Oxiranemethanol, (R)-

Other names:	(+)-2,3-epoxy-1-propanol
	(+)-glycidol
	(R)-(+)-Glycidol
	(R)-glycidol
	(R)-oxiran-2-ylmethanol
	R-(+)-glycidol
Inchi:	InChI=1S/C3H6O2/c4-1-3-2-5-3/h3-4H,1-2H2/t3-/m1/s1
InchiKey:	CTKINSOISVBQLD-GSVOUGTGSA-N
Formula:	C3H6O2
SMILES:	OCC1CO1
Mol. weight [g/mol]:	74.08
CAS:	57044-25-4

Physical Properties

Property code	Value	Unit	Source
gf	-187.81	kJ/mol	Joback Method
hf	-316.68	kJ/mol	Joback Method
hfus	13.73	kJ/mol	Joback Method
hvap	43.37	kJ/mol	Joback Method
log10ws	0.56		Crippen Method
logp	-0.623		Crippen Method
mcvol	54.010	ml/mol	McGowan Method
pc	5981.40	kPa	Joback Method
tb	393.91	K	Joback Method
tc	571.71	K	Joback Method
tf	228.90	K	Joback Method
vc	0.201	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	107.22	J/mol×K	393.91	Joback Method
cpg	113.91	J/mol×K	423.54	Joback Method
cpg	120.23	J/mol×K	453.18	Joback Method

cpg	126.18	J/mol×K	482.81	Joback Method
cpg	131.78	J/mol×K	512.45	Joback Method
cpg	137.07	J/mol×K	542.08	Joback Method
cpg	142.05	J/mol×K	571.71	Joback Method
dvisc	0.0220909	Pa×s	228.90	Joback Method
dvisc	0.0085588	Pa×s	256.40	Joback Method
dvisc	0.0039847	Pa×s	283.90	Joback Method
dvisc	0.0021233	Pa×s	311.40	Joback Method
dvisc	0.0012532	Pa×s	338.91	Joback Method
dvisc	0.0008005	Pa×s	366.41	Joback Method
dvisc	0.0005444	Pa×s	393.91	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	329.70	K	1.50	NIST Webbook

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C57044254&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Energetics of pairwise interaction between glycidol enantiomers in (dimethylformamide + water) mixtures rich in water at T = 298.15 K:	https://www.doi.org/10.1016/j.jct.2015.03.012
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
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

Latest version available from:
https://www.chemeo.com/cid/51-988-9/Oxiranemethanol-R.pdf
Generated by Cheméo on 2024-04-20 04:25:50.623801068 +0000 UTC m=+15876399.544378390.
Cheméo (https://www.chemeo.com) is the biggest free database of chemical and physical data for the process industry.