Cyclopentane, (2-methylpropyl)-

Other names: (2-METHYLPROPYL)CYCLOPENTANE
Cyclopentane, isobutyl-
Isobutylcyclopentane
Inchi: InChI=1S/C9H18/c1-8(2)7-9-5-3-4-6-9/h8-9H,3-7H2,1-2H3
InchiKey: DPUYDFJBHDYVQM-UHFFFAOYSA-N
Formula: C9H18
SMILES: CC(C)CC1CCCC1
Mol. weight [g/mol]: 126.24
CAS: 3788-32-7

Physical Properties

Property code	Value	Unit	Source
gf	59.01	kJ/mol	Joback Method
hf	-173.89	kJ/mol	Joback Method
hfus	9.48	kJ/mol	Joback Method
hvap	35.50	kJ/mol	Joback Method
log10ws	-3.00		Crippen Method
logp	3.223		Crippen Method
mcvol	126.810	ml/mol	McGowan Method
pc	2787.66	kPa	Joback Method
rinpol	896.90		NIST Webbook
rinpol	921.00		NIST Webbook
rinpol	927.00		NIST Webbook
rinpol	887.00		NIST Webbook
rinpol	890.00		NIST Webbook
rinpol	892.00		NIST Webbook
rinpol	895.00		NIST Webbook
rinpol	891.50		NIST Webbook
rinpol	887.00		NIST Webbook
rinpol	903.00		NIST Webbook
rinpol	937.00		NIST Webbook
rinpol	893.30		NIST Webbook
rinpol	890.00		NIST Webbook
rinpol	896.00		NIST Webbook
rinpol	893.00		NIST Webbook
rinpol	892.00		NIST Webbook
rinpol	891.50		NIST Webbook

rinpol	927.00		NIST Webbook
rinpol	898.00		NIST Webbook
rinpol	903.00		NIST Webbook
rinpol	932.00		NIST Webbook
rinpol	898.00		NIST Webbook
rinpol	892.00		NIST Webbook
tb	421.12 ± 0.20	K	NIST Webbook
tc	615.83	K	Joback Method
tf	157.88 ± 0.07	K	NIST Webbook
tf	157.89 ± 0.05	K	NIST Webbook
tf	157.92 ± 0.03	K	NIST Webbook
vc	0.474	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	255.93	J/mol×K	420.16	Joback Method
cpg	273.96	J/mol×K	452.77	Joback Method
cpg	291.11	J/mol×K	485.38	Joback Method
cpg	307.42	J/mol×K	518.00	Joback Method
cpg	322.90	J/mol×K	550.61	Joback Method
cpg	337.58	J/mol×K	583.22	Joback Method
cpg	351.50	J/mol×K	615.83	Joback Method
dvisc	0.0079071	Pa×s	187.09	Joback Method
dvisc	0.0028600	Pa×s	225.94	Joback Method
dvisc	0.0013941	Pa×s	264.78	Joback Method
dvisc	0.0008168	Pa×s	303.62	Joback Method
dvisc	0.0005402	Pa×s	342.47	Joback Method
dvisc	0.0003887	Pa×s	381.31	Joback Method
dvisc	0.0002972	Pa×s	420.16	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.43385e+01
Coeff. B	-3.49784e+03

Coeff. C	-6.12650e+01
Temperature range (K), min.	310.21
Temperature range (K), max.	448.75

Sources

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/mol505.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C3788327&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Legend

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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume