Lauric anhydride

Other names: Dodecanoic acid, anhydride
lauroyl anhydride
Inchi: InChI=1S/C24H46O3/c1-3-5-7-9-11-13-15-17-19-21-23(25)27-24(26)22-20-18-16-14-12-
InchiKey: NWADXBLMWHFGGU-UHFFFAOYSA-N
Formula: C24H46O3
SMILES: CCCCCCCCCCCC(=O)OC(=O)CCCCCCCCCCC
Mol. weight [g/mol]: 382.62
CAS: 645-66-9

Physical Properties

Property code	Value	Unit	Source
gf	-211.64	kJ/mol	Joback Method
hf	-896.07	kJ/mol	Joback Method
hfus	62.30	kJ/mol	Joback Method
hvap	84.92	kJ/mol	Joback Method
log10ws	-8.51		Crippen Method
logp	7.898		Crippen Method
mcvol	358.030	ml/mol	McGowan Method
pc	858.47	kPa	Joback Method
tb	878.68	K	Joback Method
tc	1076.11	K	Joback Method
tf	482.33	K	Joback Method
vc	1.409	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1184.96	J/mol×K	878.68	Joback Method
cpg	1205.36	J/mol×K	911.58	Joback Method
cpg	1224.50	J/mol×K	944.49	Joback Method
cpg	1242.42	J/mol×K	977.39	Joback Method
cpg	1259.17	J/mol×K	1010.30	Joback Method
cpg	1274.79	J/mol×K	1043.20	Joback Method
cpg	1289.31	J/mol×K	1076.11	Joback Method

dvisc	0.0007801	Pa×s	482.33	Joback Method
dvisc	0.0003521	Pa×s	548.39	Joback Method
dvisc	0.0001886	Pa×s	614.45	Joback Method
dvisc	0.0001140	Pa×s	680.50	Joback Method
dvisc	0.0000754	Pa×s	746.56	Joback Method
dvisc	0.0000533	Pa×s	812.62	Joback Method
dvisc	0.0000397	Pa×s	878.68	Joback Method

Sources

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=C645669&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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume