

2-Chloroethanol

Other names:	1-chloro-2-hydroxyethane 2-Chloorethanol 2-Chloraethanol 2-Chlorethanol 2-Chloro-1-ethanol 2-Chloro-1-hydroxyethane 2-Chloroethyl alcohol 2-Cloroetano 2-Hydroxyethyl chloride 2-Monochloroethanol Aethylenchlorhydrin CH ₂ ClCH ₂ OH Chloroethanol Ethanol, 2-chloro- Ethene, chlorohydrin Ethylchlorohydrin Ethyleen-chloorhydrine Ethylene chlorhydrin Glicol monocloridrina Glycol chlorohydrin Glycol monochlorohydrin Glycolmonochloorhydrine Glycomonochlorhydrin NCI-C50135 NSC 122289 UN 1135 Z-Chloroethanol ethane, 1-chloro-2-hydroxy- ethylene chlorohydrin ethylene glycol, chlorohydrin «beta»-Chloroethanol «beta»-Chloroethyl alcohol «beta»-Hydroxyethyl chloride
Inchi:	InChI=1S/C2H5ClO/c3-1-2-4/h4H,1-2H2
InchiKey:	SZIFAVKTNFCBPC-UHFFFAOYSA-N
Formula:	C ₂ H ₅ ClO
SMILES:	OCCCl
Mol. weight [g/mol]:	80.51
CAS:	107-07-3

Physical Properties

Property code	Value	Unit	Source
affp	766.10	kJ/mol	NIST Webbook
basg	735.70	kJ/mol	NIST Webbook
chl	-1191.40	kJ/mol	NIST Webbook
gf	-182.79	kJ/mol	Joback Method
hf	-252.58	kJ/mol	Joback Method
hfus	9.22	kJ/mol	Joback Method
hvap	48.30 ± 0.40	kJ/mol	NIST Webbook
hvap	41.40 ± 0.03	kJ/mol	NIST Webbook
ie	10.50	eV	NIST Webbook
ie	10.90	eV	NIST Webbook
ie	10.90	eV	NIST Webbook
ie	10.91	eV	NIST Webbook
ie	10.95	eV	NIST Webbook
ie	10.91	eV	NIST Webbook
ie	10.90	eV	NIST Webbook
ie	10.66	eV	NIST Webbook
log10ws	-0.08		Crippen Method
logp	0.218		Crippen Method
mcvol	57.150	ml/mol	McGowan Method
pc	5446.55	kPa	Joback Method
rinpol	638.00		NIST Webbook
rinpol	614.00		NIST Webbook
rinpol	680.00		NIST Webbook
rinpol	606.00		NIST Webbook
rinpol	600.00		NIST Webbook
rinpol	602.00		NIST Webbook
rinpol	607.00		NIST Webbook
rinpol	629.00		NIST Webbook
rinpol	640.00		NIST Webbook
rinpol	653.00		NIST Webbook
rinpol	640.00		NIST Webbook
rinpol	635.00		NIST Webbook
rinpol	633.00		NIST Webbook
rinpol	643.00		NIST Webbook
rinpol	638.00		NIST Webbook
rinpol	629.00		NIST Webbook
rinpol	623.00		NIST Webbook
rinpol	643.00		NIST Webbook
rinpol	640.00		NIST Webbook

ripol	633.00		NIST Webbook
ripol	633.00		NIST Webbook
ripol	1329.00		NIST Webbook
ripol	1378.00		NIST Webbook
ripol	1369.00		NIST Webbook
ripol	1385.00		NIST Webbook
ripol	1400.00		NIST Webbook
ripol	1394.00		NIST Webbook
ripol	1396.00		NIST Webbook
ripol	1379.00		NIST Webbook
ripol	1329.00		NIST Webbook
ripol	1357.00		NIST Webbook
ripol	1369.00		NIST Webbook
ripol	1358.00		NIST Webbook
ripol	1386.00		NIST Webbook
ripol	1372.00		NIST Webbook
tb	401.20	K	NIST Webbook
tb	401.80 ± 0.60	K	NIST Webbook
tb	401.75 ± 0.30	K	NIST Webbook
tb	401.75 ± 0.30	K	NIST Webbook
tb	401.80 ± 0.50	K	NIST Webbook
tb	401.15 ± 0.30	K	NIST Webbook
tb	401.85	K	NIST Webbook
tb	405.15 ± 0.50	K	NIST Webbook
tb	401.75 ± 0.30	K	NIST Webbook
tc	545.41	K	Joback Method
tf	204.15 ± 0.50	K	NIST Webbook
tf	204.20 ± 1.50	K	NIST Webbook
tf	205.65 ± 0.40	K	NIST Webbook
tf	210.55	K	NIST Webbook
vc	0.215	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	111.90	J/mol×K	545.41	Joback Method
cpg	93.83	J/mol×K	403.21	Joback Method
cpg	97.74	J/mol×K	431.65	Joback Method
cpg	101.50	J/mol×K	460.09	Joback Method
cpg	105.11	J/mol×K	488.53	Joback Method
cpg	108.58	J/mol×K	516.97	Joback Method

cpg	89.75	J/molxK	374.77	Joback Method
dvisc	0.0007625	Paxs	346.15	Joback Method
dvisc	0.0014206	Paxs	317.53	Joback Method
dvisc	0.0029941	Paxs	288.90	Joback Method
dvisc	0.0074352	Paxs	260.28	Joback Method
dvisc	0.0231161	Paxs	231.66	Joback Method
dvisc	0.0004500	Paxs	374.77	Joback Method
dvisc	0.0989526	Paxs	203.04	Joback Method
hvapt	46.90	kJ/mol	343.00	NIST Webbook
hvapt	45.70	kJ/mol	335.00	NIST Webbook
hvapt	39.10	kJ/mol	383.00	NIST Webbook
hvapt	43.30	kJ/mol	364.50	NIST Webbook
pvap	95.30	kPa	399.89	Activity Coefficients and Excess Gibbs Energies for Binary Mixtures of N-Methyl-2-pyrrolidone with Some Substituted Ethanols
rfi	1.43260		308.15	Density, Viscosity, Refractive Index, and Speed of Sound for Binary Mixtures of 1,4-Dioxane with Different Organic Liquids at (298.15, 303.15, and 308.15) K
rfi	1.43260		308.15	Density, Viscosity, Refractive Index, and Speed of Sound for Binary Mixtures of Anisole with 2-Chloroethanol, 1,4-Dioxane, Tetrachloroethylene, Tetrachloroethane, DMF, DMSO, and Diethyl Oxalate at (298.15, 303.15, and 308.15) K

rfi	1.43800		303.15	Density, Viscosity, Refractive Index, and Speed of Sound for Binary Mixtures of 1,4-Dioxane with Different Organic Liquids at (298.15, 303.15, and 308.15) K
rfi	1.44110		298.15	Density, Viscosity, Refractive Index, and Speed of Sound for Binary Mixtures of 1,4-Dioxane with Different Organic Liquids at (298.15, 303.15, and 308.15) K
rfi	1.43800		303.15	Density, Viscosity, Refractive Index, and Speed of Sound for Binary Mixtures of Anisole with 2-Chloroethanol, 1,4-Dioxane, Tetrachloroethylene, Tetrachloroethane, DMF, DMSO, and Diethyl Oxalate at (298.15, 303.15, and 308.15) K
rfi	1.44110		298.15	Density, Viscosity, Refractive Index, and Speed of Sound for Binary Mixtures of Anisole with 2-Chloroethanol, 1,4-Dioxane, Tetrachloroethylene, Tetrachloroethane, DMF, DMSO, and Diethyl Oxalate at (298.15, 303.15, and 308.15) K
rhoI	1178.05	kg/m3	313.15	Volumetric, acoustic and spectroscopic properties of 3-chloroaniline with substituted ethanols at various temperatures

rhoI	1186.63	kg/m3	308.15	Volumetric, acoustic and spectroscopic properties of 3-chloroaniline with substituted ethanols at various temperatures
rhoI	1192.12	kg/m3	303.15	Volumetric, acoustic and spectroscopic properties of 3-chloroaniline with substituted ethanols at various temperatures
rhoI	1170.87	kg/m3	318.15	Volumetric, acoustic and spectroscopic properties of 3-chloroaniline with substituted ethanols at various temperatures

Sources

Joback Method:	https://en.wikipedia.org/wiki/Joback_method
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C107073&Units=SI
Volumetric, acoustic and spectroscopic properties of 3-chloroaniline with substituted ethanols at various temperatures:	https://www.doi.org/10.1016/j.jct.2015.11.012
Activity Coefficients and Excess Gibbs Energies for Binary Mixtures of Methyl-2-Pyrrolidone with Some Substituted Ethanols:	https://www.chemeo.com/doc/models/crippen_log10ws
McGowan Method:	https://www.doi.org/10.1021/je3002078
Density, Viscosity, Refractive Index, and Speed of Sound for Binary Mixtures of Anisole with 2-Chloroethanol, 1,4-Dioxane, and 1,2-Dichloroethane:	http://link.springer.com/article/10.1007/BF02311772
Refractive Index, Viscosity, Refractive Index, and Speed of Sound for Binary Mixtures of L-L-Dioxane with Different Organic Liquids at (298.15, 303.15, and 308.15) K:	https://www.doi.org/10.1021/je049610v http://pubs.acs.org/doi/abs/10.1021/ci9903071 https://www.doi.org/10.1021/je049609w

Legend

affp:	Proton affinity
basg:	Gas basicity
chl:	Standard liquid 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
hfus:	Enthalpy of fusion at standard conditions
hvac:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rfi:	Refractive Index
rho:	Liquid Density
rnpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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