Ethanol, 2-(ethylamino)-

Other names:	(2-Hydroxyethyl)ethylamine
	2-(Ethylamino)ethanol
	2-(N-Ethylamino)ethanol
	2-Ethylamino-1-ethanol
	2-N-Monoethylaminoethanol
	2-ethylaminoethanol
	Ethyl-2-hydroxyethylamine
	Ethylaminoethanol
	Monoethylaminoethanol
	N-Ethyl-2-aminoethanol
	N-Ethyl-2-hydroxyethylamine
	N-Ethyl-N-(2-hydroxyethyl)amine
	N-Ethyl-N-(«beta»-hydroxyethyl)amine
	N-Ethyl-N-(Â«betaÂ»-hydroxyethyl)amine
	N-Ethylethanolamine
	N-Ethylmonoethanolamine
Inchi:	InChI=1S/C4H11NO/c1-2-5-3-4-6/h5-6H,2-4H2,1H3
InchiKey:	MIJDSYMOBYNHOT-UHFFFAOYSA-N
Formula:	C4H11NO
SMILES:	CCNCCO
Mol. weight [g/mol]:	89.14
CAS:	110-73-6

Physical Properties

Property code	Value	Unit	Source
gf	-64.63	kJ/mol	Joback Method
hf	-224.65	kJ/mol	Joback Method
hfus	15.30	kJ/mol	Joback Method
hvap	61.00 ± 0.40	kJ/mol	NIST Webbook
log10ws	0.05		Crippen Method
logp	-0.412		Crippen Method
mcvol	83.070	ml/mol	McGowan Method
pc	4462.28	kPa	Joback Method
rinpol	786.00		NIST Webbook
rinpol	786.00		NIST Webbook
tb	442.70	K	NIST Webbook
tc	600.20	K	Joback Method

tf	248.32	K	Joback Method
vc	0.314	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	170.78	J/mol×K	433.27	Joback Method
cpg	178.68	J/mol×K	461.09	Joback Method
cpg	186.28	J/mol×K	488.91	Joback Method
cpg	193.59	J/mol×K	516.73	Joback Method
cpg	200.61	J/mol×K	544.55	Joback Method
cpg	207.36	J/mol×K	572.38	Joback Method
cpg	213.83	J/mol×K	600.20	Joback Method
pvap	0.37	kPa	321.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.02	kPa	284.50	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.03	kPa	287.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.03	kPa	290.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.04	kPa	293.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.06	kPa	296.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.08	kPa	299.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines

pvap	0.09	kPa	302.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.12	kPa	305.50	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.12	kPa	306.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.15	kPa	308.50	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.16	kPa	309.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.02	kPa	282.50	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.21	kPa	312.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.25	kPa	315.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.30	kPa	318.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.19	kPa	311.50	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
rhol	916.80	kg/m3	293.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture

rhol	909.70	kg/m3	303.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rhol	901.30	kg/m3	313.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rhol	894.70	kg/m3	323.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rhol	887.20	kg/m3	333.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rhol	913.39	kg/m3	298.15	Densities and Viscosities of Aqueous Ternary Mixtures of 2-(Methylamino)ethanol and 2-(Ethylamino)ethanol with Diethanolamine, Triethanolamine, N-Methyldiethanolamine, or 2-Amino-1-methyl-1-propanol from 298.15 to 323.15 K

rhol	909.40	kg/m3	303.15	Densities and Viscosities of Aqueous Ternary Mixtures of 2-(Methylamino)ethanol and 2-(Ethylamino)ethanol with Diethanolamine, Triethanolamine, N-Methyldiethanolamine, or 2-Amino-1-methyl-1-propanol from 298.15 to 323.15 K
rhol	905.40	kg/m3	308.15	Densities and Viscosities of Aqueous Ternary Mixtures of 2-(Methylamino)ethanol and 2-(Ethylamino)ethanol with Diethanolamine, Triethanolamine, N-Methyldiethanolamine, or 2-Amino-1-methyl-1-propanol from 298.15 to 323.15 K
rhol	901.39	kg/m3	313.15	Densities and Viscosities of Aqueous Ternary Mixtures of 2-(Methylamino)ethanol and 2-(Ethylamino)ethanol with Diethanolamine, Triethanolamine, N-Methyldiethanolamine, or 2-Amino-1-methyl-1-propanol from 298.15 to 323.15 K
rhol	897.34	kg/m3	318.15	Densities and Viscosities of Aqueous Ternary Mixtures of 2-(Methylamino)ethanol and 2-(Ethylamino)ethanol with Diethanolamine, Triethanolamine, N-Methyldiethanolamine, or 2-Amino-1-methyl-1-propanol from 298.15 to 323.15 K

rhol	893.27	kg/m3	323.15	Densities and Viscosities of Aqueous Ternary Mixtures of 2-(Methylamino)ethanol and 2-(Ethylamino)ethanol with Diethanolamine, Triethanolamine, N-Methyldiethanolamine, or 2-Amino-1-methyl-1-propanol from 298.15 to 323.15 K
rhol	917.79	kg/m3	293.15	Density, Speed of Sound, Viscosity, and Excess Properties of N-Ethyl-2-pyrrolidone + 2-(Methylamino)ethanol [or 2-(Ethylamino)ethanol] from T = (293.15 to 323.15) K
rhol	909.82	kg/m3	303.15	Density, Speed of Sound, Viscosity, and Excess Properties of N-Ethyl-2-pyrrolidone + 2-(Methylamino)ethanol [or 2-(Ethylamino)ethanol] from T = (293.15 to 323.15) K
rhol	901.79	kg/m3	313.15	Density, Speed of Sound, Viscosity, and Excess Properties of N-Ethyl-2-pyrrolidone + 2-(Methylamino)ethanol [or 2-(Ethylamino)ethanol] from T = (293.15 to 323.15) K
rhol	893.68	kg/m3	323.15	Density, Speed of Sound, Viscosity, and Excess Properties of N-Ethyl-2-pyrrolidone + 2-(Methylamino)ethanol [or 2-(Ethylamino)ethanol] from T = (293.15 to 323.15) K

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.61126e+01
Coeff. B	-4.35050e+03
Coeff. C	-6.42070e+01
Temperature range (K), min.	339.12
Temperature range (K), max.	466.99

Sources

Solubility of Carbon Dioxide in Aqueous Solutions of Three Secondary Amines: 2-(Butylamino)ethanol, 2-(Isopropylamino)ethanol, and 2-(Ethylamino)ethanol Secondary Alkanolamine Solutions:	https://www.doi.org/10.1021/acs.jced.7b00364
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Density, Viscosity, and Refractive Index of Aqueous CO2-Loaded and Unloaded Ethylaminoethanol (EAE) Solutions from 293.15 to 323.15 K for Post Combustion CO2 Capture:	https://www.doi.org/10.1021/acs.jced.7b00586
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Experiment and model for the viscosity of carbonated 3-(dimethylamino)propan-1-ol and 2-(ethylamino)ethanol blended aqueous solutions:	https://www.chemeo.com/doc/models/crippen_log10ws
McGowan Method:	https://www.doi.org/10.1016/j.jct.2019.02.023
Surface Tension of Aqueous Binary Mixtures of 2-(Methylamino)ethanol and 2-(Ethylamino)ethanol and Aqueous Solutions of These Amines with Triethanolamine or N-Methyldiethanolamine from (293.15 to 323.15) K:	http://link.springer.com/article/10.1007/BF02311772
An experimental and modeling study of physical N2O solubility in 2-(Methylamino)ethanol:	https://www.doi.org/10.1021/je700536m
Joback Method:	https://www.doi.org/10.1016/j.jct.2019.06.008
Density, Speed of Sound, Viscosity, and Excess Properties of N-Ethyl-2-pyrrolidone + monoethylethanolamine + H2O and 2-(Methylamino)ethanol or 2-(Ethylamino)ethanol from T = (293.15 to 323.15) K:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C110736&Units=SI
Density and viscosity of monoethylethanolamine + H2O and 2-(Methylamino)ethanol or 2-(Ethylamino)ethanol from T = (293.15 to 323.15) K:	https://en.wikipedia.org/wiki/Joback_method
Vapor Pressures and Vaporization Enthalpies of a Series of Cyclic Amines:	https://www.doi.org/10.1021/je500917k
Densities and Viscosities of Aqueous Ternary Mixtures of 2-(Methylamino)ethanol and 2-(Ethylamino)ethanol with Diethanolamine, Triethanolamine, N-Methyldiethanolamine, or 2-Amino-1-methyl-1-propanol from 298.15 to 323.15 K:	https://www.doi.org/10.1016/j.tca.2016.08.021
	https://www.doi.org/10.1021/je049761y
	https://www.doi.org/10.1021/je050463q

Legend

cpg:	Ideal gas heat capacity
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
pvap:	Vapor pressure
rhol:	Liquid Density
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume