Oxirane, 2,3-dimethyl-, cis-

Other names:	Butane, 2,3-epoxy-, cis-
	cis-2-Butene epoxide
	cis-2-Butene oxide
	cis-2-Butylene oxide
	cis-2,3-Dimethyloxirane
	cis-2,3-Epoxybutane
	meso-2,3-Epoxybutane
	(Z)-2,3-Epoxybutane
	2,3-Dimethyl-oxirane (Z)
Inchi:	InChI=1S/C4H8O/c1-3-4(2)5-3/h3-4H,1-2H3/t3-,4+
InchiKey:	PQXKWPLDPFFDJP-ZXZARUISSA-N
Formula:	C4H8O
SMILES:	CC1OC1C
Mol. weight [g/mol]:	72.11
CAS:	1758-33-4

Physical Properties

Property code	Value	Unit	Source
gf	-50.28	kJ/mol	Joback Method
hf	-205.43	kJ/mol	Joback Method
hfus	13.30	kJ/mol	Joback Method
hvap	28.61	kJ/mol	Joback Method
log10ws	-0.70		Crippen Method
logp	0.794		Crippen Method
mcvol	62.230	ml/mol	McGowan Method
pc	4362.63	kPa	Joback Method
rinpol	574.00		NIST Webbook
rinpol	555.00		NIST Webbook
rinpol	557.00		NIST Webbook
rinpol	573.60		NIST Webbook
rinpol	573.10		NIST Webbook
rinpol	573.00		NIST Webbook
rinpol	573.00		NIST Webbook
rinpol	572.60		NIST Webbook
rinpol	550.00		NIST Webbook
rinpol	551.00		NIST Webbook
tb	333.50 ± 0.50	K	NIST Webbook

tb	333.70	K	NIST Webbook
tc	499.65	K	Joback Method
tf	189.75 ± 0.50	K	NIST Webbook
tf	193.15 ± 6.00	K	NIST Webbook
vc	0.236	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	101.87	J/mol×K	319.94	Joback Method
cpg	111.08	J/mol×K	349.89	Joback Method
cpg	119.86	J/mol×K	379.84	Joback Method
cpg	128.23	J/mol×K	409.80	Joback Method
cpg	136.19	J/mol×K	439.75	Joback Method
cpg	143.77	J/mol×K	469.70	Joback Method
cpg	150.98	J/mol×K	499.65	Joback Method
dvisc	0.0003513	Pa×s	175.11	Joback Method
dvisc	0.0003166	Pa×s	199.25	Joback Method
dvisc	0.0002918	Pa×s	223.39	Joback Method
dvisc	0.0002732	Pa×s	247.53	Joback Method
dvisc	0.0002589	Pa×s	271.66	Joback Method
dvisc	0.0002474	Pa×s	295.80	Joback Method
dvisc	0.0002381	Pa×s	319.94	Joback Method

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C1758334&Units=SI
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

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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume