Cyclohexane, 1,3-dimethyl-

Other names:	1,3-Dimethylcyclohexane
	1,3-Dimethylcyclohexane cis-trans
	1,3-Dimethylcyclohexane,c&t
	UN 2263
	cis,trans-1,3-Dimethylcyclohexane
	hexahydro-m-xylene
	m-Dimethylcyclohexane
Inchi:	InChI=1S/C8H16/c1-7-4-3-5-8(2)6-7/h7-8H,3-6H2,1-2H3
InchiKey:	SGVUHPSBDNVHKL-UHFFFAOYSA-N
Formula:	C8H16
SMILES:	CC1CCCC(C)C1
Mol. weight [g/mol]:	112.21
CAS:	591-21-9

Physical Properties

Property code	Value	Unit	Source
chl	-5221.60	kJ/mol	NIST Webbook
gf	33.22	kJ/mol	Joback Method
hf	-174.47	kJ/mol	Joback Method
hfus	9.38	kJ/mol	Joback Method
hvap	33.52	kJ/mol	Joback Method
log10ws	-2.58		Crippen Method
logp	2.833		Crippen Method
mcvol	112.720	ml/mol	McGowan Method
pc	3038.96	kPa	Joback Method
rinpol	792.00		NIST Webbook
rinpol	810.00		NIST Webbook
rinpol	787.00		NIST Webbook
rinpol	782.00		NIST Webbook
rinpol	785.00		NIST Webbook
rinpol	785.00		NIST Webbook
rinpol	775.00		NIST Webbook
rinpol	780.00		NIST Webbook
rinpol	788.00		NIST Webbook
rinpol	802.00		NIST Webbook
rinpol	782.00		NIST Webbook
rinpol	806.00		NIST Webbook

rinpol	804.00		NIST Webbook
ripol	814.00		NIST Webbook
ripol	860.00		NIST Webbook
tb	397.32	K	Joback Method
tc	597.67	K	Joback Method
tf	183.06	K	Joback Method
vc	0.415	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	212.54	J/mol×K	397.32	Joback Method
cpg	293.52	J/mol×K	564.28	Joback Method
cpg	278.84	J/mol×K	530.89	Joback Method
cpg	263.41	J/mol×K	497.49	Joback Method
cpg	247.23	J/mol×K	464.10	Joback Method
cpg	230.28	J/mol×K	430.71	Joback Method
cpg	307.47	J/mol×K	597.67	Joback Method
dvisc	0.0002631	Pa×s	397.32	Joback Method
dvisc	0.0003324	Pa×s	361.61	Joback Method
dvisc	0.0004419	Pa×s	325.90	Joback Method
dvisc	0.0006303	Pa×s	290.19	Joback Method
dvisc	0.0009932	Pa×s	254.48	Joback Method
dvisc	0.0018154	Pa×s	218.77	Joback Method
dvisc	0.0041986	Pa×s	183.06	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.42809e+01
Coeff. B	-3.31009e+03
Coeff. C	-5.04320e+01
Temperature range (K), min.	286.98
Temperature range (K), max.	419.47

Sources

The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Miscibility behavior of trihexyl(tetradecyl)phosphonium tetrafluoroborate with cyclic hydrocarbons:	https://www.doi.org/10.1016/j.fluid.2014.03.020
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C591219&Units=SI

Legend

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
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume