3-Methoxy-2,2-dimethyloxirane

Other names: Oxirane, 3-methoxy-2,2-dimethyl-
.+/-.-1-Methoxy-2-methylpropylene oxide
Inchi: InChI=1S/C5H10O2/c1-5(2)4(6-3)7-5/h4H,1-3H3
InchiKey: FPKWGRVMLLIFSY-UHFFFAOYSA-N
Formula: C5H10O2
SMILES: COC1OC1(C)C
Mol. weight [g/mol]: 102.13
CAS: 26196-04-3

Physical Properties

Property code	Value	Unit	Source
gf	-152.35	kJ/mol	Joback Method
hf	-343.05	kJ/mol	Joback Method
hfus	10.78	kJ/mol	Joback Method
hvap	32.10	kJ/mol	Joback Method
log10ws	-0.70		Crippen Method
logp	0.768		Crippen Method
mcvol	82.190	ml/mol	McGowan Method
pc	3995.65	kPa	Joback Method
tb	366.70	K	NIST Webbook
tc	554.57	K	Joback Method
tf	232.51	K	Joback Method
vc	0.308	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	157.49	J/mol×K	365.48	Joback Method
cpg	168.76	J/mol×K	396.99	Joback Method
cpg	179.24	J/mol×K	428.51	Joback Method
cpg	188.99	J/mol×K	460.02	Joback Method
cpg	198.08	J/mol×K	491.54	Joback Method
cpg	206.57	J/mol×K	523.05	Joback Method
cpg	214.54	J/mol×K	554.57	Joback Method

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C26196043&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
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