Acetic acid, hydroxy-

Other names:	2-Hydroxyacetic acid
	2-hydroxyethanoic acid
	ALPHA-HYDROXYACETIC ACID
	GLYCOLIC ACID
	GLYCOLLIC ACID
	HOCH2COOH
	HYDROXYACETIC ACID
	Kyselina glykolova
	Kyselina hydroxyoctova
	NSC 166
	hydroxyethanoic acid
	«alpha»-Hydroxyacetic acid
Inchi:	InChI=1S/C2H4O3/c3-1-2(4)5/h3H,1H2,(H,4,5)
InchiKey:	AEMRFAOFKBGASW-UHFFFAOYSA-N
Formula:	C2H4O3
SMILES:	O=C(O)CO
Mol. weight [g/mol]:	76.05
CAS:	79-14-1

Physical Properties

Property code	Value	Unit	Source
gf	-436.60	kJ/mol	Joback Method
hf	-501.65	kJ/mol	Joback Method
hfus	10.71	kJ/mol	Joback Method
hvap	60.15	kJ/mol	Joback Method
log10ws	0.98		Crippen Method
logp	-0.937		Crippen Method
mcvol	52.350	ml/mol	McGowan Method
pc	7393.34	kPa	Joback Method
tb	483.39	K	Joback Method
tc	653.36	K	Joback Method
tf	350.75	K	Thermodynamic equilibrium of hydroxyacetic acid in pure and binary solvent systems
vc	0.192	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	123.97	J/mol×K	653.36	Joback Method
cpg	104.94	J/mol×K	483.39	Joback Method
cpg	108.47	J/mol×K	511.72	Joback Method
cpg	111.85	J/mol×K	540.05	Joback Method
cpg	115.09	J/mol×K	568.37	Joback Method
cpg	118.19	J/mol×K	596.70	Joback Method
cpg	121.14	J/mol×K	625.03	Joback Method
dvisc	0.0001395	Pa×s	483.39	Joback Method
dvisc	0.0611762	Pa×s	283.87	Joback Method
dvisc	0.0130420	Pa×s	317.12	Joback Method
dvisc	0.0037283	Pa×s	350.38	Joback Method
dvisc	0.0013242	Pa×s	383.63	Joback Method
dvisc	0.0005548	Pa×s	416.88	Joback Method
dvisc	0.0002643	Pa×s	450.14	Joback Method
hvapt	51.80	kJ/mol	362.50	NIST Webbook

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Isopropanol dehydration via extractive distillation using low transition temperature mixtures as entrainers: https://www.doi.org/10.1016/j.jct.2015.02.003

KDB: https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=971

Thermophysical Properties and Solubility of Different Sugar-Derived Molecules in Deep Eutectic Solvents: https://www.doi.org/10.1021/acs.jced.7b00184

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C79141&Units=SI

Low transition temperature mixtures (LTTMs) as novel entrainers in extractive distillation: https://www.doi.org/10.1016/j.fluid.2014.10.044

Thermodynamic equilibrium of hydroxyacetic acid in pure and binary solvent systems: https://www.doi.org/10.1016/j.jct.2017.01.004

Acetonitrile Dehydration via Extractive Distillation Using Low Transition Temperature Mixtures as Entrainers: https://www.doi.org/10.1021/acs.jced.8b00228

Joback Method: https://en.wikipedia.org/wiki/Joback_method

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
hvapt:	Enthalpy of vaporization at a given temperature
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