Diethylene glycol distearate

Other names: oxydiethane-1,2-diyl distearate
Inchi: InChI=1S/C40H78O5/c1-3-5-7-9-11-13-15-17-19-21-23-25-27-29-31-33-39(41)44-37-35-
InchiKey: YKDMBTQVKVEMSA-UHFFFAOYSA-N
Formula: C40H78O5
SMILES: CCCCCCCCCCCCCCCCCC(=O)OCCOCCOC(=O)CCCCCCCCCCCCCCCCCC
Mol. weight [g/mol]: 639.04
CAS: 109-30-8

Physical Properties

Property code	Value	Unit	Source
gf	-286.92	kJ/mol	Joback Method
hf	-1490.75	kJ/mol	Joback Method
hfus	106.12	kJ/mol	Joback Method
hvap	125.36	kJ/mol	Joback Method
log10ws	-13.38		Crippen Method
logp	12.612		Crippen Method
mcvol	595.210	ml/mol	McGowan Method
pc	402.73	kPa	Joback Method
tb	1289.60	K	Joback Method
tc	1862.10	K	Joback Method
tf	707.11	K	Joback Method
vc	2.341	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	2288.69	J/mol×K	1289.60	Joback Method
cpg	2318.07	J/mol×K	1385.02	Joback Method
cpg	2336.37	J/mol×K	1480.43	Joback Method
cpg	2345.06	J/mol×K	1575.85	Joback Method
cpg	2345.60	J/mol×K	1671.27	Joback Method
cpg	2339.47	J/mol×K	1766.69	Joback Method
cpg	2328.15	J/mol×K	1862.10	Joback Method
dvisc	0.0000364	Pa×s	707.11	Joback Method

dvisc	0.0000157	Pa×s	804.19	Joback Method
dvisc	0.0000081	Pa×s	901.27	Joback Method
dvisc	0.0000047	Pa×s	998.36	Joback Method
dvisc	0.0000031	Pa×s	1095.44	Joback Method
dvisc	0.0000021	Pa×s	1192.52	Joback Method
dvisc	0.0000016	Pa×s	1289.60	Joback Method

Sources

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
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C109308&Units=SI

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
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume