple Temperature:	169.0 K
Normal Boiling Point:	254.177 K
critical Temperature:	382.513 K
critical Pressure:	3634900.0 Pa
critical Density:	489.238464 kg/m^3
Acentric Factor:	0.313
Dipole Moment:	1.27
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	6.0
Safety Group:	A2L
Ideal Part Name:	Ideal gas Helmholtz form for R-1234ze(E) of Thol and Lemmon (2017).
Ideal Part Literature Reference:	Thol, M. and Lemmon, E.W., 2016.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-1234ze(E) of Thol and Lemmon (2016).
Real Part Literature Reference:	Thol, M. and Lemmon, E.W., "Equation of State for the Thermodynamic Properties of trans-1,3,3,3-Tetrafluoropropene [R1234ze(E)]," Int. J. Thermophys., 37:28, 2016. doi: 10.1007/s10765-016-2040-6

Real Part T_min:	169.0 K
Real Part T_max:	420.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	13.25 kg/m^3
Thermal Conductivity Models:	TC1, TC5
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-1234ze(E) of Perkins and Huber (2011).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of 2,3,3,3-Tetrafluoroprop-1-ene (R1234yf) and trans-1,3,3,3-Tetrafluoropeopene (R1234ze)," J. Chem. Eng. Data, 56(12):4868-4874, 2011. doi: 10.1021/je200811n
Thermal Conductivity T_min:	168.62 K
Thermal Conductivity T_max:	420.0 K
Thermal Conductivity P_max:	20000.0
Thermal Conductivity Rhomax:	14.0
Viscosity Name:	Pure fluid viscosity model for R-1234ze(E) of Huber and Assael (2016).
Viscosity Literature Reference:	Huber, M.L. and Assael, M.J., "Correlations for the Viscosity of 2,3,3,3-Tetrafluoroprop-1-ene (R1234yf) and trans-1,2,2,2-Tetrafluoropropene (R1234ze(E))," Int. J. Refrig., 71:39-45, 2016. doi: 10.1016/j.ijrefrig.2016.08.007
Viscosity T_min:	169.0 K
Viscosity T_max:	420.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	14.0
Medium Name:	R1234ze(Z)
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	29118-25-0
Fullname:	cis-1,3,3,3-Tetrafluoropropene
Chemical Formula:	CHF=CHCF3 (cis)
Synonym:	R-1234ze(Z)
Molar Mass:	0.1140416 kg/mol
Triple Temperature:	238.0 K
Normal Boiling Point:	282.878 K
critical Temperature:	423.27 K
critical Pressure:	3530600.0 Pa
critical Density:	456.1664 kg/m^3
Acentric Factor:	0.327
Dipole Moment:	2.9
Default Reference State:	IIR
UNNumber:	????

Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for R-1234ze(Z) of Akasaka and Lemmon (2018).
Ideal Part Literature Reference:	Akasaka, R. and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-1234ze(Z) of Akasaka and Lemmon (2018).
Real Part Literature Reference:	Akasaka, R. and Lemmon, E.W., "Fundamental Equations of State for cis-1,3,3,3-Tetrafluoropropene (R-1234ze(Z)) and 3,3,3-Trifluoropropene (R-1243zf)," to be submitted to J. Chem. Eng. Data, 2018.
Real Part T_min:	238.0 K
Real Part T_max:	440.0 K
Real Part P_max:	34000.0 Pa
Real Part Rhomax:	12.01 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference) for R-1234ze(Z).
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	238.0 K
Thermal Conductivity T_max:	440.0 K
Thermal Conductivity P_max:	34000.0
Thermal Conductivity Rhomax:	12.01
Viscosity Name:	Extended Corresponding States model (R134a reference) for R-1234ze(Z).
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	238.0 K
Viscosity T_max:	440.0 K
Viscosity P_max:	34000.0
Viscosity Rhomax:	12.01
Medium Name:	R124
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FEQ
EOS Selected model:	FEQ
CASnumber:	2837-89-0
Fullname:	1-Chloro-1,2,2,2-tetrafluoroethane
Chemical Formula:	CHClFCF3
Synonym:	HCFC-124
Molar Mass:	0.1364762 kg/mol
Triple Temperature:	74.0 K
Normal Boiling Point:	261.187 K

critical Temperature:	395.425 K
critical Pressure:	3624295.0 Pa
critical Density:	560.00492048872 kg/m^3
Acentric Factor:	0.2881
Dipole Moment:	1.469
Default Reference State:	IIR
UNNumber:	1021
Family:	halocb
GWP:	609.0
ODP:	0.02
RCL:	10000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-124 of de Vries et al. (1995).
Ideal Part Literature Reference:	de Vries, B., Tillner-Roth, R., and Baehr, H.D.,
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-124 of de Vries et al. (1995).
Real Part Literature Reference:	de Vries, B., Tillner-Roth, R., and Baehr, H.D., "Thermodynamic Properties of HCFC 124," 19th International Congress of Refrigeration, The Hague, The Netherlands, International Institute of Refrigeration, IVa:582-589, 1995.
Real Part T_min:	120.0 K
Real Part T_max:	470.0 K
Real Part P_max:	40000.0 Pa
Real Part Rhomax:	13.6 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-124.
Thermal Conductivity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Thermal Conductivity T_min:	120.0 K
Thermal Conductivity T_max:	470.0 K
Thermal Conductivity P_max:	40000.0
Thermal Conductivity Rhomax:	13.6
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-124.
Viscosity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	120.0 K
Viscosity T_max:	470.0 K
Viscosity P_max:	40000.0
Viscosity Rhomax:	13.6
Medium Name:	R1243zf
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	677-21-4
Fullname:	3,3,3-Trifluoropropene
Chemical Formula:	CH2=CHCF3
Synonym:	HFO-1243zf
Molar Mass:	0.09605113 kg/mol
Triple Temperature:	200.0 K
Normal Boiling Point:	247.726 K
critical Temperature:	376.93 K
critical Pressure:	3517900.0 Pa
critical Density:	413.019859 kg/m^3
Acentric Factor:	0.2604
Dipole Moment:	2.43
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for R-1243zf of Akasaka (2017).
Ideal Part Literature Reference:	Akasaka, R., 2017.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-1243zf of Akasaka (2017).
Real Part Literature Reference:	Akasaka, R., 2017. Second preliminary equation.
Real Part T_min:	200.0 K
Real Part T_max:	430.0 K
Real Part P_max:	40000.0 Pa
Real Part Rhomax:	12.6 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134A reference) NO DATA! Entirely predictive model
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	150.0 K
Thermal Conductivity T_max:	430.0 K
Thermal Conductivity P_max:	40000.0
Thermal Conductivity Rhomax:	13.59
Viscosity Name:	Extended Corresponding States model (R134A reference) NO DATA! Entirely predictive model
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	150.0 K

Viscosity T_max:	430.0 K
Viscosity P_max:	40000.0
Viscosity Rhomax:	13.59
Medium Name:	R125
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FE2, FE4, FEQ, FES, PRT
EOS Selected model:	FEQ
CASnumber:	354-33-6
Fullname:	Pentafluoroethane
Chemical Formula:	CHF2CF3
Synonym:	HFC-125
Molar Mass:	0.1200214 kg/mol
Triple Temperature:	172.52 K
Normal Boiling Point:	225.06 K
critical Temperature:	339.173 K
critical Pressure:	3617700.0 Pa
critical Density:	573.5822706 kg/m^3
Acentric Factor:	0.3052
Dipole Moment:	1.563
Default Reference State:	IIR
UNNumber:	3220
Family:	halocb
GWP:	3500.0
RCL:	75000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas Helmholtz form for R-125.
Ideal Part Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, 2005.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-125 of Lemmon and Jacobsen (2005).
Real Part Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "A New Functional Form and New Fitting Techniques for Equations of State with Application to Pentafluoroethane (HFC-125)," J. Phys. Chem. Ref. Data, 34(1):69-108, 2005. doi: 10.1063/1.1797813
Real Part T_min:	172.52 K
Real Part T_max:	500.0 K
Real Part P_max:	60000.0 Pa
Real Part Rhomax:	14.09 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-125 of Perkins and Huber (2006).
Thermal Conductivity Literature Reference:	Perkins, R.A. and Huber, M.L., "Measurement and Correlation of the Thermal Conductivity of Pentafluoroethane (R125) from 190 K to 512 K at Pressures to 70 MPa," J. Chem. Eng. Data, 51:898-904, 2006.
Thermal Conductivity T_min:	172.52 K

Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	14.09
Viscosity Name:	Pure fluid viscosity model for R-125 of Huber and Laesecke (2006).
Viscosity Literature Reference:	Huber, M.L. and Laesecke, A., "Correlation for the Viscosity of Pentafluoroethane (R125) from the Triple Point to 500 K at Pressures up to 60 MPa," Ind. Eng. Chem. Res., 45:4447-4453, 2006. doi: 10.1021/ie051367l
Viscosity T_min:	172.52 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	18.0
Medium Name:	R13
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Modified Benedict-Webb-Rubin equation of state
EOS Models:	BWR, FE1
EOS Selected model:	BWR
CASnumber:	75-72-9
Fullname:	Chlorotrifluoromethane
Chemical Formula:	CClF3
Synonym:	CFC-13
Molar Mass:	0.104459 kg/mol
Triple Temperature:	92.0 K
Normal Boiling Point:	191.67 K
critical Temperature:	302.0 K
critical Pressure:	3879000.0 Pa
critical Density:	582.88122 kg/m^3
Acentric Factor:	0.1723
Dipole Moment:	0.51
Default Reference State:	IIR
UNNumber:	1022
Family:	halocb
GWP:	14400.0
ODP:	1.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-13 of Magee (2000).
Ideal Part Literature Reference:	Magee, J.W., Outcalt, S.L., and Ely, J.F., 2000.
Ideal Part T_max:	10000.0 K
Real Part Name:	MBWR equation of state for R-13 of Magee et al. (2000).

Real Part Literature Reference:	Magee, J.W., Outcalt, S.L., and Ely, J.F., "Molar Heat Capacity C(v), Vapor Pressure, and (p, rho, T) Measurements from 92 to 350 K at Pressures to 35 MPa and a New Equation of State for Chlorotrifluoromethane (R13)," Int. J. Thermophys., 21(5):1097-1121, 2000.
Real Part T_min:	92.0 K
Real Part T_max:	403.0 K
Real Part P_max:	35000.0 Pa
Real Part Rhomax:	17.85 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-13.
Thermal Conductivity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Thermal Conductivity T_min:	92.0 K
Thermal Conductivity T_max:	403.0 K
Thermal Conductivity P_max:	35000.0
Thermal Conductivity Rhomax:	17.85
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-13.
Viscosity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	92.0 K
Viscosity T_max:	403.0 K
Viscosity P_max:	35000.0
Viscosity Rhomax:	17.85
Medium Name:	R1336mzz(Z)
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	692-49-9
Fullname:	(Z)-1,1,1,4,4,4-Hexafluoro-2-butene
Chemical Formula:	CF3CH=CHCF3(Z)
Synonym:	HFO-1336mzz(Z)
Molar Mass:	0.164056 kg/mol
Triple Temperature:	182.65 K
Normal Boiling Point:	306.603 K
critical Temperature:	444.5 K
critical Pressure:	2903000.0 Pa
critical Density:	499.38646400000005 kg/m^3

Acentric Factor:	0.386
Dipole Moment:	2.92
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	2.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-1336mzz(Z) of McLinden and Akasaka (2018).
Ideal Part Literature Reference:	McLinden, M.O. and Akasaka, R., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-1336mzz(Z) of McLinden and Akasaka (2018).
Real Part Literature Reference:	McLinden, M.O. and Akasaka, R., unpublished equation of state, 2018.
Real Part T_min:	182.65 K
Real Part T_max:	500.0 K
Real Part P_max:	46000.0 Pa
Real Part Rhomax:	9.98 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134A reference) limited data!
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	182.65 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	40000.0
Thermal Conductivity Rhomax:	10.23
Viscosity Name:	Extended Corresponding States model (R134A reference) limited data!
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	182.65 K
Viscosity T_max:	500.0 K
Viscosity P_max:	40000.0
Viscosity Rhomax:	10.23
Medium Name:	R134a
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE2, FEQ, FES, PRT
EOS Selected model:	FEQ
CASnumber:	811-97-2
Fullname:	1,1,1,2-Tetrafluoroethane

Chemical Formula:	CF3CH2F
Synonym:	HFC-134a
Molar Mass:	0.102032 kg/mol
Triple Temperature:	169.85 K
Normal Boiling Point:	247.076 K
critical Temperature:	374.21 K
critical Pressure:	4059280.0 Pa
critical Density:	511.89995169599996 kg/m^3
Acentric Factor:	0.32684
Dipole Moment:	2.058
Default Reference State:	IIR
UNNumber:	3159
Family:	halocb
GWP:	1430.0
RCL:	50000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas Helmholtz form for R-134a.
Ideal Part Literature Reference:	Tillner-Roth, R. and Baehr, H.D., 1994.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-134a of Tillner-Roth and Baehr (1994).
Real Part Literature Reference:	Tillner-Roth, R. and Baehr, H.D., "An International Standard Formulation of the Thermodynamic Properties of 1,1,1,2-Tetrafluoroethane (HFC-134a) for Temperatures from 170 K to 455 K at Pressures up to 70 MPa," J. Phys. Chem. Ref. Data, 23:657-729, 1994. doi: 10.1063/1.555958
Real Part T_min:	169.85 K
Real Part T_max:	455.0 K
Real Part P_max:	70000.0 Pa
Real Part Rhomax:	15.6 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-134a of Perkins et al. (2000).
Thermal Conductivity Literature Reference:	WEB: https://doi.org/10.6028/NIST.IR.6605 Perkins, R.A., Laesecke, A., Howley, J., Ramires, M.L.V., Gurova, A.N., and Cusco, L., "Experimental Thermal Conductivity Values for the IUPAC Round-Robin Sample of 1,1,1,2-Tetrafluoroethane (R134a)," NISTIR, 2000.
Thermal Conductivity T_min:	169.85 K
Thermal Conductivity T_max:	455.0 K
Thermal Conductivity P_max:	20000.0
Thermal Conductivity Rhomax:	20.0
Viscosity Models:	VS1, VS4
Viscosity Name:	Pure fluid viscosity model for R-134a of Huber et al. (2003).
Viscosity Literature Reference:	Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	169.85 K
Viscosity T_max:	500.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	20.0

Medium Name:	R14
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	75-73-0
Fullname:	Tetrafluoromethane
Chemical Formula:	CF4
Synonym:	FC-14
Molar Mass:	0.0880046 kg/mol
Triple Temperature:	89.54 K
Normal Boiling Point:	145.1 K
critical Temperature:	227.51 K
critical Pressure:	3750000.0 Pa
critical Density:	625.66161052924 kg/m^3
Acentric Factor:	0.1785
Dipole Moment:	0.0
Default Reference State:	OTH
Ideal Part Name:	Ideal gas heat capacity function for R-14 of Platzer et al. (1990).
Ideal Part Literature Reference:	Platzer, B., Polt, A., and Maurer, G., 1990.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-14 of Platzer et al. (1990).
Real Part Literature Reference:	WEB: https://www.springer.com/in/book/9783662026106 Platzer, B., Polt, A., and Maurer, G., "Thermophysical Properties of Refrigerants," Berlin, Springer-Verlag, 1990.
Real Part T_min:	120.0 K
Real Part T_max:	623.0 K
Real Part P_max:	51000.0 Pa
Real Part Rhomax:	20.764 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fitted to data for R-14.
Thermal Conductivity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Thermal Conductivity T_min:	89.54 K
Thermal Conductivity T_max:	623.0 K
Thermal Conductivity P_max:	51000.0
Thermal Conductivity Rhomax:	20.764
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fitted to data for R-14.

Viscosity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	89.54 K
Viscosity T_max:	623.0 K
Viscosity P_max:	51000.0
Viscosity Rhomax:	20.764
Medium Name:	R141b
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	1717-00-6
Fullname:	1,1-Dichloro-1-fluoroethane
Chemical Formula:	CCl2FCH3
Synonym:	HCFC-141b
Molar Mass:	0.11694961999999999 kg/mol
Triple Temperature:	169.68 K
Normal Boiling Point:	305.2 K
critical Temperature:	477.5 K
critical Pressure:	4212000.0 Pa
critical Density:	458.55946001999996 kg/m^3
Acentric Factor:	0.2195
Dipole Moment:	2.014
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	725.0
ODP:	0.12
RCL:	2600.0
Ideal Part Name:	Ideal gas Helmholtz form for R-141b.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-141b of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	169.68 K
Real Part T_max:	500.0 K
Real Part P_max:	400000.0 Pa
Real Part Rhomax:	12.56 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-141b. (unpublished)

Thermal Conductivity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Thermal Conductivity T_min:	169.68 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	400000.0
Thermal Conductivity Rhomax:	12.56
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-141b. (unpublished)
Viscosity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	169.68 K
Viscosity T_max:	500.0 K
Viscosity P_max:	400000.0
Viscosity Rhomax:	12.56
Medium Name:	R142b
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	75-68-3
Fullname:	1-Chloro-1,1-difluoroethane
Chemical Formula:	CClF2CH3
Synonym:	HCFC-142b
Molar Mass:	0.10049503 kg/mol
Triple Temperature:	142.72 K
Normal Boiling Point:	264.03 K
critical Temperature:	410.26 K
critical Pressure:	4055000.0 Pa
critical Density:	445.99694314 kg/m^3
Acentric Factor:	0.2321
Dipole Moment:	2.14
Default Reference State:	IIR
UNNumber:	2517
Family:	halocb
GWP:	2310.0
ODP:	0.06
RCL:	20000.0
Safety Group:	A2
Ideal Part Name:	Ideal gas Helmholtz form for R-142b.

Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-142b of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	142.72 K
Real Part T_max:	470.0 K
Real Part P_max:	60000.0 Pa
Real Part Rhomax:	14.44 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-142b.
Thermal Conductivity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Thermal Conductivity T_min:	142.72 K
Thermal Conductivity T_max:	470.0 K
Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	14.44
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-142b.
Viscosity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	142.72 K
Viscosity T_max:	470.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	14.44
Medium Name:	R143a
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE1, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	420-46-2
Fullname:	1,1,1-Trifluoroethane
Chemical Formula:	CF3CH3
Synonym:	HFC-143a
Molar Mass:	0.08404099999999999 kg/mol
Triple Temperature:	161.34 K
Normal Boiling Point:	225.909 K

critical Temperature:	345.857 K
critical Pressure:	3761000.0 Pa
critical Density:	431.00006644999996 kg/m^3
Acentric Factor:	0.2615
Dipole Moment:	2.34
Default Reference State:	IIR
UNNumber:	2035
Family:	halocb
GWP:	4470.0
RCL:	21000.0
Safety Group:	A2L
Ideal Part Name:	Ideal gas heat capacity function for R-143a of Lemmon and Jacobsen (2000).
Ideal Part Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, 2000.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-143a of Lemmon and Jacobsen (2000).
Real Part Literature Reference:	Lemmon, E.W. and Jacobsen, R.T, "An International Standard Formulation for the Thermodynamic Properties of 1,1,1-Trifluoroethane (HFC-143a) for Temperatures from 161 to 450 K and Pressures to 50 MPa," J. Phys. Chem. Ref. Data, 29(4):521-552, 2000. doi: 10.1063/1.1318909
Real Part T_min:	161.34 K
Real Part T_max:	650.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	15.85 kg/m^3
Thermal Conductivity Name:	Pure fluid preliminary thermal conductivity model for R143A of Huber (2018).
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	161.34 K
Thermal Conductivity T_max:	650.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	20.0
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-143a.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	161.34 K
Viscosity T_max:	500.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	20.0
Medium Name:	Dichloroethane
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)

EOS Selected model:	FEQ
CASnumber:	107-06-2
Fullname:	1,2-Dichloroethane
Chemical Formula:	C2H4Cl2
Synonym:	R-150
Molar Mass:	0.0989592 kg/mol
Triple Temperature:	237.52 K
Normal Boiling Point:	356.65 K
critical Temperature:	561.6 K
critical Pressure:	5226120.0 Pa
critical Density:	428.493336 kg/m^3
Acentric Factor:	0.268
Dipole Moment:	1.44
Default Reference State:	NBP
UNNumber:	1184
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for dichloroethane of Thol et al. (2018).
Ideal Part Literature Reference:	Thol, M., Koeste, A., Rutkai, G., Span, R., Wagner, W., and Vrabec, J., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for dichloroethane of Thol et al. (2018).
Real Part Literature Reference:	Thol, M., Koeste, A., Rutkai, G., Span, R., Wagner, W., and Vrabec, J., to be submitted to Mol. Phys., 2018.
Real Part T_min:	237.52 K
Real Part T_max:	600.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	13.45 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (propane reference); fit to limited data for dichloroethane.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	237.52 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	13.45
Viscosity Name:	Extended Corresponding States model (propane reference); fit to limited data for dichloroethane.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	237.52 K
Viscosity T_max:	600.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	13.45

Medium Name:	R152a
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Modified Benedict-Webb-Rubin equation of state
EOS Models:	BWR, FE1, FE2, FE3, FES
EOS Selected model:	BWR
CASnumber:	75-37-6
Fullname:	1,1-Difluoroethane
Chemical Formula:	CHF2CH3
Synonym:	HFC-152a
Molar Mass:	0.066051 kg/mol
Triple Temperature:	154.56 K
Normal Boiling Point:	249.127 K
critical Temperature:	386.411 K
critical Pressure:	4516750.0 Pa
critical Density:	367.99984394999996 kg/m^3
Acentric Factor:	0.27521
Dipole Moment:	2.262
Default Reference State:	IIR
UNNumber:	1030
Family:	halocb
GWP:	124.0
RCL:	12000.0
Safety Group:	A2
Ideal Part Name:	Ideal gas heat capacity function for R-152a of Outcalt & McLinden (1996).
Ideal Part Literature Reference:	Outcalt, S.L. and McLinden, M.O., 1996.
Ideal Part T_max:	10000.0 K
Real Part Name:	MBWR equation of state for R-152a of Outcalt and McLinden (1996).
Real Part Literature Reference:	Outcalt, S.L. and McLinden, M.O., "A Modified Benedict-Webb-Rubin Equation of State for the Thermodynamic Properties of R152a (1,1-Difluoroethane)," J. Phys. Chem. Ref. Data, 25(2):605-636, 1996.
Real Part T_min:	154.56 K
Real Part T_max:	500.0 K
Real Part P_max:	60000.0 Pa
Real Part Rhomax:	18.07 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-152a of Krauss et al. (1996).
Thermal Conductivity Literature Reference:	Krauss, R., Weiss, V.C., Edison, T.A., Sengers, J.V., and Stephan, K., "Transport Properties of 1,1-Difluoroethane (R152a)," Int. J. Thermophys., 17:731-757, 1996. doi: 10.1007/BF01439187
Thermal Conductivity T_min:	154.56 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	18.07

Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-152a.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrigeration, 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrigeration, 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Viscosity T_min:	154.56 K
Viscosity T_max:	500.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	18.07
Medium Name:	R161
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	ECS, FE1, FE2, FEQ
EOS Selected model:	FEQ
CASnumber:	353-36-6
Fullname:	Fluoroethane
Chemical Formula:	C2H5F
Synonym:	Ethyl fluoride
Molar Mass:	0.0480595 kg/mol
Triple Temperature:	130.0 K
Normal Boiling Point:	235.614 K
critical Temperature:	375.25 K
critical Pressure:	5046000.0 Pa
critical Density:	302.00109205 kg/m^3
Acentric Factor:	0.22
Dipole Moment:	1.9397
Default Reference State:	IIR
UNNumber:	2453
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for R-161 of Qi et al. (2016).
Ideal Part Literature Reference:	Qi, H., Fang, D., Gao, K., Meng, X., and Wu, J., 2016.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-161 of Qi et al. (2016).
Real Part Literature Reference:	Qi, H., Fang, D., Gao, K., Meng, X., and Wu, J., "Compressed Liquid Densities and Helmholtz Energy Equation of State for Fluoroethane (R161)," Int. J. Thermophys., 37:55, 2016. doi: 10.1007/s10765-016-2061-1
Real Part T_min:	130.0 K
Real Part T_max:	450.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	19.95 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-161 of Tsolakidou et al. (2017).

Thermal Conductivity Literature Reference:	Tsolakidou, Ch.M., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlations of the Viscosity and Thermal Conductivity of Ethyl Fluoride (R161)," J. Phys. Chem. Ref. Data, 46, 023103, 2017. doi: 10.1063/1.4983027
Thermal Conductivity T_min:	130.0 K
Thermal Conductivity T_max:	450.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	19.95
Viscosity Name:	Pure fluid viscosity model for R-161 of Tsolakidou et al. (2017).
Viscosity Literature Reference:	Tsolakidou, Ch.M., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlations of the Viscosity and Thermal Conductivity of Ethyl Fluoride (R161)," J. Phys. Chem. Ref. Data, 46, 023103, 2017. doi: 10.1063/1.4983027
Viscosity T_min:	130.0 K
Viscosity T_max:	450.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	19.95
Medium Name:	R21
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	75-43-4
Fullname:	Dichlorofluoromethane
Chemical Formula:	CHCl2F
Synonym:	HCFC-21
Molar Mass:	0.1029227 kg/mol
Triple Temperature:	142.8 K
Normal Boiling Point:	282.01 K
critical Temperature:	451.48 K
critical Pressure:	5181200.0 Pa
critical Density:	526.01379461912 kg/m^3
Acentric Factor:	0.2061
Dipole Moment:	1.37
Default Reference State:	IIR
UNNumber:	1029
Family:	halocb
GWP:	151.0
ODP:	0.04
Safety Group:	B1
Ideal Part Name:	Ideal gas heat capacity function for R-21 of Platzer et al. (1990).
Ideal Part Literature Reference:	Platzer, B., Polt, A., and Maurer, G., 1990.
Ideal Part T_max:	10000.0 K

Real Part Name:	Helmholtz equation of state for R-21 of Platzer et al. (1990).
Real Part Literature Reference:	WEB: https://www.springer.com/in/book/9783662026106 Platzer, B., Polt, A., and Maurer, G., "Thermophysical Properties of Refrigerants," Berlin, Springer-Verlag, 1990.
Real Part T_min:	200.0 K
Real Part T_max:	473.0 K
Real Part P_max:	138000.0 Pa
Real Part Rhomax:	15.36 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134A reference); fit to limited data for R-21.
Thermal Conductivity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Thermal Conductivity T_min:	200.0 K
Thermal Conductivity T_max:	473.19 K
Thermal Conductivity P_max:	137900.0
Thermal Conductivity Rhomax:	15.36
Viscosity Name:	Extended Corresponding States model (R134A reference); fit to limited data for R-21.
Viscosity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	200.0 K
Viscosity T_max:	473.19 K
Viscosity P_max:	137900.0
Viscosity Rhomax:	15.36
Medium Name:	R218
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	76-19-7
Fullname:	Octafluoropropane
Chemical Formula:	CF3CF2CF3
Synonym:	Perfluoropropane
Molar Mass:	0.18801932999999998 kg/mol
Triple Temperature:	125.45 K
Normal Boiling Point:	236.36 K
critical Temperature:	345.02 K
critical Pressure:	2640000.0 Pa
critical Density:	627.9845621999999 kg/m^3
Acentric Factor:	0.3172

Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	2424
Family:	halocb
GWP:	8830.0
RCL:	90000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas Helmholtz form for R-218.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-218 of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	125.45 K
Real Part T_max:	440.0 K
Real Part P_max:	20000.0 Pa
Real Part Rhomax:	10.69 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-218.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	125.45 K
Thermal Conductivity T_max:	440.0 K
Thermal Conductivity P_max:	20000.0
Thermal Conductivity Rhomax:	10.69
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-218.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	125.45 K
Viscosity T_max:	440.0 K
Viscosity P_max:	20000.0
Viscosity Rhomax:	10.69
Medium Name:	R22
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	75-45-6
Fullname:	Chlorodifluoromethane

Chemical Formula:	CHClF2
Synonym:	HCFC-22
Molar Mass:	0.086468 kg/mol
Triple Temperature:	115.73 K
Normal Boiling Point:	232.34 K
critical Temperature:	369.295 K
critical Pressure:	4990000.0 Pa
critical Density:	523.8421669600001 kg/m^3
Acentric Factor:	0.22082
Dipole Moment:	1.458
Default Reference State:	IIR
UNNumber:	1018
Family:	halocb
GWP:	1810.0
ODP:	0.04
RCL:	59000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-22 of Kamei et al. (1995).
Ideal Part Literature Reference:	Kamei, A., Beyerlein, S.W., and Jacobsen, R.T, 1995.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-22 of Kamei et al. (1995).
Real Part Literature Reference:	Kamei, A., Beyerlein, S.W., and Jacobsen, R.T, "Application of Nonlinear Regression in the Development of a Wide Range Formulation for HCFC-22," Int. J. Thermophys., 16:1155-1164, 1995. doi: 10.1007/BF02081283
Real Part T_min:	115.73 K
Real Part T_max:	550.0 K
Real Part P_max:	60000.0 Pa
Real Part Rhomax:	19.91 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-22.
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrig., 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrig., 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Thermal Conductivity T_min:	115.73 K
Thermal Conductivity T_max:	550.0 K
Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	19.91
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-22.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrig., 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrig., 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Viscosity T_min:	115.73 K
Viscosity T_max:	550.0 K

Viscosity P_max:	60000.0
Viscosity Rhomax:	19.91
Medium Name:	R227ea
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	431-89-0
Fullname:	1,1,1,2,3,3,3-Heptafluoropropane
Chemical Formula:	CF3CHFCF3
Synonym:	HFC-227ea
Molar Mass:	0.17002886 kg/mol
Triple Temperature:	146.35 K
Normal Boiling Point:	256.81 K
critical Temperature:	374.9 K
critical Pressure:	2925000.0 Pa
critical Density:	594.2508657000001 kg/m^3
Acentric Factor:	0.357
Dipole Moment:	1.456
Default Reference State:	IIR
UNNumber:	3296
Family:	halocb
GWP:	3220.0
RCL:	84000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas Helmholtz form for R-227ea.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-227ea of Lemmon and Span (2015).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Thermodynamic Properties of R-227ea, R-365mfc, R-115, and R-13I1," J. Chem. Eng. Data, 60(12):3745-3758, 2015. doi: 10.1021/acs.jced.5b00684
Real Part T_min:	146.35 K
Real Part T_max:	475.0 K
Real Part P_max:	60000.0 Pa
Real Part Rhomax:	11.05 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-227ea.
Thermal Conductivity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Thermal Conductivity T_min:	146.35 K
Thermal Conductivity T_max:	500.0 K

Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	11.12
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-227ea.
Viscosity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A., "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	146.35 K
Viscosity T_max:	500.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	11.12
Medium Name:	R23
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE3, FEQ
EOS Selected model:	FEQ
CASnumber:	75-46-7
Fullname:	Trifluoromethane
Chemical Formula:	CHF3
Synonym:	HFC-23
Molar Mass:	0.07001385 kg/mol
Triple Temperature:	118.02 K
Normal Boiling Point:	191.132 K
critical Temperature:	299.293 K
critical Pressure:	4832000.0 Pa
critical Density:	526.504152 kg/m^3
Acentric Factor:	0.263
Dipole Moment:	1.649
Default Reference State:	IIR
UNNumber:	1984
Family:	halocb
GWP:	14800.0
RCL:	41000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas Helmholtz form for R-23.
Ideal Part Literature Reference:	Penoncello, S.G., Lemmon, E.W., Jacobsen, R.T, and Shan, Z., 2003.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-23 of Penoncello et al. (2003).
Real Part Literature Reference:	Penoncello, S.G., Lemmon, E.W., Jacobsen, R.T, and Shan, Z., "A Fundamental Equation for Triflurormethane (R-23)," J. Phys. Chem. Ref. Data, 32(4):1473-1499, 2003. doi: 10.1063/1.1559671
Real Part T_min:	118.02 K

Real Part T_max:	475.0 K
Real Part P_max:	120000.0 Pa
Real Part Rhomax:	24.31 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-23 of Shan et al. (2000).
Thermal Conductivity Literature Reference:	Shan, Z., Penoncello, S.G., and Jacobsen, R.T, "A Generalized Model for Viscosity and Thermal Conductivity of Trifluoromethane (R-23)," ASHRAE Transactions, 106:757-767, 2000.
Thermal Conductivity T_min:	118.02 K
Thermal Conductivity T_max:	475.0 K
Thermal Conductivity P_max:	120000.0
Thermal Conductivity Rhomax:	25.0
Viscosity Name:	Pure fluid viscosity model for R-23 of Shan et al. (2000).
Viscosity Literature Reference:	Shan, Z., Penoncello, S.G., and Jacobsen, R.T, "A Generalized Model for Viscosity and Thermal Conductivity of Trifluoromethane (R-23)," ASHRAE Transactions, 106:757-767, 2000.
Viscosity T_min:	118.02 K
Viscosity T_max:	475.0 K
Viscosity P_max:	120000.0
Viscosity Rhomax:	25.0
Medium Name:	R236ea
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	ECS, FEQ
EOS Selected model:	FEQ
CASnumber:	431-63-0
Fullname:	1,1,1,2,3,3-Hexafluoropropane
Chemical Formula:	CF3CHFCHF2
Synonym:	HFC-236ea
Molar Mass:	0.1520384 kg/mol
Triple Temperature:	170.0 K
Normal Boiling Point:	279.322 K
critical Temperature:	412.44 K
critical Pressure:	3420000.0 Pa
critical Density:	564.999999671296 kg/m^3
Acentric Factor:	0.369
Dipole Moment:	1.129
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	1410.0
Ideal Part Name:	Ideal gas Helmholtz form for R-236ea.

Ideal Part Literature Reference:	Rui, X., Pan, J., and Wang, Y., 2013.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-236ea of Rui et al. (2013).
Real Part Literature Reference:	Rui, X., Pan, J., and Wang, Y., "An Equation of State for Thermodynamic Properties of 1,1,1,2,3,3-Hexafluoropropane (R236ea)," Fluid Phase Equilib., 341:75-85, 2013. doi: 10.1016/j.fluid.2012.12.026
Real Part T_min:	240.0 K
Real Part T_max:	420.0 K
Real Part P_max:	6000.0 Pa
Real Part Rhomax:	11.71 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-236ea.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	240.0 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	20.0
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-236ea.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	240.0 K
Viscosity T_max:	500.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	20.0
Medium Name:	R236fa
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FEQ
EOS Selected model:	FEQ
CASnumber:	690-39-1
Fullname:	1,1,1,3,3,3-Hexafluoropropane
Chemical Formula:	CF3CH2CF3
Synonym:	HFC-236fa
Molar Mass:	0.1520384 kg/mol
Triple Temperature:	179.6 K
Normal Boiling Point:	271.66 K
critical Temperature:	398.07 K
critical Pressure:	3200000.0 Pa
critical Density:	551.2912384 kg/m^3

Acentric Factor:	0.377
Dipole Moment:	1.982
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	9810.0
RCL:	55000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas Helmholtz form for R-236fa.
Ideal Part Literature Reference:	Pan, J., Rui, X., Zhao, X., and Qiu, L., 2012.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-236fa of Pan et al. (2012).
Real Part Literature Reference:	Pan, J., Rui, X., Zhao, X., and Qiu, L., "An Equation of State for the Thermodynamic Properties of 1,1,1,3,3,3-Hexafluoropropane (HFC-236fa)," Fluid Phase Equilib., 321:10-16, 2012. doi: 10.1016/j.fluid.2012.02.012
Real Part T_min:	179.6 K
Real Part T_max:	400.0 K
Real Part P_max:	70000.0 Pa
Real Part Rhomax:	11.235 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-236fa.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	179.52 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	11.3
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-236fa.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	179.52 K
Viscosity T_max:	500.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	11.3
Medium Name:	R245ca
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	ECS, FEQ
EOS Selected model:	FEQ
CASnumber:	679-86-7

Fullname:	1,1,2,2,3-Pentafluoropropane
Chemical Formula:	CHF2CF2CH2F
Synonym:	HFC-245ca
Molar Mass:	0.13404794 kg/mol
Triple Temperature:	196.0 K
Normal Boiling Point:	298.412 K
critical Temperature:	447.57 K
critical Pressure:	3940700.0 Pa
critical Density:	525.4679248 kg/m^3
Acentric Factor:	0.355
Dipole Moment:	1.74
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	726.0
Ideal Part Name:	Ideal gas Helmholtz form for R-245ca.
Ideal Part Literature Reference:	Zhou, Y. and Lemmon, E.W., 2016.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-245ca of Zhou and Lemmon (2016).
Real Part Literature Reference:	Zhou, Y. and Lemmon, E.W., "Equation of State for the Thermodynamic Properties of 1,1,2,2,3-Pentafluoropropane (R-245ca)," Int. J. Thermophys., 37:27, 2016. doi: 10.1007/s10765-016-2039-z
Real Part T_min:	196.0 K
Real Part T_max:	450.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	12.13 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-245ca.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	196.0 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	12.13
Viscosity Name:	Extended Corresponding States model (R134a reference); fitted to data for R-245ca.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	196.0 K
Viscosity T_max:	500.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	12.13
Medium Name:	R245fa
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	460-73-1
Fullname:	1,1,1,3,3-Pentafluoropropane
Chemical Formula:	CF3CH2CHF2
Synonym:	HFC-245fa
Molar Mass:	0.13404794 kg/mol
Triple Temperature:	170.0 K
Normal Boiling Point:	288.198 K
critical Temperature:	427.01 K
critical Pressure:	3651000.0 Pa
critical Density:	519.4357675 kg/m^3
Acentric Factor:	0.3783
Dipole Moment:	1.549
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	1030.0
RCL:	34000.0
Safety Group:	B1
Ideal Part Name:	Ideal gas Helmholtz form for R-245fa.
Ideal Part Literature Reference:	Akasaka, R., Zhou, Y., and Lemmon, E.W., 2015.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-245fa of Akasaka et al. (2015).
Real Part Literature Reference:	Akasaka, R., Zhou, Y., and Lemmon, E.W., "A Fundamental Equation of State for 1,1,1,3,3-Pentafluoropropane (R-245fa)," J. Phys. Chem. Ref. Data, 44(1), 013104, 2015. doi: 10.1063/1.4913493
Real Part T_min:	170.0 K
Real Part T_max:	440.0 K
Real Part P_max:	200000.0 Pa
Real Part Rhomax:	12.29 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-245fa of Perkins et al. (2016).
Thermal Conductivity Literature Reference:	Perkins, R.A., Huber, M.L., and Assael, M.J., "Measurements of the Thermal Conductivity of 1,1,1,3-3-Pentafluoropropane (R-245fa) and Correlations for the Viscosity and Thermal Conductivity Surfaces," J. Chem. Eng. Data, 61:3286-3294, 2016. doi: 10.1021/acs.jced.6b00350
Thermal Conductivity T_min:	170.0 K
Thermal Conductivity T_max:	700.0 K
Thermal Conductivity P_max:	200000.0
Thermal Conductivity Rhomax:	15.0
Viscosity Name:	Pure fluid viscosity model for R-245fa of Perkins et al. (2016).

Viscosity Literature Reference:	Perkins, R.A., Huber, M.L., and Assael, M.J., "Measurements of the Thermal Conductivity of 1,1,1,3-3-Pentafluoropropane (R-245fa) and Correlations for the Viscosity and Thermal Conductivity Surfaces," J. Chem. Eng. Data, 61:3286-3294, 2016. doi: 10.1021/acs.jced.6b00350
Viscosity T_min:	170.0 K
Viscosity T_max:	700.0 K
Viscosity P_max:	200000.0
Viscosity Rhomax:	15.0
Medium Name:	R32
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FE2, FEQ, FES, PRT
EOS Selected model:	FEQ
CASnumber:	75-10-5
Fullname:	Difluoromethane
Chemical Formula:	CH2F2
Synonym:	HFC-32
Molar Mass:	0.052024 kg/mol
Triple Temperature:	136.34 K
Normal Boiling Point:	221.499 K
critical Temperature:	351.255 K
critical Pressure:	5782000.0 Pa
critical Density:	424.00000123039996 kg/m^3
Acentric Factor:	0.2769
Dipole Moment:	1.978
Default Reference State:	IIR
UNNumber:	3252
Family:	halocb
GWP:	675.0
RCL:	36000.0
Safety Group:	A2L
Ideal Part Name:	Ideal gas heat capacity function for R-32 of Tillner-Roth and Yokozeki (1997).
Ideal Part Literature Reference:	Tillner-Roth, R. and Yokozeki, A., 1997.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-32 of Tillner-Roth and Yokozeki (1997).
Real Part Literature Reference:	Tillner-Roth, R. and Yokozeki, A., "An International Standard Equation of State for Difluoromethane (R-32) for Temperatures from the Triple Point at 136.34 K to 435 K and Pressures up to 70 MPa," J. Phys. Chem. Ref. Data, 26(6):1273-1328, 1997.
Real Part T_min:	136.34 K
Real Part T_max:	435.0 K
Real Part P_max:	70000.0 Pa
Real Part Rhomax:	27.4734 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for R-32 of Perkins and Huber (2005) (unpublished)

Thermal Conductivity Literature Reference:	Unpublished; however the fit uses the functional form found in: Marsh, K., Perkins, R., and Ramires, M.L.V., "Measurement and Correlation of the Thermal Conductivity of Propane from 86 to 600 K at Pressures to 70 MPa," J. Chem. Eng. Data, 47(4):932-940, 2002.
Thermal Conductivity T_min:	136.34 K
Thermal Conductivity T_max:	435.0 K
Thermal Conductivity P_max:	70000.0
Thermal Conductivity Rhomax:	27.4734
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-32.
Viscosity Literature Reference:	Unpublished; uses method described in the following reference: Huber, M.L., Laesecke, A., and Perkins, R.A. "Model for the Viscosity and Thermal Conductivity of Refrigerants, Including a New Correlation for the Viscosity of R134a," Ind. Eng. Chem. Res., 42(13):3163-3178, 2003. doi: 10.1021/ie0300880
Viscosity T_min:	136.34 K
Viscosity T_max:	435.0 K
Viscosity P_max:	70000.0
Viscosity Rhomax:	27.4734
Medium Name:	R365mfc
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	406-58-6
Fullname:	1,1,1,3,3-Pentafluorobutane
Chemical Formula:	CF3CH2CF2CH3
Synonym:	HFC-365mfc
Molar Mass:	0.14807452000000002 kg/mol
Triple Temperature:	239.0 K
Normal Boiling Point:	313.343 K
critical Temperature:	460.0 K
critical Pressure:	3266000.0 Pa
critical Density:	473.83846400000004 kg/m^3
Acentric Factor:	0.377
Dipole Moment:	3.807
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
GWP:	794.0
Ideal Part Name:	Ideal gas Helmholtz form for R-365mfc.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-365mfc of Lemmon and Span (2015).

Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Thermodynamic Properties of R-227ea, R-365mfc, R-115, and R-13I1," J. Chem. Eng. Data, 60(12):3745-3758, 2015. doi: 10.1021/acs.jced.5b00684
Real Part T_min:	239.0 K
Real Part T_max:	500.0 K
Real Part P_max:	35000.0 Pa
Real Part Rhomax:	9.3 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); fit to limited data for R-365mfc.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	239.0 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	35000.0
Thermal Conductivity Rhomax:	9.32
Viscosity Name:	Extended Corresponding States model (R134a reference); fit to limited data for R-365mfc.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	239.0 K
Viscosity T_max:	500.0 K
Viscosity P_max:	35000.0
Viscosity Rhomax:	9.32
Medium Name:	R40
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	74-87-3
Fullname:	Methyl chloride
Chemical Formula:	CH3Cl
Synonym:	Methyl chloride
Molar Mass:	0.05048752 kg/mol
Triple Temperature:	175.51 K
Normal Boiling Point:	249.173 K
critical Temperature:	416.3 K
critical Pressure:	6689900.0 Pa
critical Density:	363.21898247216 kg/m^3
Acentric Factor:	0.15
Dipole Moment:	1.871
Default Reference State:	NBP
UNNumber:	1063
Family:	halocb

Safety Group:	B2
Ideal Part Name:	Ideal gas Helmholtz form for R-40.
Ideal Part Literature Reference:	Thol, M., Piazza, L., and Span, R., 2014.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-40 of Thol et al. (2014).
Real Part Literature Reference:	Thol, M., Piazza, L., and Span, R., "A New Functional Form for Equations of State for Some Polar and Weakly Associating Fluids," Int. J. Thermophys., 35:783-811, 2014.
Real Part T_min:	230.0 K
Real Part T_max:	630.0 K
Real Part P_max:	100000.0 Pa
Real Part Rhomax:	20.6 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference) for R-40.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	230.0 K
Thermal Conductivity T_max:	630.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	20.6
Viscosity Name:	Extended Corresponding States model (R134a reference) for R-40.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	230.0 K
Viscosity T_max:	630.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	20.6
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.53 kg/kg R22, 0.13 kg/kg R152A, 0.34 kg/kg R124
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.61 kg/kg R22, 0.11 kg/kg R152A, 0.28 kg/kg R124
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.33 kg/kg R22, 0.15 kg/kg R152A, 0.52 kg/kg R124
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.6 kg/kg R125, 0.02 kg/kg PROPANE, 0.38 kg/kg R22
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.38 kg/kg R125, 0.02 kg/kg PROPANE, 0.6 kg/kg R22
Medium Name:	PROPANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.05 kg/kg PROPANE, 0.75 kg/kg R22, 0.2 kg/kg R218
Medium Name:	PROPANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.05 kg/kg PROPANE, 0.56 kg/kg R22, 0.39 kg/kg R218
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.44 kg/kg R125, 0.04 kg/kg R134A, 0.52 kg/kg R143A
Medium Name:	R404A
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	404A-404A

Fullname:	44% R125/4% R134a/52% R143a
Chemical Formula:	R404A
Synonym:	R404A
Molar Mass:	0.0976038 kg/mol
Triple Temperature:	200.0 K
Normal Boiling Point:	226.93 K
critical Temperature:	345.27 K
critical Pressure:	3734800.0 Pa
critical Density:	482.1627720000001 kg/m^3
Acentric Factor:	0.293
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas Helmholtz form for R404A.
Ideal Part Literature Reference:	Lemmon, E.W.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-404A of Lemmon (2003).
Real Part Literature Reference:	Lemmon, E.W., "Pseudo Pure-Fluid Equations of State for the Refrigerant Blends R-410A, R-404A, R-507A, and R-407C," Int. J. Thermophys., 24(4):991-1006, 2003. doi: 10.1023/A:1025048800563
Real Part T_min:	200.0 K
Real Part T_max:	500.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	14.21 kg/m^3
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.45 kg/kg R22, 0.07 kg/kg R152A, 0.055 kg/kg R142B, 0.425 kg/kg RC318
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.55 kg/kg R22, 0.04 kg/kg ISOBUTAN, 0.41 kg/kg R142B
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.2 kg/kg R32, 0.4 kg/kg R125, 0.4 kg/kg R134A
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.1 kg/kg R32, 0.7 kg/kg R125, 0.2 kg/kg R134A
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.23 kg/kg R32, 0.25 kg/kg R125, 0.52 kg/kg R134A
Medium Name:	R407C
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	407C-407C
Fullname:	23% R32/25% R125/52% R134a
Chemical Formula:	R407C
Synonym:	R407C
Molar Mass:	0.08620359999999999 kg/mol
Triple Temperature:	200.0 K
Normal Boiling Point:	229.52 K
critical Temperature:	359.345 K
critical Pressure:	4631700.0 Pa
critical Density:	453.430936 kg/m^3
Acentric Factor:	0.363
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas Helmholtz form for R407C.
Ideal Part Literature Reference:	Lemmon, E.W.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-407C of Lemmon (2003).
Real Part Literature Reference:	Lemmon, E.W., "Pseudo Pure-Fluid Equations of State for the Refrigerant Blends R-410A, R-404A, R-507A, and R-407C," Int. J. Thermophys., 24(4):991-1006, 2003.
Real Part T_min:	200.0 K
Real Part T_max:	500.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	17.04 kg/m^3
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.15 kg/kg R32, 0.15 kg/kg R125, 0.7 kg/kg R134A
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.25 kg/kg R32, 0.15 kg/kg R125, 0.6 kg/kg R134A
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.3 kg/kg R32, 0.3 kg/kg R125, 0.4 kg/kg R134A
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.025 kg/kg R32, 0.025 kg/kg R125, 0.95 kg/kg R134A
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.325 kg/kg R32, 0.15 kg/kg R125, 0.525 kg/kg R134A
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.07 kg/kg R125, 0.46 kg/kg R143A, 0.47 kg/kg R22
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.6 kg/kg R22, 0.25 kg/kg R124, 0.15 kg/kg R142B
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.65 kg/kg R22, 0.25 kg/kg R124, 0.1 kg/kg R142B
Medium Name:	R41
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	593-53-3
Fullname:	Fluoromethane
Chemical Formula:	CH3F
Synonym:	HFC-41
Molar Mass:	0.034032919999999994 kg/mol
Triple Temperature:	129.82 K
Normal Boiling Point:	194.84 K
critical Temperature:	317.28 K
critical Pressure:	5897000.0 Pa
critical Density:	316.506156 kg/m^3
Acentric Factor:	0.2004
Dipole Moment:	1.851
Default Reference State:	IIR
UNNumber:	2454
Family:	halocb
GWP:	107.0
Ideal Part Name:	Ideal gas Helmholtz form for R-41.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-41 of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	129.82 K
Real Part T_max:	425.0 K
Real Part P_max:	70000.0 Pa
Real Part Rhomax:	29.66 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); predictive mode for R-41.
Thermal Conductivity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrig., 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrig., 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Thermal Conductivity T_min:	129.82 K

Thermal Conductivity T_max:	425.0 K
Thermal Conductivity P_max:	70000.0
Thermal Conductivity Rhomax:	29.66
Viscosity Name:	Extended Corresponding States model (R134a reference); predictive mode for R-41.
Viscosity Literature Reference:	Klein, S.A., McLinden, M.O., and Laesecke, A., "An Improved Extended Corresponding States Method for Estimation of Viscosity of Pure Refrigerants and Mixtures," Int. J. Refrig., 20(3):208-217, 1997. doi: 10.1016/S0140-7007(96)00073-4. McLinden, M.O., Klein, S.A., and Perkins, R.A., "An Extended Corresponding States Model for the Thermal Conductivity of Refrigerants and Refrigerant Mixtures," Int. J. Refrig., 23(1):43-63, 2000. doi: 10.1016/S0140-7007(99)00024-9
Viscosity T_min:	129.82 K
Viscosity T_max:	425.0 K
Viscosity P_max:	70000.0
Viscosity Rhomax:	29.66
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.5 kg/kg R32, 0.5 kg/kg R125
Medium Name:	R410A
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	410A-410A
Fullname:	50% R32/50% R125
Chemical Formula:	R410A
Synonym:	R410A
Molar Mass:	0.07258540000000001 kg/mol
Triple Temperature:	200.0 K
Normal Boiling Point:	221.71 K
critical Temperature:	344.494 K
critical Pressure:	4901200.0 Pa
critical Density:	459.03006960000005 kg/m^3
Acentric Factor:	0.296
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas Helmholtz form for R410A.
Ideal Part Literature Reference:	Lemmon, E.W.

Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-410A of Lemmon (2003).
Real Part Literature Reference:	Lemmon, E.W., "Pseudo Pure-Fluid Equations of State for the Refrigerant Blends R-410A, R-404A, R-507A, and R-407C," Int. J. Thermophys., 24(4):991-1006, 2003.
Real Part T_min:	200.0 K
Real Part T_max:	500.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	19.51 kg/m^3
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.45 kg/kg R32, 0.55 kg/kg R125
Medium Name:	PROPYLEN.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.0149998 kg/kg PROPYLEN, 0.875 kg/kg R22, 0.11 kg/kg R152A
Medium Name:	PROPYLEN.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.0299995 kg/kg PROPYLEN, 0.94 kg/kg R22, 0.03 kg/kg R152A
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.7 kg/kg R22, 0.05 kg/kg R218, 0.25 kg/kg R142B
Medium Name:	R218.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.09 kg/kg R218, 0.88 kg/kg R134A, 0.03 kg/kg ISOBUTAN
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.

Fullname:	0.51 kg/kg R22, 0.285 kg/kg R124, 0.04 kg/kg ISOBUTAN, 0.165 kg/kg R142B
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.5 kg/kg R22, 0.39 kg/kg R124, 0.015 kg/kg ISOBUTAN, 0.095 kg/kg R142B
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.82 kg/kg R22, 0.18 kg/kg R152A
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.25 kg/kg R22, 0.75 kg/kg R152A
Medium Name:	R134A.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.59 kg/kg R134A, 0.395 kg/kg R124, 0.015 kg/kg BUTANE
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.466 kg/kg R125, 0.5 kg/kg R134A, 0.034 kg/kg BUTANE
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.79 kg/kg R125, 0.183 kg/kg R134A, 0.027 kg/kg BUTANE
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.195 kg/kg R125, 0.788 kg/kg R134A, 0.017 kg/kg BUTANE

Medium Name:	PROPANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.015 kg/kg PROPANE, 0.96 kg/kg R22, 0.025 kg/kg R152A
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.77 kg/kg R125, 0.19 kg/kg R134A, 0.04 kg/kg DME
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.485 kg/kg R125, 0.48 kg/kg R134A, 0.035 kg/kg DME
Medium Name:	R134A.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.88 kg/kg R134A, 0.12 kg/kg R142B
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.58 kg/kg R125, 0.42 kg/kg R134A
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.85 kg/kg R125, 0.15 kg/kg R134A
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.851 kg/kg R125, 0.115 kg/kg R134A, 0.034 kg/kg ISOBUTAN

Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.55 kg/kg R125, 0.42 kg/kg R134A, 0.03 kg/kg ISOBUTAN
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.82 kg/kg R125, 0.15 kg/kg R134A, 0.03 kg/kg ISOBUTAN
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.651 kg/kg R125, 0.315 kg/kg R134A, 0.034 kg/kg ISOBUTAN
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.58 kg/kg R125, 0.393 kg/kg R134A, 0.027 kg/kg ISOBUTAN
Medium Name:	R134A.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.525 kg/kg R134A, 0.475 kg/kg R227EA
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.505 kg/kg R125, 0.47 kg/kg R134A, 0.009 kg/kg ISOBUTAN, 0.01 kg/kg BUTANE, 0.006 kg/kg IPENTANE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.185 kg/kg R32, 0.695 kg/kg R134A, 0.12 kg/kg R227EA

Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.051 kg/kg R125, 0.93 kg/kg R134A, 0.013 kg/kg BUTANE, 0.006 kg/kg IPENTANE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.15 kg/kg R32, 0.25 kg/kg R125, 0.1 kg/kg R143A, 0.5 kg/kg R134A
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.775 kg/kg R125, 0.2 kg/kg R143A, 0.006 kg/kg PROPANE, 0.019 kg/kg ISOBUTAN
Medium Name:	DME.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.6 kg/kg DME, 0.1 kg/kg R152A, 0.3 kg/kg ISOBUTAN
Medium Name:	R152A.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.76 kg/kg R152A, 0.24 kg/kg ISOBUTAN
Medium Name:	PROPANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.71 kg/kg PROPANE, 0.29 kg/kg R152A
Medium Name:	PROPYLEN.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.8 kg/kg PROPYLEN, 0.2 kg/kg DME

Medium Name:	PROPYLEN.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.3 kg/kg PROPYLEN, 0.7 kg/kg PROPANE
Medium Name:	PROPYLEN.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.05 kg/kg PROPYLEN, 0.95 kg/kg PROPANE
Medium Name:	PROPYLEN.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.25 kg/kg PROPYLEN, 0.75 kg/kg PROPANE
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.632 kg/kg R125, 0.18 kg/kg R143A, 0.16 kg/kg R134A, 0.028 kg/kg ISOBUTAN
Medium Name:	DME.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.8 kg/kg DME, 0.2 kg/kg R152A
Medium Name:	PROPANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.56 kg/kg PROPANE, 0.44 kg/kg ISOBUTAN
Medium Name:	PROPANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.52 kg/kg PROPANE, 0.48 kg/kg ISOBUTAN

Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.195 kg/kg R125, 0.785 kg/kg R134A, 0.014 kg/kg BUTANE, 0.006 kg/kg PENTANE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.085 kg/kg R32, 0.45 kg/kg R125, 0.442 kg/kg R134A, 0.017 kg/kg BUTANE, 0.006 kg/kg IPENTANE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.5 kg/kg R32, 0.47 kg/kg R125, 0.03 kg/kg ISOBUTAN
Medium Name:	PROPANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.006 kg/kg PROPANE, 0.016 kg/kg R134A, 0.978 kg/kg R152A
Medium Name:	ETHANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.031 kg/kg ETHANE, 0.548 kg/kg PROPANE, 0.06 kg/kg ISOBUTAN, 0.361 kg/kg BUTANE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.31 kg/kg R32, 0.31 kg/kg R125, 0.3 kg/kg R134A, 0.03 kg/kg R152A, 0.05 kg/kg R227EA
Medium Name:	PROPYLEN.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.55 kg/kg PROPYLEN, 0.4 kg/kg PROPANE, 0.05 kg/kg ISOBUTAN
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.12 kg/kg R32, 0.05 kg/kg R152A, 0.83 kg/kg R1234ZEE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.415 kg/kg R32, 0.1 kg/kg R152A, 0.485 kg/kg R1234ZEE
Medium Name:	CO2.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.06 kg/kg CO2, 0.09 kg/kg R134A, 0.85 kg/kg R1234ZEE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.68 kg/kg R32, 0.29 kg/kg R1234ZEE, 0.03 kg/kg BUTANE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.68 kg/kg R32, 0.035 kg/kg R125, 0.285 kg/kg R1234ZEE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.68 kg/kg R32, 0.08 kg/kg R125, 0.24 kg/kg R1234ZEE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.26 kg/kg R32, 0.26 kg/kg R125, 0.2 kg/kg R1234YF, 0.21 kg/kg R134A, 0.07 kg/kg R1234ZEE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.243 kg/kg R32, 0.247 kg/kg R125, 0.253 kg/kg R1234YF, 0.257 kg/kg R134A
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.252 kg/kg R32, 0.243 kg/kg R125, 0.232 kg/kg R1234YF, 0.273 kg/kg R134A
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.2 kg/kg R32, 0.2 kg/kg R125, 0.31 kg/kg R1234YF, 0.29 kg/kg R134A
Medium Name:	R134A.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.42 kg/kg R134A, 0.58 kg/kg R1234ZEE
Medium Name:	R1234YF.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.898 kg/kg R1234YF, 0.102 kg/kg R134A
Medium Name:	R1234YF.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.888 kg/kg R1234YF, 0.112 kg/kg R134A
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.11 kg/kg R32, 0.59 kg/kg R125, 0.3 kg/kg R1234YF
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.67 kg/kg R32, 0.07 kg/kg R125, 0.26 kg/kg R1234YF
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.125 kg/kg R32, 0.61 kg/kg R125, 0.265 kg/kg R1234YF
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.2 kg/kg R32, 0.2 kg/kg R125, 0.538 kg/kg R134A, 0.05 kg/kg R227EA, 0.006 kg/kg BUTANE, 0.006 kg/kg IPENTANE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.35 kg/kg R32, 0.65 kg/kg R1234YF
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.689 kg/kg R32, 0.311 kg/kg R1234YF
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.215 kg/kg R32, 0.785 kg/kg R1234YF
Medium Name:	CO2.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.03 kg/kg CO2, 0.215 kg/kg R32, 0.755 kg/kg R1234YF
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.06 kg/kg R32, 0.45 kg/kg R134A, 0.49 kg/kg R1234ZEE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.18 kg/kg R32, 0.12 kg/kg R152A, 0.7 kg/kg R1234YF
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.205 kg/kg R32, 0.04 kg/kg R125, 0.614 kg/kg R134A, 0.135 kg/kg R227EA, 0.006 kg/kg R236FA
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.68 kg/kg R32, 0.26 kg/kg R1234YF, 0.06 kg/kg R1234ZEE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.21 kg/kg R32, 0.69 kg/kg R1234YF, 0.1 kg/kg R1234ZEE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.12 kg/kg R32, 0.52 kg/kg R125, 0.14 kg/kg R134A, 0.22 kg/kg R1234ZEE
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.28 kg/kg R32, 0.25 kg/kg R125, 0.2 kg/kg R134A, 0.27 kg/kg R1234ZEE
Medium Name:	R12.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.738 kg/kg R12, 0.262 kg/kg R152A
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.75 kg/kg R22, 0.25 kg/kg R12
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.488 kg/kg R22, 0.512 kg/kg R115
Medium Name:	R23.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.401 kg/kg R23, 0.599 kg/kg R13
Medium Name:	R32.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.482 kg/kg R32, 0.518 kg/kg R115
Medium Name:	R125.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.5 kg/kg R125, 0.5 kg/kg R143A
Medium Name:	R507A
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	507A-507A
Fullname:	50% R125/50% R143a
Chemical Formula:	R507A
Synonym:	R507A
Molar Mass:	0.09885920000000001 kg/mol
Triple Temperature:	200.0 K
Normal Boiling Point:	226.41 K
critical Temperature:	343.765 K
critical Pressure:	3704900.0 Pa
critical Density:	490.73706880000003 kg/m^3
Acentric Factor:	0.286
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas Helmholtz form for R507A.
Ideal Part Literature Reference:	Lemmon, E.W.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-507A of Lemmon (2003).
Real Part Literature Reference:	Lemmon, E.W., "Pseudo Pure-Fluid Equations of State for the Refrigerant Blends R-410A, R-404A, R-507A, and R-407C," Int. J. Thermophys., 24(4):991-1006, 2003.
Real Part T_min:	200.0 K
Real Part T_max:	500.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	14.13 kg/m^3
Medium Name:	R23.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.39 kg/kg R23, 0.61 kg/kg R116
Medium Name:	R23.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.46 kg/kg R23, 0.54 kg/kg R116
Medium Name:	R22.FLD
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.44 kg/kg R22, 0.56 kg/kg R218
Medium Name:	DME.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.88 kg/kg DME, 0.12 kg/kg ISOBUTAN
Medium Name:	PROPANE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.95 kg/kg PROPANE, 0.05 kg/kg DME
Medium Name:	R134A.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.05 kg/kg R134A, 0.95 kg/kg R152A
Medium Name:	R1234YF.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.56 kg/kg R1234YF, 0.44 kg/kg R134A
Medium Name:	R1234YF.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.585 kg/kg R1234YF, 0.415 kg/kg R134A
Medium Name:	R1234ZEE.FLD
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
Fullname:	0.88 kg/kg R1234ZEE, 0.12 kg/kg R227EA
Medium Name:	RC318
Library Name:	TILMedia Interface to Refprop 10.0

Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	115-25-3
Fullname:	Octafluorocyclobutane
Chemical Formula:	cyclo-C4F8
Synonym:	FC-C318
Molar Mass:	0.20004 kg/mol
Triple Temperature:	233.35 K
Normal Boiling Point:	267.175 K
critical Temperature:	388.38 K
critical Pressure:	2777500.0 Pa
critical Density:	619.9999752 kg/m^3
Acentric Factor:	0.3553
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	1976
Family:	halocb
GWP:	10300.0
RCL:	80000.0
Safety Group:	A1
Ideal Part Name:	Ideal gas heat capacity function for R-C318 of Platzer et al. (1990).
Ideal Part Literature Reference:	Platzer, B., Polt, A., and Maurer, G., 1990.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-C318 of Platzer et al. (1990).
Real Part Literature Reference:	WEB: https://www.springer.com/in/book/9783662026106 Platzer, B., Polt, A., and Maurer, G., "Thermophysical Properties of Refrigerants," Berlin, Springer-Verlag, 1990.
Real Part T_min:	233.35 K
Real Part T_max:	623.0 K
Real Part P_max:	60000.0 Pa
Real Part Rhomax:	8.6452 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-C318.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	233.35 K
Thermal Conductivity T_max:	623.0 K
Thermal Conductivity P_max:	60000.0
Thermal Conductivity Rhomax:	8.6452
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to data for R-C318.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209

Viscosity T_min:	233.35 K
Viscosity T_max:	623.0 K
Viscosity P_max:	60000.0
Viscosity Rhomax:	8.6452
Medium Name:	RE143a
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	421-14-7
Fullname:	Methyl trifluoromethyl ether
Chemical Formula:	CH3-O-CF3
Synonym:	HFE-143a
Molar Mass:	0.1000398 kg/mol
Triple Temperature:	240.0 K
Normal Boiling Point:	249.572 K
critical Temperature:	377.921 K
critical Pressure:	3635000.0 Pa
critical Density:	464.9990704016112 kg/m^3
Acentric Factor:	0.289
Dipole Moment:	2.48
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for R-143a of Akasaka and Kayukawa (2012).
Ideal Part Literature Reference:	Akasaka, R. and Kayukawa, Y., 2012.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for HFE-143a of Akasaka and Kayukawa (2012).
Real Part Literature Reference:	Akasaka, R. and Kayukawa, Y., "A Fundamental Equation of State for Trifluoromethyl Methyl Ether (HFE-143m) and Its Application to Refrigeration Cycle Analysis," Int. J. Refrig., 35(4):1003-1013, 2012. doi: 10.1016/j.ijrefrig.2012.01.003
Real Part T_min:	240.0 K
Real Part T_max:	420.0 K
Real Part P_max:	7200.0 Pa
Real Part Rhomax:	12.62 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); predictive model for R-E143a.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	240.0 K
Thermal Conductivity T_max:	420.0 K

Thermal Conductivity P_max:	7200.0
Thermal Conductivity Rhomax:	12.62
Viscosity Name:	Extended Corresponding States model (R134a reference); predictive model for R-E143a.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	240.0 K
Viscosity T_max:	420.0 K
Viscosity P_max:	7200.0
Viscosity Rhomax:	12.62
Medium Name:	RE245cb2
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	22410-44-2
Fullname:	Methyl-pentafluoroethyl-ether
Chemical Formula:	CF3CF2OCH3
Synonym:	HFE-245cb2
Molar Mass:	0.150047336 kg/mol
Triple Temperature:	250.0 K
Normal Boiling Point:	278.76 K
critical Temperature:	406.813 K
critical Pressure:	2886400.0 Pa
critical Density:	499.507581544 kg/m^3
Acentric Factor:	0.354
Dipole Moment:	2.785
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for R-E245cbE of Zhou et al. (2010).
Ideal Part Literature Reference:	Zhou, Y. and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-E245cbE of Zhou and Lemmon (2018).
Real Part Literature Reference:	Zhou, Y. and Lemmon, E.W., Equations of State for RE245cb2, RE347mcc, RE245fa2, and R1216 to be submitted to J. Phys. Chem. Ref. Data, 2018.
Real Part T_min:	250.0 K
Real Part T_max:	500.0 K
Real Part P_max:	20000.0 Pa
Real Part Rhomax:	9.331 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); fit to limited data for R-E245cb2.

Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	250.0 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	20000.0
Thermal Conductivity Rhomax:	9.331
Viscosity Name:	Extended Corresponding States model (R134a reference); fit to limited data for R-E245cb2.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	250.0 K
Viscosity T_max:	500.0 K
Viscosity P_max:	20000.0
Viscosity Rhomax:	9.331
Medium Name:	RE245fa2
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	1885-48-9
Fullname:	2,2,2-Trifluoroethyl-difluoromethyl-ether
Chemical Formula:	CHF2OCH2CF3
Synonym:	HFE-245fa2
Molar Mass:	0.150047336 kg/mol
Triple Temperature:	250.0 K
Normal Boiling Point:	302.4 K
critical Temperature:	444.88 K
critical Pressure:	3433000.0 Pa
critical Density:	515.001169364688 kg/m^3
Acentric Factor:	0.387
Dipole Moment:	1.631
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for R-E245fa2 of Zhou et al. (2010).
Ideal Part Literature Reference:	Zhou, Y. and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-E245fa2 of Zhou and Lemmon (2018).
Real Part Literature Reference:	Zhou, Y. and Lemmon, E.W., "Equations of State for RE245cb2, RE347mcc, RE245fa2, and R1216," to be submitted to J. Phys. Chem. Ref. Data, 2018.
Real Part T_min:	250.0 K

Real Part T_max:	500.0 K
Real Part P_max:	400000.0 Pa
Real Part Rhomax:	10.02 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference); fit to limited data for R-E245fa2.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	250.0 K
Thermal Conductivity T_max:	500.0 K
Thermal Conductivity P_max:	400000.0
Thermal Conductivity Rhomax:	10.02
Viscosity Name:	Extended Corresponding States model (R134a reference); fit to limited data for R-E245fa2.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	250.0 K
Viscosity T_max:	500.0 K
Viscosity P_max:	400000.0
Viscosity Rhomax:	10.02
Medium Name:	RE347mcc (HFE-7000)
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	375-03-1
Fullname:	1,1,1,2,2,3,3-Heptafluoro-3-methoxypropane
Chemical Formula:	CF3CF2CF2OCH3
Synonym:	HFE-7000
Molar Mass:	0.20005484240000002 kg/mol
Triple Temperature:	150.65 K
Normal Boiling Point:	307.328 K
critical Temperature:	437.7 K
critical Pressure:	2478200.0 Pa
critical Density:	528.1447839360001 kg/m^3
Acentric Factor:	0.403
Dipole Moment:	3.13
Default Reference State:	IIR
UNNumber:	????
Family:	halocb
Ideal Part Name:	Ideal gas heat capacity function for R-E347mcc of Zhou and Lemmon (2016).

Ideal Part Literature Reference:	Zhou, Y. and Lemmon, E.W., 2018.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for R-E347mcc of Zhou and Lemmon (2016).
Real Part Literature Reference:	Zhou, Y. and Lemmon, E.W., "Equations of State for RE245cb2, RE347mcc, RE245fa2, and R1216," to be submitted to J. Phys. Chem. Ref. Data, 2018.
Real Part T_min:	150.65 K
Real Part T_max:	500.0 K
Real Part P_max:	20000.0 Pa
Real Part Rhomax:	8.886 kg/m^3
Thermal Conductivity Models:	TC1, TC5
Thermal Conductivity Name:	Pure fluid preliminary thermal conductivity model for R-E347mcc (HFE-7000) of Huber (2018).
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	150.65 K
Thermal Conductivity T_max:	600.0 K
Thermal Conductivity P_max:	70000.0
Thermal Conductivity Rhomax:	12.0
Viscosity Name:	Extended Corresponding States model (Propane reference); fit to very limited data for R-E347mcc (HFE-7000).
Viscosity Literature Reference:	Huber, M.L., (2018) "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0", NISTIR 8209; doi: 10.6028/NIST.IR.8209
Viscosity T_min:	150.65 K
Viscosity T_max:	600.0 K
Viscosity P_max:	70000.0
Viscosity Rhomax:	12.0
Medium Name:	**Sulfur hexafluoride**
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FEQ, FES
EOS Selected model:	FEQ
CASnumber:	2551-62-4
Fullname:	Sulfur hexafluoride
Chemical Formula:	SF6
Synonym:	Sulfur fluoride
Molar Mass:	0.14605541919999998 kg/mol
Triple Temperature:	223.555 K
Normal Boiling Point:	204.9 K
critical Temperature:	318.7232 K
critical Pressure:	3754983.0 Pa

critical Density:	742.29745700016 kg/m^3
Acentric Factor:	0.218
Dipole Moment:	0.0
Default Reference State:	IIR
UNNumber:	1080
Family:	other
Ideal Part Name:	Ideal gas Helmholtz form for sulfur hexafluoride of Guder and Wagner (2009).
Ideal Part Literature Reference:	Guder, C. and Wagner, W., 2009.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for sulfur hexafluoride of Guder and Wagner (2009).
Real Part Literature Reference:	Guder, C. and Wagner, W., "A Reference Equation of State for the Thermodynamic Properties of Sulfur Hexafluoride (SF6) for Temperatures from the Melting Line to 625 K and Pressures up to 150 MPa," J. Phys. Chem. Ref. Data, 38(1):33-94, 2009. doi: 10.1063/1.3037344
Real Part T_min:	223.555 K
Real Part T_max:	625.0 K
Real Part P_max:	150000.0 Pa
Real Part Rhomax:	14.5 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for sulfur hexafluoride of Assael et al. (2012).
Thermal Conductivity Literature Reference:	Assael, M.J., Koini, I.A., Antoniadis, K.D., Huber, M.L., Abdulagatov, I.M., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of Sulfur Hexafluoride from the Triple Point to 1000 K and up to 150 MPa," J. Phys. Chem. Ref. Data, 41, 023104, 2012. doi: 10.1063/1.4708620 Also see erratum, submitted 2014.
Thermal Conductivity T_min:	223.55 K
Thermal Conductivity T_max:	1000.0 K
Thermal Conductivity P_max:	150000.0
Thermal Conductivity Rhomax:	14.5
Viscosity Models:	VS1, VS4, VS7
Viscosity Name:	Pure fluid generalized friction theory viscosity model for sulfur hexafluoride of Quinones-Cisneros et al. (2012).
Viscosity Literature Reference:	Quiones-Cisneros, S.E., Huber, M.L., and Deiters, U.K., "Correlation for the Viscosity of Sulfur Hexafluoride (SF6) from the Triple Point to 1000 K and Pressures to 50 MPa," J. Phys. Chem. Ref. Data, 41(2), 023102, 2012. doi: 10.1063/1.3702441
Viscosity T_min:	223.555 K
Viscosity T_max:	1000.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	14.5
Medium Name:	Sulfur dioxide
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FE2, FEQ

EOS Selected model:	FEQ
CASnumber:	7446-09-5
Fullname:	Sulfur dioxide
Chemical Formula:	SO2
Synonym:	R-764
Molar Mass:	0.0640638 kg/mol
Triple Temperature:	197.7 K
Normal Boiling Point:	263.137 K
critical Temperature:	430.64 K
critical Pressure:	7886600.0 Pa
critical Density:	517.5073764 kg/m^3
Acentric Factor:	0.256
Dipole Moment:	1.6
Default Reference State:	NBP
UNNumber:	1079
Family:	other
Safety Group:	B1
Ideal Part Name:	Ideal gas Helmholtz form for sulfur dioxide of Gao et al. (2016).
Ideal Part Literature Reference:	Gao, K., Wu, J., Zhang, P., and Lemmon, E.W., 2016.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for sulfur dioxide of Gao et al. (2016).
Real Part Literature Reference:	Gao, K., Wu, J., Zhang, P., and Lemmon, E.W., "A Helmholtz Energy Equation of State for Sulfur Dioxide," J. Chem. Eng. Data, 61:2859-2872, 2016. doi: 10.1021/acs.jced.6b00195
Real Part T_min:	197.7 K
Real Part T_max:	525.0 K
Real Part P_max:	35000.0 Pa
Real Part Rhomax:	25.42 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); fitted to very limited data for sulfur dioxide.
Thermal Conductivity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	197.7 K
Thermal Conductivity T_max:	525.0 K
Thermal Conductivity P_max:	35000.0
Thermal Conductivity Rhomax:	25.42
Viscosity Name:	Extended Corresponding States model (Propane reference); fitted to very limited data for sulfur dioxide.
Viscosity Literature Reference:	Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	197.7 K
Viscosity T_max:	525.0 K
Viscosity P_max:	35000.0
Viscosity Rhomax:	25.42

Medium Name:	trans-Butene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	624-64-6
Fullname:	trans-2-Butene
Chemical Formula:	CH3-CH=CH-CH3
Synonym:	(E)-2-Butene
Molar Mass:	0.056106319999999994 kg/mol
Triple Temperature:	167.6 K
Normal Boiling Point:	274.03 K
critical Temperature:	428.61 K
critical Pressure:	4027300.0 Pa
critical Density:	236.37592615999998 kg/m^3
Acentric Factor:	0.21
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	1012
Family:	n-alkene
Heating Value:	48236990.05744808
Ideal Part Name:	Ideal gas heat capacity function for trans-butene of Lemmon and Ihmels (2005).
Ideal Part Literature Reference:	Lemmon, E.W. and Ihmels, E.C., 2015.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for trans-butene of Lemmon and Ihmels (2005).
Real Part Literature Reference:	Lemmon, E.W. and Ihmels, E.C., "Thermodynamic Properties of the Butenes. Part II. Short Fundamental Equations of State," Fluid Phase Equilib., 228-229C:173-187, 2005.
Real Part T_min:	167.6 K
Real Part T_max:	525.0 K
Real Part P_max:	50000.0 Pa
Real Part Rhomax:	13.141 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Propane reference); predictive mode for trans-butene.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	167.6 K
Thermal Conductivity T_max:	525.0 K
Thermal Conductivity P_max:	50000.0
Thermal Conductivity Rhomax:	13.141
Viscosity Name:	Extended Corresponding States model (Propane reference); predictive mode for trans-butene.

Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	167.6 K
Viscosity T_max:	525.0 K
Viscosity P_max:	50000.0
Viscosity Rhomax:	13.141
Medium Name:	Toluene
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEQ
EOS Selected model:	FEQ
CASnumber:	108-88-3
Fullname:	Methylbenzene
Chemical Formula:	CH3-C6H5
Synonym:	Toluene
Molar Mass:	0.09213842 kg/mol
Triple Temperature:	178.0 K
Normal Boiling Point:	383.75 K
critical Temperature:	591.75 K
critical Pressure:	4126300.0 Pa
critical Density:	291.98665298 kg/m^3
Acentric Factor:	0.2657
Dipole Moment:	0.36
Default Reference State:	NBP
UNNumber:	1294
Family:	aromatic
Heating Value:	42847381.14675724
GWP:	2.7
Ideal Part Name:	Ideal gas Helmholtz form for toluene.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for toluene of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	178.0 K
Real Part T_max:	700.0 K
Real Part P_max:	500000.0 Pa
Real Part Rhomax:	10.581 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for toluene of Assael et al. (2012).

Thermal Conductivity Literature Reference:	Assael, M.J., Mylona, S.K., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Thermal Conductivity of Toluene from the Triple Point to 1000 K and up to 1000 MPa," J. Phys. Chem. Ref. Data, 41, 023101, 2012. doi: 10.1063/1.3700155
Thermal Conductivity T_min:	170.0 K
Thermal Conductivity T_max:	2000.0 K
Thermal Conductivity P_max:	1000000.0
Thermal Conductivity Rhomax:	20.0
Viscosity Name:	Pure fluid viscosity model for toluene of Avgeri et al. (2015).
Viscosity Literature Reference:	Avgeri, S., Assael, M.J., Huber, M.L., and Perkins, R.A., "Reference Correlation of the Viscosity of Toluene from the Triple Point to 675 K and up to 500 MPa," J. Phys. Chem. Ref. Data, 44(3), 033101, 2015. doi: 10.1063/1.4926955
Viscosity T_min:	178.0 K
Viscosity T_max:	700.0 K
Viscosity P_max:	500000.0
Viscosity Rhomax:	10.581
Medium Name:	Vinyl chloride
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Selected model:	FEQ
CASnumber:	75-01-4
Fullname:	Chloroethylene
Chemical Formula:	C2H3Cl
Synonym:	R-1140
Molar Mass:	0.06249822 kg/mol
Triple Temperature:	119.31 K
Normal Boiling Point:	259.443 K
critical Temperature:	424.964 K
critical Pressure:	5590300.0 Pa
critical Density:	351.23999640000005 kg/m^3
Acentric Factor:	0.161
Dipole Moment:	1.45103
Default Reference State:	NBP
UNNumber:	1086
Family:	halocb
Ideal Part Name:	Ideal gas Helmholtz form for vinyl chloride of Thol and Span (2014).
Ideal Part Literature Reference:	Thol, M. and Span, R., 2014.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for vinyl chloride of Thol and Span (2014).
Real Part Literature Reference:	Thol, M. and Span, R., unpublished equation, 2014.
Real Part T_min:	190.0 K

Real Part T_max:	450.0 K
Real Part P_max:	10000.0 Pa
Real Part Rhomax:	19.24 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (R134a reference) extremely limited data for vinyl chloride.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	190.0 K
Thermal Conductivity T_max:	450.0 K
Thermal Conductivity P_max:	10000.0
Thermal Conductivity Rhomax:	19.24
Viscosity Name:	Extended Corresponding States model (R134a reference) extremely limited data for vinyl chloride.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	190.0 K
Viscosity T_max:	450.0 K
Viscosity P_max:	10000.0
Viscosity Rhomax:	19.24
Medium Name:	Water
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	FE1, FEK, FEQ, PRT
EOS Selected model:	FEQ
CASnumber:	7732-18-5
Fullname:	Water
Chemical Formula:	H2O
Synonym:	R-718
Molar Mass:	0.018015267999999997 kg/mol
Triple Temperature:	273.16 K
Normal Boiling Point:	373.1243 K
critical Temperature:	647.096 K
critical Pressure:	22064000.0 Pa
critical Density:	321.9999999998368 kg/m^3
Acentric Factor:	0.3443
Dipole Moment:	1.855
Default Reference State:	OTH
Ideal Part Name:	Ideal gas Helmholtz form for water.
Ideal Part Literature Reference:	Wagner, W. and Pruss, A., 2002.

Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for water of Wagner and Pruss (2002).
Real Part Literature Reference:	WEB: http://www.iapws.org/relguide/IAPWS-95.html Wagner, W. and Pruss, A., "The IAPWS Formulation 1995 for the Thermodynamic Properties of Ordinary Water Substance for General and Scientific Use," J. Phys. Chem. Ref. Data, 31(2):387-535, 2002. doi: 10.1063/1.1461829
Real Part T_min:	273.16 K
Real Part T_max:	2000.0 K
Real Part P_max:	1000000.0 Pa
Real Part Rhomax:	73.96 kg/m^3
Thermal Conductivity Name:	Pure fluid thermal conductivity model for water of Huber et al. (2011).
Thermal Conductivity Literature Reference:	WEB: http://www.iapws.org/relguide/ThCond.html Huber, M.L., Perkins, R.A., Friend, D.G., and Sengers, J.V., Assael, M.J., Metaxa, I.N., Miyagawa, K., Hellmann, R., and Vogel, E. "New International Formulation for the Thermal Conductivity of H2O," J. Phys. Chem. Ref. Data, 41(3), 033102, 2012. doi: 10.1063/1.4738955
Thermal Conductivity T_min:	251.165 K
Thermal Conductivity T_max:	1350.0 K
Thermal Conductivity P_max:	1000000.0
Thermal Conductivity Rhomax:	73.96
Viscosity Models:	VS0, VS4
Viscosity Name:	Pure fluid viscosity model for water of Huber et al. (2009).
Viscosity Literature Reference:	WEB: http://www.iapws.org/relguide/viscosity.html Huber, M.L., Perkins, R.A., Laesecke, A., Friend, D.G., Sengers, J.V., and Assael, M.J., Metaxa, I.M., Vogel, E., Mares, R., and Miyagawa, K., "New International Formulation for the Viscosity of Water," J. Phys. Chem. Ref. Data, 38(2):101-125, 2009. doi: 10.1063/1.3088050
Viscosity T_min:	251.165 K
Viscosity T_max:	1350.0 K
Viscosity P_max:	1000000.0
Viscosity Rhomax:	73.96
Medium Name:	**Xenon**
Library Name:	TILMedia Interface to Refprop 10.0
Library Literature Reference:	Lemmon, E. W., Huber, M. L., and McLinden, M. O. (2010). NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties - REFPROP 9.0. National Institute of Standards and Technology, Standard Reference Data Program, Gaithersburg.
EOS Type:	Helmholtz free energy model (fundamental equation of state)
EOS Models:	BWR, FEQ
EOS Selected model:	FEQ
CASnumber:	7440-63-3
Fullname:	Xenon
Chemical Formula:	Xe
Synonym:	Xenon
Molar Mass:	0.131293 kg/mol
Triple Temperature:	161.405 K
Normal Boiling Point:	165.05 K

critical Temperature:	289.733 K
critical Pressure:	5842000.0 Pa
critical Density:	1102.8612 kg/m^3
Acentric Factor:	0.00363
Dipole Moment:	0.0
Default Reference State:	NBP
UNNumber:	2036
Family:	cryogen
Heating Value:	0.0
Ideal Part Name:	Ideal gas Helmholtz form for xenon.
Ideal Part Literature Reference:	Lemmon, E.W. and Span, R., 2006.
Ideal Part T_max:	10000.0 K
Real Part Name:	Helmholtz equation of state for xenon of Lemmon and Span (2006).
Real Part Literature Reference:	Lemmon, E.W. and Span, R., "Short Fundamental Equations of State for 20 Industrial Fluids," J. Chem. Eng. Data, 51(3):785-850, 2006. doi: 10.1021/je050186n
Real Part T_min:	161.405 K
Real Part T_max:	750.0 K
Real Part P_max:	700000.0 Pa
Real Part Rhomax:	28.78 kg/m^3
Thermal Conductivity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for xenon.
Thermal Conductivity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Thermal Conductivity T_min:	161.405 K
Thermal Conductivity T_max:	750.0 K
Thermal Conductivity P_max:	100000.0
Thermal Conductivity Rhomax:	28.78
Viscosity Name:	Extended Corresponding States model (Nitrogen reference); fit to limited data for xenon.
Viscosity Literature Reference:	*** ESTIMATION METHOD *** NOT STANDARD REFERENCE QUALITY *** Huber, M.L., "Models for the Viscosity, Thermal Conductivity, and Surface Tension of Selected Pure Fluids as Implemented in REFPROP v10.0," NISTIR 8209, 2018. doi: 10.6028/NIST.IR.8209
Viscosity T_min:	161.405 K
Viscosity T_max:	750.0 K
Viscosity P_max:	100000.0
Viscosity Rhomax:	28.78

4.4 CoolProp VLEFluids

Additional information for CoolProp-mediums not available at the moment.

5 Contact

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