Dodecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

Other names: Laurin, 2-mono-
«beta»-Monolaurin
Glycerol 2-laurate
Lauric acid «beta»-monoglyceride
2-Monolaurin
1,2,3-Propanetriol 2-dodecanoate
Glycerol «beta»-dodecanoate
2-hydroxy-1-(hydroxymethyl)ethyl laurate

Inchi: InChI=1S/C15H30O4/c1-2-3-4-5-6-7-8-9-10-11-15(18)19-14(12-16)13-17/h14,16-17H,2-1

InchiKey: ZUCMOZYYSZYRRM-UHFFFAOYSA-N

Formula: C15H30O4

SMILES: CCCCCCCCCCCC(=O)OC(CO)CO

Mol. weight [g/mol]: 274.40

CAS: 1678-45-1

Physical Properties

Property code	Value	Unit	Source
chs	-9037.50 ± 1.60	kJ/mol	NIST Webbook
gf	-434.58	kJ/mol	Joback Method
hf	-907.47	kJ/mol	Joback Method
hfs	-1152.60 ± 1.90	kJ/mol	NIST Webbook
hfus	42.05	kJ/mol	Joback Method
hvap	91.11	kJ/mol	Joback Method
log10ws	-3.60		Crippen Method
logp	2.804		Crippen Method
mcvol	241.390	ml/mol	McGowan Method
pc	1707.53	kPa	Joback Method
tb	802.81	K	Joback Method
tc	983.46	K	Joback Method
tf	437.61	K	Joback Method
vc	0.931	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	833.10	J/mol×K	983.46	Joback Method
cpg	822.58	J/mol×K	953.35	Joback Method
cpg	811.38	J/mol×K	923.24	Joback Method
cpg	799.48	J/mol×K	893.13	Joback Method
cpg	786.86	J/mol×K	863.03	Joback Method
cpg	773.50	J/mol×K	832.92	Joback Method
cpg	759.38	J/mol×K	802.81	Joback Method
cps	436.40	J/mol×K	298.00	NIST Webbook
dvisc	0.0000071	Pa×s	741.94	Joback Method
dvisc	0.0000139	Pa×s	681.08	Joback Method
dvisc	0.0000311	Pa×s	620.21	Joback Method
dvisc	0.0000825	Pa×s	559.34	Joback Method
dvisc	0.0002782	Pa×s	498.48	Joback Method
dvisc	0.0013156	Pa×s	437.61	Joback Method
dvisc	0.0000040	Pa×s	802.81	Joback Method

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C1678451&Units=SI
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

Legend

chs: Standard solid enthalpy of combustion
cpg: Ideal gas heat capacity
cps: Solid phase heat capacity
dvisc: Dynamic viscosity
gf: Standard Gibbs free energy of formation
hf: Enthalpy of formation at standard conditions
hfs: Solid phase 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