1-Tetradecene

Other names:	N-TETRADEC-1-ENE
	Neodene 14
	Tetradec-1-ene
	Tetradecene-1
	«alpha»-Tetradecene
	Â«alphaÂ»-Tetradecene
Inchi:	InChI=1S/C14H28/c1-3-5-7-9-11-13-14-12-10-8-6-4-2/h3H,1,4-14H2,2H3
InchiKey:	HFDVRLIODXPAHB-UHFFFAOYSA-N
Formula:	C14H28
SMILES:	C=CCCCCCCCCCCC
Mol. weight [g/mol]:	196.37
CAS:	1120-36-1

Physical Properties

Property code	Value	Unit	Source
af	0.6440		KDB
gf	154.90	kJ/mol	KDB
hf	-206.70	kJ/mol	KDB
hfus	30.74	kJ/mol	Joback Method
hvap	70.20	kJ/mol	NIST Webbook
log10ws	-5.54		Crippen Method
logp	5.483		Crippen Method
mcvol	203.820	ml/mol	McGowan Method
pc	1560.00	kPa	KDB
rinpol	1389.46		NIST Webbook
rinpol	1387.00		NIST Webbook
rinpol	1395.00		NIST Webbook
rinpol	1396.00		NIST Webbook
rinpol	1392.00		NIST Webbook
rinpol	1394.00		NIST Webbook
rinpol	1397.00		NIST Webbook
rinpol	1389.35		NIST Webbook
rinpol	1391.70		NIST Webbook
rinpol	1391.20		NIST Webbook
rinpol	1389.00		NIST Webbook
rinpol	1393.00		NIST Webbook
rinpol	1390.00		NIST Webbook

rinpol	238.00	NIST Webbook
rinpol	1389.00	NIST Webbook
rinpol	1383.00	NIST Webbook
rinpol	1394.00	NIST Webbook
rinpol	1391.00	NIST Webbook
rinpol	1392.00	NIST Webbook
rinpol	1392.00	NIST Webbook
rinpol	1397.00	NIST Webbook
rinpol	1397.00	NIST Webbook
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rinpol	1389.00	NIST Webbook
rinpol	1400.00	NIST Webbook
rinpol	1396.00	NIST Webbook
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rinpol	1392.49	NIST Webbook
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ripol	1454.00		NIST Webbook
ripol	1449.00		NIST Webbook
ripol	1454.00		NIST Webbook
ripol	1442.00		NIST Webbook
tb	524.20	K	NIST Webbook
tb	524.30	K	KDB
tb	524.00	K	NIST Webbook
tc	689.00	K	KDB
tf	260.23 ± 0.06	K	NIST Webbook
tf	260.23 ± 0.06	K	NIST Webbook
tf	260.23 ± 0.05	K	NIST Webbook
tf	260.30 ± 0.03	K	NIST Webbook
tf	260.00	K	KDB
tf	260.30 ± 0.04	K	NIST Webbook
vc	0.800	m3/kmol	KDB
zc	0.2179870		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	486.57	J/mol×K	516.40	Joback Method
cpg	504.23	J/mol×K	543.43	Joback Method
cpg	521.19	J/mol×K	570.47	Joback Method
cpg	537.47	J/mol×K	597.50	Joback Method
cpg	553.09	J/mol×K	624.54	Joback Method
cpg	568.07	J/mol×K	651.57	Joback Method
cpg	582.43	J/mol×K	678.61	Joback Method
dvisc	0.0009515	Pa×s	335.99	Joback Method
dvisc	0.0019579	Pa×s	290.88	Joback Method
dvisc	0.0052502	Pa×s	245.78	Joback Method
dvisc	0.0005486	Pa×s	381.09	Joback Method
dvisc	0.0003554	Pa×s	426.19	Joback Method
dvisc	0.0002501	Pa×s	471.30	Joback Method
dvisc	0.0001872	Pa×s	516.40	Joback Method
hvapt	46.90	kJ/mol	524.30	KDB
hvapt	56.50	kJ/mol	478.50	NIST Webbook
rhol	786.00	kg/m3	273.00	KDB
srf	0.03	N/m	298.20	KDB

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	398.20	K	2.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.47321e+01
Coeff. B	-4.43698e+03
Coeff. C	-8.54930e+01
Temperature range (K), min.	392.67
Temperature range (K), max.	556.48

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	1.63674e+02
Coeff. B	-1.45730e+04
Coeff. C	-2.13939e+01
Coeff. D	9.84515e-06
Temperature range (K), min.	260.30
Temperature range (K), max.	692.00

Sources

Infinite dilution activity coefficients, specific retention volumes and solvation thermodynamics of hydrocarbons in C78H158 branched alkane solvent:	https://www.doi.org/10.1016/j.fluid.2006.07.015
Wilcox Method:	http://link.springer.com/article/10.1007/BF02311772
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=349
KDB:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=349
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C1120361&Units=SI

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

Legend

af:	Acentric Factor
cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rhol:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume
zc:	Critical Compressibility