9-Octadecenoic acid (Z)-, hexadecyl ester

Other names:	Oleic acid, hexadecyl ester
	Cetyl oleate
	Hexadecyl oleate
	Palmityl oleate
	Octadec-9-enoic acid hexadecyl ester, Z
Inchi:	InChI=1S/C34H66O2/c1-3-5-7-9-11-13-15-17-19-20-22-24-26-28-30-32-34(35)36-33-31-
InchiKey:	JYTMDBGMUIAIQH-ZPHPHTNESA-N
Formula:	C34H66O2
SMILES:	CCCCCCCCC=CCCCCCCCC(=O)OCCCCCCCCCCCCCCCC
Mol. weight [g/mol]:	506.89
CAS:	22393-86-8

Physical Properties

Property code	Value	Unit	Source
gf	81.70	kJ/mol	Joback Method
hf	-872.67	kJ/mol	Joback Method
hfus	86.81	kJ/mol	Joback Method
hvap	100.39	kJ/mol	Joback Method
log10ws	-12.77		Crippen Method
logp	12.048		Crippen Method
mcvol	493.060	ml/mol	McGowan Method
pc	520.31	kPa	Joback Method
rinpol	3520.42		NIST Webbook
rinpol	3520.42		NIST Webbook
tb	1057.77	K	Joback Method
tc	1345.09	K	Joback Method
tf	540.02	K	Joback Method
vc	1.944	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1790.65	J/mol×K	1057.77	Joback Method
cpg	1821.08	J/mol×K	1105.66	Joback Method

cpg	1849.08	J/mol×K	1153.54	Joback Method
cpg	1874.90	J/mol×K	1201.43	Joback Method
cpg	1898.79	J/mol×K	1249.32	Joback Method
cpg	1920.99	J/mol×K	1297.21	Joback Method
cpg	1941.76	J/mol×K	1345.09	Joback Method
dvisc	0.0002583	Pa×s	540.02	Joback Method
dvisc	0.0000966	Pa×s	626.31	Joback Method
dvisc	0.0000458	Pa×s	712.60	Joback Method
dvisc	0.0000255	Pa×s	798.89	Joback Method
dvisc	0.0000159	Pa×s	885.19	Joback Method
dvisc	0.0000108	Pa×s	971.48	Joback Method
dvisc	0.0000078	Pa×s	1057.77	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=C22393868&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