Acetic acid, dimethoxy-, methyl ester

Other names:	Glyoxylic acid, methyl ester, 2-(dimethyl acetal)
	Dimethoxyacetic acid methyl ester
	Glyoxylic acid methyl ester dimethyl acetal
	Methyl dimethoxyacetate
	Methyl glyoxylate,dimethyl acetal
	Methyl 2,2-dimethoxyacetate
Inchi:	InChI=1S/C5H10O4/c1-7-4(6)5(8-2)9-3/h5H,1-3H3
InchiKey:	NZTCVGHPDWAALP-UHFFFAOYSA-N
Formula:	C5H10O4
SMILES:	COC(=O)C(OC)OC
Mol. weight [g/mol]:	134.13
CAS:	89-91-8

Physical Properties

Property code	Value	Unit	Source
gf	-455.14	kJ/mol	Joback Method
hf	-661.05	kJ/mol	Joback Method
hfus	10.35	kJ/mol	Joback Method
hvap	40.31	kJ/mol	Joback Method
log10ws	0.44		Crippen Method
logp	-0.222		Crippen Method
mcvol	100.490	ml/mol	McGowan Method
pc	3551.53	kPa	Joback Method
ripol	1442.00		NIST Webbook
ripol	1442.00		NIST Webbook
tb	434.49	K	Joback Method
tc	616.90	K	Joback Method
tf	247.73	K	Joback Method
vc	0.369	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	205.23	J/mol×K	434.49	Joback Method

cpg	246.36	J/mol×K	586.50	Joback Method
cpg	238.50	J/mol×K	556.10	Joback Method
cpg	230.43	J/mol×K	525.69	Joback Method
cpg	222.18	J/mol×K	495.29	Joback Method
cpg	213.77	J/mol×K	464.89	Joback Method
cpg	254.00	J/mol×K	616.90	Joback Method
dvisc	0.0002062	Pa×s	434.49	Joback Method
dvisc	0.0002659	Pa×s	403.36	Joback Method
dvisc	0.0003578	Pa×s	372.24	Joback Method
dvisc	0.0005083	Pa×s	341.11	Joback Method
dvisc	0.0007746	Pa×s	309.98	Joback Method
dvisc	0.0012971	Pa×s	278.86	Joback Method
dvisc	0.0024722	Pa×s	247.73	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	340.20	K	2.40	NIST Webbook

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=C89918&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
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume