Oxirane, (1-methylethyl)-

Other names:	Butane, 1,2-epoxy-3-methyl-
	Isopropylethylene oxide
	Isopropyloxirane
	2-Isopropyloxirane
	3-Methylbutene-1,2-oxide
	1-Methylethyl-oxirane
	1,2-epoxy-3-methylbutane
Inchi:	InChI=1S/C5H10O/c1-4(2)5-3-6-5/h4-5H,3H2,1-2H3
InchiKey:	REYZXWIIUPKFTI-UHFFFAOYSA-N
Formula:	C5H10O
SMILES:	CC(C)C1CO1
Mol. weight [g/mol]:	86.13
CAS:	1438-14-8

Physical Properties

Property code	Value	Unit	Source
gf	-36.59	kJ/mol	Joback Method
hf	-211.01	kJ/mol	Joback Method
hfus	11.30	kJ/mol	Joback Method
hvap	30.76	kJ/mol	Joback Method
log10ws	-0.77		Crippen Method
logp	1.041		Crippen Method
mcvol	76.320	ml/mol	McGowan Method
pc	4062.13	kPa	Joback Method
rinpol	613.00		NIST Webbook
rinpol	627.00		NIST Webbook
rinpol	612.00		NIST Webbook
rinpol	613.30		NIST Webbook
rinpol	612.00		NIST Webbook
rinpol	614.00		NIST Webbook
rinpol	627.00		NIST Webbook
rinpol	612.00		NIST Webbook
rinpol	613.80		NIST Webbook
rinpol	613.80		NIST Webbook
tb	354.15 ± 3.00	K	NIST Webbook
tc	532.24	K	Joback Method
tf	175.62	K	Joback Method

vc	0.287	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	133.96	J/mol×K	347.05	Joback Method
cpg	144.93	J/mol×K	377.92	Joback Method
cpg	155.32	J/mol×K	408.78	Joback Method
cpg	165.17	J/mol×K	439.65	Joback Method
cpg	174.49	J/mol×K	470.51	Joback Method
cpg	183.32	J/mol×K	501.38	Joback Method
cpg	191.67	J/mol×K	532.24	Joback Method
dvisc	0.0015358	Pa×s	175.62	Joback Method
dvisc	0.0010067	Pa×s	204.19	Joback Method
dvisc	0.0007320	Pa×s	232.76	Joback Method
dvisc	0.0005707	Pa×s	261.34	Joback Method
dvisc	0.0004673	Pa×s	289.91	Joback Method
dvisc	0.0003966	Pa×s	318.48	Joback Method
dvisc	0.0003458	Pa×s	347.05	Joback Method

Sources

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=C1438148&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

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