Butanoic acid, 2-hydroxy-, methyl ester

Other names:	Butyric acid, 2-hydroxy-, methyl ester
	Methyl «alpha»-hydroxybutyrate
	Methyl ester of 2-hydroxy-butanoic acid
	Methyl 2-hydroxybutanoate
	Methyl 2-hydroxybutyrate
Inchi:	InChI=1S/C5H10O3/c1-3-4(6)5(7)8-2/h4,6H,3H2,1-2H3
InchiKey:	DDMCDMDOHABRHD-UHFFFAOYSA-N
Formula:	C5H10O3
SMILES:	CCC(O)C(=O)OC
Mol. weight [g/mol]:	118.13
CAS:	29674-47-3

Physical Properties

Property code	Value	Unit	Source
gf	-381.96	kJ/mol	Joback Method
hf	-548.84	kJ/mol	Joback Method
hfus	12.06	kJ/mol	Joback Method
hvap	52.17	kJ/mol	Joback Method
log10ws	-0.15		Crippen Method
logp	-0.070		Crippen Method
mcvol	94.620	ml/mol	McGowan Method
pc	4151.61	kPa	Joback Method
ripol	1365.00		NIST Webbook
ripol	1361.00		NIST Webbook
ripol	1361.00		NIST Webbook
tb	481.83	K	Joback Method
tc	657.66	K	Joback Method
tf	264.09	K	Joback Method
vc	0.352	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	204.80	J/mol×K	481.83	Joback Method

cpg	212.77	J/mol×K	511.13	Joback Method
cpg	220.46	J/mol×K	540.44	Joback Method
cpg	227.87	J/mol×K	569.74	Joback Method
cpg	235.00	J/mol×K	599.05	Joback Method
cpg	241.86	J/mol×K	628.35	Joback Method
cpg	248.43	J/mol×K	657.66	Joback Method
dvisc	0.0255824	Pa×s	264.09	Joback Method
dvisc	0.0067671	Pa×s	300.38	Joback Method
dvisc	0.0023843	Pa×s	336.67	Joback Method
dvisc	0.0010292	Pa×s	372.96	Joback Method
dvisc	0.0005156	Pa×s	409.25	Joback Method
dvisc	0.0002891	Pa×s	445.54	Joback Method
dvisc	0.0001769	Pa×s	481.83	Joback Method

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C29674473&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
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
ripol: Polar retention indices
tb: Normal Boiling Point Temperature
tc: Critical Temperature
tf: Normal melting (fusion) point

vc: Critical Volume