Maleic acid, dioctadecyl ester

Other names: dioctadecyl maleate
Inchi: InChI=1S/C40H76O4/c1-3-5-7-9-11-13-15-17-19-21-23-25-27-29-31-33-37-43-39(41)35-
InchiKey: XHSDDKAGJYJAQM-KXYMVQBMSA-N
Formula: C40H76O4
SMILES: CCCCCCCCCCCCCCCCCCOC(=O)C=CC(=O)OCCCCCCCCCCCCCCCCCC
Mol. weight [g/mol]: 621.03
CAS: 7516-70-3

Physical Properties

Property code	Value	Unit	Source
gf	-101.70	kJ/mol	Joback Method
hf	-1241.31	kJ/mol	Joback Method
hfus	105.13	kJ/mol	Joback Method
hvap	122.90	kJ/mol	Joback Method
log10ws	-14.14		Crippen Method
logp	13.152		Crippen Method
mcvol	585.040	ml/mol	McGowan Method
pc	414.12	kPa	Joback Method
tb	1271.34	K	Joback Method
tc	1785.53	K	Joback Method
tf	679.80	K	Joback Method
vc	2.304	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	2242.92	J/mol×K	1271.34	Joback Method
cpg	2280.56	J/mol×K	1357.04	Joback Method
cpg	2312.16	J/mol×K	1442.74	Joback Method
cpg	2339.17	J/mol×K	1528.43	Joback Method
cpg	2363.05	J/mol×K	1614.13	Joback Method
cpg	2385.24	J/mol×K	1699.83	Joback Method
cpg	2407.20	J/mol×K	1785.53	Joback Method
dvisc	0.0000509	Pa×s	679.80	Joback Method

dvisc	0.0000209	Pa×s	778.39	Joback Method
dvisc	0.0000104	Pa×s	876.98	Joback Method
dvisc	0.0000060	Pa×s	975.57	Joback Method
dvisc	0.0000038	Pa×s	1074.16	Joback Method
dvisc	0.0000026	Pa×s	1172.75	Joback Method
dvisc	0.0000019	Pa×s	1271.34	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=C7516703&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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume