Octadecanoic acid, 1,2-ethanediyl ester

Other names:	Stearic acid, ethylene ester
	Elfan L 310
	Ethylene distearate
	Ethylene glycol distearate
	Ethylene stearate
	Glycol distearate
	Emerest 2355
	Ethylene glycol dioctadecanoate
	Alkamuls EGDS
	EGDS
	Emalex EG-diS
	Genapol PMS
	Kemester EGDS
	Kessco EGDS
	Lexemul EGDS
	Lipo EGDS
	Mapeg EGDS
	McAlester EGDS
	Pegosperse 50DS
	Rewopal PG 280
	Rita EDGS
	Secoster DMS
	Ethylene dioctadecanoate
	Ethylene glycol, diester with stearic acid
	NSC 6820
	Octadecanoic acid, 1,1'-(1,2-ethanediyl) ester
	Tegin BL 315
	2-(Stearoyloxy)ethyl stearate
Inchi:	InChI=1S/C38H74O4/c1-3-5-7-9-11-13-15-17-19-21-23-25-27-29-31-33-37(39)41-35-36-
InchiKey:	FPVVYTCTZKCSOJ-UHFFFAOYSA-N
Formula:	C38H74O4
SMILES:	CCCCCCCCCCCCCCCCCC(=O)OCCOC(=O)CCCCCCCCCCCCCCCCCC
Mol. weight [g/mol]:	594.99
CAS:	627-83-8

Physical Properties

Property code	Value	Unit	Source

gf	-198.76	kJ/mol	Joback Method
hf	-1317.25	kJ/mol	Joback Method
hfus	99.75	kJ/mol	Joback Method
hvap	118.49	kJ/mol	Joback Method
log10ws	-13.45		Crippen Method
logp	12.596		Crippen Method
mcvol	561.160	ml/mol	McGowan Method
pc	438.77	kPa	Joback Method
rinpol	4057.00		NIST Webbook
rinpol	4057.00		NIST Webbook
tb	1221.42	K	Joback Method
tc	1677.63	K	Joback Method
tf	348.50 ± 0.50	K	NIST Webbook
vc	2.212	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	2134.73	J/mol×K	1221.42	Joback Method
cpg	2240.89	J/mol×K	1601.60	Joback Method
cpg	2229.41	J/mol×K	1525.56	Joback Method
cpg	2213.88	J/mol×K	1449.53	Joback Method
cpg	2193.47	J/mol×K	1373.49	Joback Method
cpg	2167.37	J/mol×K	1297.46	Joback Method
cpg	2249.16	J/mol×K	1677.63	Joback Method
dvisc	0.0000030	Pa×s	1221.42	Joback Method
dvisc	0.0000042	Pa×s	1128.24	Joback Method
dvisc	0.0000060	Pa×s	1035.06	Joback Method
dvisc	0.0000094	Pa×s	941.88	Joback Method
dvisc	0.0000160	Pa×s	848.70	Joback Method
dvisc	0.0000314	Pa×s	755.52	Joback Method
dvisc	0.0000744	Pa×s	662.34	Joback Method

Sources

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=C627838&Units=SI

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume