1,2-Ethanediol, diformate

Other names:	Ethylene glycol, diformate
	Ethylene formate
	Glycol, diformate
	1,2-Diformyloxyethane
	Formic acid, ethylene ester
	Ethanediol diformate
	ethylene diformate
Inchi:	InChI=1S/C4H6O4/c5-3-7-1-2-8-4-6/h3-4H,1-2H2
InchiKey:	IKCQWKJZLSDDSS-UHFFFAOYSA-N
Formula:	C4H6O4
SMILES:	O=COCCOC=O
Mol. weight [g/mol]:	118.09
CAS:	629-15-2

Physical Properties

Property code	Value	Unit	Source
gf	-426.24	kJ/mol	Joback Method
hf	-561.49	kJ/mol	Joback Method
hfus	13.07	kJ/mol	Joback Method
hvap	42.76	kJ/mol	Joback Method
log10ws	0.78		Crippen Method
logp	-0.668		Crippen Method
mcvol	82.100	ml/mol	McGowan Method
pc	4516.42	kPa	Joback Method
tb	448.00 ± 1.00	K	NIST Webbook
tc	614.84	K	Joback Method
tf	263.30	K	Joback Method
vc	0.330	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	164.07	J/mol×K	433.08	Joback Method
cpg	192.66	J/mol×K	584.55	Joback Method

cpg	187.23	J/mol×K	554.25	Joback Method
cpg	181.65	J/mol×K	523.96	Joback Method
cpg	175.92	J/mol×K	493.67	Joback Method
cpg	170.05	J/mol×K	463.37	Joback Method
cpg	197.92	J/mol×K	614.84	Joback Method
dvisc	0.0003400	Pa×s	433.08	Joback Method
dvisc	0.0004205	Pa×s	404.78	Joback Method
dvisc	0.0005369	Pa×s	376.49	Joback Method
dvisc	0.0007134	Pa×s	348.19	Joback Method
dvisc	0.0009967	Pa×s	319.89	Joback Method
dvisc	0.0014859	Pa×s	291.60	Joback Method
dvisc	0.0024139	Pa×s	263.30	Joback Method

Sources

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=C629152&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

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