Ethane, 1,1,2-trimethoxy-

Other names: Methoxyacetaldehyde dimethyl acetal
2-Methoxyacetaldehyde dimethyl acetal
1,1,2-Trimethoxyethane
Inchi: InChI=1S/C5H12O3/c1-6-4-5(7-2)8-3/h5H,4H2,1-3H3
InchiKey: DYOZNCVZPFIXLU-UHFFFAOYSA-N
Formula: C5H12O3
SMILES: COCC(OC)OC
Mol. weight [g/mol]: 120.15
CAS: 24332-20-5

Physical Properties

Property code	Value	Unit	Source
gf	-326.22	kJ/mol	Joback Method
hf	-548.47	kJ/mol	Joback Method
hfus	8.75	kJ/mol	Joback Method
hvap	33.57	kJ/mol	Joback Method
log10ws	0.22		Crippen Method
logp	0.252		Crippen Method
mcvol	98.920	ml/mol	McGowan Method
pc	3299.15	kPa	Joback Method
tb	380.62	K	Joback Method
tc	550.72	K	Joback Method
tf	197.80	K	Joback Method
vc	0.363	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	190.90	J/mol×K	380.62	Joback Method
cpg	199.54	J/mol×K	408.97	Joback Method
cpg	208.09	J/mol×K	437.32	Joback Method
cpg	216.53	J/mol×K	465.67	Joback Method
cpg	224.83	J/mol×K	494.02	Joback Method
cpg	232.99	J/mol×K	522.37	Joback Method

cpg	240.98	J/mol×K	550.72	Joback Method
dvisc	0.0031901	Pa×s	197.80	Joback Method
dvisc	0.0014335	Pa×s	228.27	Joback Method
dvisc	0.0007777	Pa×s	258.74	Joback Method
dvisc	0.0004800	Pa×s	289.21	Joback Method
dvisc	0.0003248	Pa×s	319.68	Joback Method
dvisc	0.0002352	Pa×s	350.15	Joback Method
dvisc	0.0001794	Pa×s	380.62	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	330.70	K	7.50	NIST Webbook

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C24332205&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
tb: Normal Boiling Point Temperature

tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume