Glycidol

Other names:	1,2-epoxy-3-hydroxypropane
	1-hydroxy-2,3-epoxypropane
	1-propanol, 2,3-epoxy-
	2,3-Epoxypropanol
	2,3-Epoxypropanol-1
	2,3-epoxy-1-propanol
	2,3-epoxypropan-1-ol
	2-(Hydroxymethyl)oxirane
	2-Oxiranemethanol
	3-hydroxy-1,2-epoxypropane
	3-hydroxypropylene oxide
	Allyl alcohol oxide
	Epoxypropyl alcohol
	Glycide
	Glycidyl alcohol
	Hydroxymethyl ethylene oxide
	Hydroxymethyloxirane
	Methanol, oxiranyl-
	Monoepoxide glycidol
	NCI-C55549
	NSC 46096
	Oxiranylmethanol
	epihydrin alcohol
	glycerolglycide
	oxiranemethanol
Inchi:	InChI=1S/C3H6O2/c4-1-3-2-5-3/h3-4H,1-2H2
InchiKey:	CTKINSOISVBQLD-UHFFFAOYSA-N
Formula:	C3H6O2
SMILES:	OCC1CO1
Mol. weight [g/mol]:	74.08
CAS:	556-52-5

Physical Properties

Property code	Value	Unit	Source
chl	-1740.00 ± 0.80	kJ/mol	NIST Webbook
gf	-187.81	kJ/mol	Joback Method

hf	-316.68	kJ/mol	Joback Method
hfl	-298.00 ± 0.80	kJ/mol	NIST Webbook
hfus	13.73	kJ/mol	Joback Method
hvap	43.37	kJ/mol	Joback Method
ie	10.43	eV	NIST Webbook
log10ws	0.56		Crippen Method
logp	-0.623		Crippen Method
mcvol	54.010	ml/mol	McGowan Method
pc	5981.40	kPa	Joback Method
rinpol	755.00		NIST Webbook
rinpol	755.00		NIST Webbook
tb	433.70	K	NIST Webbook
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

Sources

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

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C556525&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

Legend

chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
ie:	Ionization energy
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