1,2-Ethanediol, dipropanoate

Other names:	Ethylene glycol, dipropionate
	Ethylene dipropionate
	Ethylene propionate
	Ethylene glycol, dipropanoate ester
	Dipropanoate-1,2-ethandiol
Inchi:	InChI=1S/C8H14O4/c1-3-7(9)11-5-6-12-8(10)4-2/h3-6H2,1-2H3
InchiKey:	UMNVUZRZKPVECS-UHFFFAOYSA-N
Formula:	C8H14O4
SMILES:	CCC(=O)OCCOC(=O)CC
Mol. weight [g/mol]:	174.19
CAS:	123-80-8

Physical Properties

Property code	Value	Unit	Source
gf	-451.36	kJ/mol	Joback Method
hf	-698.05	kJ/mol	Joback Method
hfus	22.05	kJ/mol	Joback Method
hvap	67.59 ± 0.50	kJ/mol	NIST Webbook
hvap	67.60 ± 0.50	kJ/mol	NIST Webbook
log10ws	-0.90		Crippen Method
logp	0.893		Crippen Method
mcvol	138.460	ml/mol	McGowan Method
pc	2787.66	kPa	Joback Method
rinpol	1075.00		NIST Webbook
ripol	1630.00		NIST Webbook
tb	535.02	K	Joback Method
tc	718.73	K	Joback Method
tf	324.24	K	Joback Method
vc	0.531	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	322.22	J/mol×K	535.02	Joback Method

cpg	333.68	J/mol×K	565.64	Joback Method
cpg	344.72	J/mol×K	596.26	Joback Method
cpg	355.33	J/mol×K	626.88	Joback Method
cpg	365.50	J/mol×K	657.50	Joback Method
cpg	375.23	J/mol×K	688.12	Joback Method
cpg	384.50	J/mol×K	718.73	Joback Method
cpl	331.80	J/mol×K	298.15	NIST Webbook
dvisc	0.0020386	Pa×s	324.24	Joback Method
dvisc	0.0011847	Pa×s	359.37	Joback Method
dvisc	0.0007583	Pa×s	394.50	Joback Method
dvisc	0.0005222	Pa×s	429.63	Joback Method
dvisc	0.0003804	Pa×s	464.76	Joback Method
dvisc	0.0002898	Pa×s	499.89	Joback Method
dvisc	0.0002287	Pa×s	535.02	Joback Method

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C123808&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
McGowan Method: http://link.springer.com/article/10.1007/BF02311772

Legend

cpg: Ideal gas heat capacity
cpl: Liquid phase 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
ripol: Polar retention indices

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