Cyclopentane, nonyl-

Other names:	NONYLCYCLOPENTANE
	n-Nonylcyclopentane
Inchi:	InChI=1S/C14H28/c1-2-3-4-5-6-7-8-11-14-12-9-10-13-14/h14H,2-13H2,1H3
InchiKey:	GDCYEUOAZVKNHT-UHFFFAOYSA-N
Formula:	C14H28
SMILES:	CCCCCCCCCC1CCCC1
Mol. weight [g/mol]:	196.37
CAS:	2882-98-6

Physical Properties

Property code	Value	Unit	Source
af	0.5660		KDB
chl	-9239.60 ± 1.90	kJ/mol	NIST Webbook
gf	103.50	kJ/mol	KDB
hf	-271.50	kJ/mol	KDB
hf	-271.30 ± 2.10	kJ/mol	NIST Webbook
hfus	25.95	kJ/mol	Joback Method
hvap	70.70	kJ/mol	NIST Webbook
log10ws	-5.34		Crippen Method
logp	5.317		Crippen Method
mcvol	197.260	ml/mol	McGowan Method
pc	1760.00	kPa	KDB
rinpol	1451.00		NIST Webbook
rinpol	1451.00		NIST Webbook
rinpol	1438.00		NIST Webbook
rinpol	1438.00		NIST Webbook
tb	535.30	K	KDB
tc	717.00	K	KDB
tf	244.00	K	KDB
vc	0.760	m3/kmol	KDB
zc	0.2245210		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	607.30	J/mol×K	716.60	Joback Method
cpg	495.93	J/mol×K	535.00	Joback Method
cpg	516.84	J/mol×K	565.27	Joback Method
cpg	536.76	J/mol×K	595.53	Joback Method
cpg	555.73	J/mol×K	625.80	Joback Method
cpg	573.79	J/mol×K	656.07	Joback Method
cpg	590.97	J/mol×K	686.33	Joback Method
dvisc	0.0002495	Pa×s	535.00	Joback Method
dvisc	0.0054249	Pa×s	258.44	Joback Method
dvisc	0.0022019	Pa×s	304.53	Joback Method
dvisc	0.0011328	Pa×s	350.63	Joback Method
dvisc	0.0006802	Pa×s	396.72	Joback Method
dvisc	0.0004541	Pa×s	442.81	Joback Method
dvisc	0.0003272	Pa×s	488.91	Joback Method
hvapt	47.24	kJ/mol	535.30	KDB
rhol	808.00	kg/m3	293.00	KDB

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.60257e+01
Coeff. B	-4.92219e+03
Coeff. C	-8.99520e+01
Temperature range (K), min.	402.71
Temperature range (K), max.	549.36

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	1.46646e+02
Coeff. B	-1.39168e+04
Coeff. C	-1.88310e+01
Coeff. D	7.96535e-06
Temperature range (K), min.	400.00
Temperature range (K), max.	569.00

Sources

The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=595
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.cheric.org/files/research/kdb/mol/mol595.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C2882986&Units=SI

Legend

af:	Acentric Factor
chl:	Standard liquid enthalpy of combustion
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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume
zc:	Critical Compressibility

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