1,1-Dimethoxyethane

Inchi: InChI=1S/C4H10O2/c1-4(5-2)6-3/h4H,1-3H3
InchiKey: SPEUIVXLLWOEMJ-UHFFFAOYSA-N
Formula: C4H10O2
SMILES: COC(C)OC
Mol. weight [g/mol]: 90.12
CAS: 25154-53-4

Physical Properties

Property code	Value	Unit	Source
chg	-2613.50 ± 0.79	kJ/mol	NIST Webbook
gf	-229.64	kJ/mol	Joback Method
hf	-389.70 ± 0.84	kJ/mol	NIST Webbook
hfl	-419.99 ± 0.84	kJ/mol	NIST Webbook
hfus	4.97	kJ/mol	Joback Method
hvap	28.93	kJ/mol	Joback Method
log10ws	-0.28		Crippen Method
logp	0.625		Crippen Method
mcvol	78.960	ml/mol	McGowan Method
pc	3773.04	kPa	Joback Method
tb	335.32	K	Joback Method
tc	504.58	K	Joback Method
tf	164.30	K	Joback Method
vc	0.289	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	136.91	J/mol×K	335.32	Joback Method
cpg	171.73	J/mol×K	476.37	Joback Method
cpg	164.99	J/mol×K	448.16	Joback Method
cpg	158.12	J/mol×K	419.95	Joback Method
cpg	151.14	J/mol×K	391.74	Joback Method
cpg	144.07	J/mol×K	363.53	Joback Method
cpg	178.35	J/mol×K	504.58	Joback Method

dvisc	0.0001930	Pa×s	335.32	Joback Method
dvisc	0.0002524	Pa×s	306.82	Joback Method
dvisc	0.0003489	Pa×s	278.31	Joback Method
dvisc	0.0005190	Pa×s	249.81	Joback Method
dvisc	0.0008554	Pa×s	221.31	Joback Method
dvisc	0.0016342	Pa×s	192.80	Joback Method
dvisc	0.0039085	Pa×s	164.30	Joback Method

Sources

KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1049
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=C25154534&Units=SI

Legend

chg:	Standard gas enthalpy of combustion
cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase 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