Didodecyl phthalate

Other names:	1,2-Benzenedicarboxylic acid, didodecyl ester
	Dilauryl phthalate
	Phthalic acid, didodecyl ester
	Di-n-dodecyl phthalate
Inchi:	InChI=1S/C32H54O4/c1-3-5-7-9-11-13-15-17-19-23-27-35-31(33)29-25-21-22-26-30(29)
InchiKey:	PUFGCEQWYLJYNJ-UHFFFAOYSA-N
Formula:	C32H54O4
SMILES:	CCCCCCCCCCCCOC(=O)c1ccccc1C(=O)OCCCCCCCCCCCC
Mol. weight [g/mol]:	502.77
CAS:	2432-90-8

Physical Properties

Property code	Value	Unit	Source
gf	-146.50	kJ/mol	Joback Method
hf	-968.35	kJ/mol	Joback Method
hfus	77.86	kJ/mol	Joback Method
hvap	108.08	kJ/mol	Joback Method
log10ws	-11.17		Crippen Method
logp	9.842		Crippen Method
mcvol	452.860	ml/mol	McGowan Method
pc	663.57	kPa	Joback Method
tb	1115.80	K	Joback Method
tc	1396.06	K	Joback Method
tf	633.66	K	Joback Method
vc	1.768	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1625.08	J/mol×K	1115.80	Joback Method
cpg	1645.08	J/mol×K	1162.51	Joback Method
cpg	1662.56	J/mol×K	1209.22	Joback Method
cpg	1677.68	J/mol×K	1255.93	Joback Method
cpg	1690.58	J/mol×K	1302.64	Joback Method

cpg	1701.41	J/mol×K	1349.35	Joback Method
cpg	1710.32	J/mol×K	1396.06	Joback Method
dvisc	0.0001399	Pa×s	633.66	Joback Method
dvisc	0.0000682	Pa×s	714.02	Joback Method
dvisc	0.0000385	Pa×s	794.37	Joback Method
dvisc	0.0000241	Pa×s	874.73	Joback Method
dvisc	0.0000163	Pa×s	955.09	Joback Method
dvisc	0.0000118	Pa×s	1035.44	Joback Method
dvisc	0.0000089	Pa×s	1115.80	Joback Method

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C2432908&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

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

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