Octacosanoic acid

Other names:	Montanic acid
	Octacosanoic acid,synthetic
Inchi:	InChI=1S/C28H56O2/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24
InchiKey:	UTOPWMOLSKOLTQ-UHFFFAOYSA-N
Formula:	C28H56O2
SMILES:	CCCCCCCCCCCCCCCCCCCCCCCCCCCC(=O)O
Mol. weight [g/mol]:	424.74
CAS:	506-48-9

Physical Properties

Property code	Value	Unit	Source
gf	-80.86	kJ/mol	Joback Method
hf	-886.06	kJ/mol	Joback Method
hfus	73.96	kJ/mol	Joback Method
hvap	101.35	kJ/mol	Joback Method
log10ws	-10.64		Crippen Method
logp	10.234		Crippen Method
mcvol	412.820	ml/mol	McGowan Method
pc	710.73	kPa	Joback Method
tb	986.09	K	Joback Method
tc	1234.84	K	Joback Method
tf	516.07	K	Joback Method
vc	1.629	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1462.89	J/mol×K	986.09	Joback Method
cpg	1572.71	J/mol×K	1193.39	Joback Method
cpg	1553.74	J/mol×K	1151.93	Joback Method
cpg	1533.41	J/mol×K	1110.47	Joback Method
cpg	1511.59	J/mol×K	1069.01	Joback Method
cpg	1488.13	J/mol×K	1027.55	Joback Method
cpg	1590.45	J/mol×K	1234.84	Joback Method

dvisc	0.0000038	Pa×s	986.09	Joback Method
dvisc	0.0000059	Pa×s	907.75	Joback Method
dvisc	0.0000099	Pa×s	829.42	Joback Method
dvisc	0.0000183	Pa×s	751.08	Joback Method
dvisc	0.0000392	Pa×s	672.74	Joback Method
dvisc	0.0001025	Pa×s	594.41	Joback Method
dvisc	0.0003594	Pa×s	516.07	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	2.52624e+01
Coeff. B	-1.17645e+04
Coeff. C	-1.70264e+02
Temperature range (K), min.	641.32
Temperature range (K), max.	759.94

Sources

The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
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=C506489&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
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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