Oxirane, methyl-, (S)-

Other names: (S)-(-)-Propylene oxide
(S)-1,2-epoxypropane
1,2-Propylene oxide
Inchi: InChI=1S/C3H6O/c1-3-2-4-3/h3H,2H2,1H3/t3-/m1/s1
InchiKey: GOOHAUXETOMSMM-GSVOUGTGSA-N
Formula: C3H6O
SMILES: CC1CO1
Mol. weight [g/mol]: 58.08
CAS: 16088-62-3

Physical Properties

Property code	Value	Unit	Source
gf	-50.99	kJ/mol	Joback Method
hf	-164.45	kJ/mol	Joback Method
hfus	9.64	kJ/mol	Joback Method
hvap	26.70	kJ/mol	Joback Method
log10ws	-0.17		Crippen Method
logp	0.405		Crippen Method
mcvol	48.140	ml/mol	McGowan Method
pc	5213.15	kPa	Joback Method
tb	307.90 ± 2.00	K	NIST Webbook
tc	481.72	K	Joback Method
tf	168.08	K	Joback Method
vc	0.181	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	70.70	J/mol×K	301.73	Joback Method
cpg	78.27	J/mol×K	331.73	Joback Method
cpg	85.43	J/mol×K	361.73	Joback Method
cpg	92.19	J/mol×K	391.72	Joback Method
cpg	98.56	J/mol×K	421.72	Joback Method
cpg	104.58	J/mol×K	451.72	Joback Method

cpg	110.26	J/mol×K	481.72	Joback Method
dvisc	0.0005257	Pa×s	168.08	Joback Method
dvisc	0.0004254	Pa×s	190.35	Joback Method
dvisc	0.0003599	Pa×s	212.63	Joback Method
dvisc	0.0003143	Pa×s	234.91	Joback Method
dvisc	0.0002810	Pa×s	257.18	Joback Method
dvisc	0.0002557	Pa×s	279.46	Joback Method
dvisc	0.0002360	Pa×s	301.73	Joback Method

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
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C16088623&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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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