

Ethanol, 2-[(2-aminoethyl)amino]-

Other names:	(2-Aminoethyl)ethanolamine (2-Hydroxyethyl)ethylenediamine («beta»-Hydroxyethyl)ethylenediamine 1-Aminoethyl ethanolamine 1-[2-(Hydroxyethyl)amino]-2-aminoethane 2-(2-Hydroxyethylamino)ethylamine 2-(2-aminoethylamino)ethanol 2-Amino-2'-hydroxydiethylamine 2-[(2-Aminoethyl)amino]ethanol Aminoethylethanolamine Ethanoethylene diamine Monoethanoethylenediamine N-(2'-Hydroxyethyl)ethylenediamine N-(2-Hydroxyethyl)-1,2-ethanediamine N-(2-Hydroxyethyl)ethylenediamine N-(2-aminoethyl)ethanolamine N-(Aminoethyl)ethanolamine N-(Hydroxyethyl)ethylenediamine N-(«beta»-Aminoethyl)ethanolamine N-(«beta»-Hydroxyethyl)ethylenediamine N-Hydroxyethyl-1,2-ethanediamine NSC 461 ethanolamine, N-(2-aminoethyl)- ethylenediamine, N-.beta.-hydroxyethyl- «beta»-Aminoethyl-«beta»-hydroxyethylamine
Inchi:	InChI=1S/C4H12N2O/c5-1-2-6-3-4-7/h6-7H,1-5H2
InchiKey:	LHIJANUOQQMGNT-UHFFFAOYSA-N
Formula:	C4H12N2O
SMILES:	NCCNCCO
Mol. weight [g/mol]:	104.15
CAS:	111-41-1

Physical Properties

Property code	Value	Unit	Source
gf	1.82	kJ/mol	Joback Method
hf	-190.86	kJ/mol	Joback Method

hfus	20.50	kJ/mol	Joback Method
hvap	58.25	kJ/mol	Joback Method
log10ws	0.62		Crippen Method
logp	-1.473		Crippen Method
mcvol	93.050	ml/mol	McGowan Method
pc	4822.53	kPa	Joback Method
ripol	1072.00		NIST Webbook
ripol	1920.00		NIST Webbook
ripol	1965.00		NIST Webbook
ripol	1955.00		NIST Webbook
tb	516.95	K	NIST Webbook
tb	512.00 ± 1.00	K	NIST Webbook
tc	684.47	K	Joback Method
tf	331.58	K	Joback Method
vc	0.343	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	218.86	J/mol×K	505.80	Joback Method
cpg	227.25	J/mol×K	535.58	Joback Method
cpg	235.27	J/mol×K	565.36	Joback Method
cpg	242.94	J/mol×K	595.14	Joback Method
cpg	250.25	J/mol×K	624.91	Joback Method
cpg	257.23	J/mol×K	654.69	Joback Method
cpg	263.89	J/mol×K	684.47	Joback Method
cpl	286.00	J/mol×K	318.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K
cpl	284.00	J/mol×K	308.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K
cpl	285.00	J/mol×K	313.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K

cpl	295.00	J/mol×K	348.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K
cpl	293.00	J/mol×K	343.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K
cpl	292.00	J/mol×K	338.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K
cpl	279.00	J/mol×K	303.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K
cpl	289.00	J/mol×K	328.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K
cpl	287.00	J/mol×K	323.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K
cpl	290.00	J/mol×K	333.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K
cpl	296.00	J/mol×K	353.15	Molar Heat Capacity of Various Aqueous Alkanolamine Solutions from 303.15 K to 353.15 K

dvisc	0.1536200	Pa×s	293.15	Experimental Data and Modeling for Viscosity and Refractive Index of Aqueous Mixtures with 2-(Methylamino)ethanol (MAE) and Aminoethylethanolamine (AEEA)
dvisc	0.0127400	Pa×s	333.15	Experimental Data and Modeling for Viscosity and Refractive Index of Aqueous Mixtures with 2-(Methylamino)ethanol (MAE) and Aminoethylethanolamine (AEEA)
dvisc	0.0164300	Pa×s	328.15	Experimental Data and Modeling for Viscosity and Refractive Index of Aqueous Mixtures with 2-(Methylamino)ethanol (MAE) and Aminoethylethanolamine (AEEA)
dvisc	0.0282300	Pa×s	318.15	Experimental Data and Modeling for Viscosity and Refractive Index of Aqueous Mixtures with 2-(Methylamino)ethanol (MAE) and Aminoethylethanolamine (AEEA)
dvisc	0.0376700	Pa×s	313.15	Experimental Data and Modeling for Viscosity and Refractive Index of Aqueous Mixtures with 2-(Methylamino)ethanol (MAE) and Aminoethylethanolamine (AEEA)

dvisc	0.0529400	Pa×s	308.15	Experimental Data and Modeling for Viscosity and Refractive Index of Aqueous Mixtures with 2-(Methylamino)ethanol (MAE) and Aminoethylethanolamine (AEEA)
dvisc	0.0713100	Pa×s	303.15	Experimental Data and Modeling for Viscosity and Refractive Index of Aqueous Mixtures with 2-(Methylamino)ethanol (MAE) and Aminoethylethanolamine (AEEA)
dvisc	0.0992700	Pa×s	298.15	Experimental Data and Modeling for Viscosity and Refractive Index of Aqueous Mixtures with 2-(Methylamino)ethanol (MAE) and Aminoethylethanolamine (AEEA)
dvisc	0.0215500	Pa×s	323.15	Experimental Data and Modeling for Viscosity and Refractive Index of Aqueous Mixtures with 2-(Methylamino)ethanol (MAE) and Aminoethylethanolamine (AEEA)
hvapt	62.80	kJ/mol	450.00	NIST Webbook
pvap	0.02	kPa	335.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.03	kPa	344.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.04	kPa	345.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines

pvap	0.04	kPa	347.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.05	kPa	350.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.06	kPa	353.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.08	kPa	356.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.10	kPa	359.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.03	kPa	341.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.11	kPa	362.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.14	kPa	365.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.17	kPa	368.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.20	kPa	371.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines

pvap	0.23	kPa	373.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.24	kPa	374.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	6.47e-03	kPa	323.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	6.52e-03	kPa	323.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.03	kPa	341.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	6.81e-03	kPa	324.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	7.11e-03	kPa	324.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	8.20e-03	kPa	326.10	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	8.09e-03	kPa	326.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.03	kPa	344.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines

pvap	0.01	kPa	329.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.01	kPa	329.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.01	kPa	332.10	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.01	kPa	332.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.02	kPa	335.10	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.02	kPa	338.10	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.02	kPa	338.10	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.02	kPa	336.90	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.02	kPa	335.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.09	kPa	359.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines

rfi	1.47128		333.15	Volumetric Properties, Viscosities, and Refractive Indices for Aqueous 2-((2-Aminoethyl)amino)ethanol Solutions from (298.15 to 343.15) K	
rfi	1.47516		323.15	Volumetric Properties, Viscosities, and Refractive Indices for Aqueous 2-((2-Aminoethyl)amino)ethanol Solutions from (298.15 to 343.15) K	
rfi	1.48269		303.15	Volumetric Properties, Viscosities, and Refractive Indices for Aqueous 2-((2-Aminoethyl)amino)ethanol Solutions from (298.15 to 343.15) K	
rfi	1.48454		298.15	Volumetric Properties, Viscosities, and Refractive Indices for Aqueous 2-((2-Aminoethyl)amino)ethanol Solutions from (298.15 to 343.15) K	
rfi	1.47884		313.15	Volumetric Properties, Viscosities, and Refractive Indices for Aqueous 2-((2-Aminoethyl)amino)ethanol Solutions from (298.15 to 343.15) K	
rhoI	1016.30	kg/m3	308.15	Thermodynamic properties and CO2 solubility of monoethanolamine + diethylenetriamine/aminoethylethanolamine mixtures: Experimental measurements and thermodynamic modeling	

rhoI	1025.80	kg/m3	298.15	Thermodynamic properties and CO2 solubility of monoethanolamine + diethylenetriamine/aminoethylethanolamine mixtures: Experimental measurements and thermodynamic modeling
rhoI	1006.54	kg/m3	323.15	Volumetric and Viscometric Properties of Alcohol Amines + Ethanol Binary Mixtures
rhoI	1014.18	kg/m3	313.15	Volumetric and Viscometric Properties of Alcohol Amines + Ethanol Binary Mixtures
rhoI	1021.45	kg/m3	303.15	Volumetric and Viscometric Properties of Alcohol Amines + Ethanol Binary Mixtures
rhoI	1029.14	kg/m3	293.15	Volumetric and Viscometric Properties of Alcohol Amines + Ethanol Binary Mixtures
rhoI	1021.30	kg/m3	303.15	Thermodynamic properties and CO2 solubility of monoethanolamine + diethylenetriamine/aminoethylethanolamine mixtures: Experimental measurements and thermodynamic modeling

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	512.20	K	100.00	NIST Webbook
tbrp	376.80	K	1.30	NIST Webbook

Sources

Volumetric and Viscometric Properties of Alcohol Amines + Ethanol Binary Mixtures: Excess Enthalpy (HEm) for various Alkanolamine (1) + water (2)}
<https://www.doi.org/10.1021/acs.jced.7b00321>

Volumetric Properties, Viscosities and Refractive Indices for Aqueous 2-((2-Aminoethyl)amino)ethanol and 2-((2-Aminoethyl)amino)ethanol + N-methyldiethanolamine solution and modeling by electrolyte mPR-CPA EoS:
<https://www.doi.org/10.1016/j.jct.2007.03.010>

Experimental Data and Modeling for Viscosity and Refractive Index of McGowan Mixtures with 2-(Methylamino)ethanol (MAE) and 2-(Dimethylamino)ethanol (DMAE): CO₂ solubility of monoethanolamine + 2-(Methylamino)ethanol and 2-(Dimethylamino)ethanol
<https://www.doi.org/10.1021/je060032n>

Absorption System of Measurements and Thermodynamic Modeling: Aqueous Alkanolamine Solutions from 300.15 K to 333.15 K and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines:
<https://www.doi.org/10.1016/j.jct.2013.08.002>
<http://pubs.acs.org/doi/abs/10.1021/ci990307l>
https://www.chemeo.com/doc/models/crippen_log10ws

Measuring and correlating solubility of hydrogen sulfide in aqueous solution
<https://www.doi.org/10.1021/acs.jced.9b00171>

Excess molar enthalpies for binary mixtures of different amines with water:
<http://link.springer.com/article/10.1007/BF02311772>

Measuring solubility of carbon dioxide in aqueous blends of N-methyldiethanolamine and 2-((2-aminoethyl)amino)ethanol at low CO₂ loadings and modelling by electrolyte SAFT-HR EoS:
<https://www.doi.org/10.1016/j.fluid.2017.06.018>
<https://www.doi.org/10.1021/je401028g>
<https://www.doi.org/10.1021/je0604232>
<https://www.doi.org/10.1021/je2002489>
<http://webbook.nist.gov/cgi/cbook.cgi?ID=C111411&Units=SI>

Legend

cpg:	Ideal gas heat capacity
cpl:	Liquid phase 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
pvap:	Vapor pressure
rfi:	Refractive Index
rho:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices

tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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