

# N,N-Diethyl-2-aminoethanol

<b>Other names:</b>	(2-Hydroxyethyl)diethylamine (diethylamino)ethanol 2-(Diethylamino)ethyl alcohol 2-(N,N-Diethylamino)ethanol 2-(diethylamino)ethanol 2-Hydroxytriethylamine 2-diethylaminoethanol A 22 DEAE Diaethylaminoethanol Diethyl(2-hydroxyethyl)amine Diethylethanolamine Diethylmonoethanolamine Ethanol, 2-(diethylamino)- N,N-Diethyl-2-hydroxyethylamine N,N-Diethyl-N-(«beta»-Hydroxyethyl)amine N,N-Diethylaminoethanol N,N-Diethylmonoethanolamine N,N-diethylethanolamine N-(Diethylamino)ethanol NSC 8759 Pennad 150 UN 2686 ethanolamine, N,N-diethyl- «beta»-(Diethylamino)ethanol «beta»-(Diethylamino)ethyl alcohol «beta»-Hydroxytriethylamine
<b>Inchi:</b>	InChI=1S/C6H15NO/c1-3-7(4-2)5-6-8/h8H,3-6H2,1-2H3
<b>InchiKey:</b>	BFSVOASYOCHEOV-UHFFFAOYSA-N
<b>Formula:</b>	C6H15NO
<b>SMILES:</b>	CCN(CC)CCO
<b>Mol. weight [g/mol]:</b>	117.19
<b>CAS:</b>	100-37-8

## Physical Properties

Property code	Value	Unit	Source
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chs	-4195.30 ± 0.54		kJ/mol	NIST Webbook
gf	-26.40		kJ/mol	Joback Method
hf	-251.87		kJ/mol	Joback Method
hfs	-310.00 ± 0.54		kJ/mol	NIST Webbook
hfus	18.41		kJ/mol	Joback Method
hvap	58.50 ± 1.30		kJ/mol	NIST Webbook
hvap	52.50 ± 0.20		kJ/mol	NIST Webbook
ie	8.58 ± 0.03		eV	NIST Webbook
log10ws	-0.17			Crippen Method
logp	0.321			Crippen Method
mcvol	111.250		ml/mol	McGowan Method
pc	3443.98		kPa	Joback Method
rinpol	873.00			NIST Webbook
rinpol	894.00			NIST Webbook
rinpol	873.00			NIST Webbook
tb	436.20		K	NIST Webbook
tb	435.85		K	Isobaric Vapor Liquid Equilibrium for the Binary Systems (Diethylamine + Ethanol), (Ethanol + N,N-Diethylethanolamine), and (Diethylamine + N,N-Diethylethanolamine) at p = (80.0 and 40.0) kPa
tb	162.10		K	NIST Webbook
tb	435.94		K	Isobaric Vapor Liquid Equilibrium for the Binary Systems of Methanol, Diethylamine, and N,N-Diethylethanolamine at p = (60.0 and 101.3) kPa
tb	434.20		K	NIST Webbook
tb	436.00		K	NIST Webbook
tc	601.20		K	Joback Method
tf	250.67		K	Joback Method
vc	0.408		m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	294.23	J/mol×K	601.20	Joback Method
cpg	247.88	J/mol×K	467.95	Joback Method
cpg	257.94	J/mol×K	494.60	Joback Method
cpg	267.59	J/mol×K	521.25	Joback Method
cpg	276.85	J/mol×K	547.90	Joback Method

cpg	285.73	J/mol×K	574.55	Joback Method
cpg	237.40	J/mol×K	441.30	Joback Method
hvapt	48.50	kJ/mol	380.50	NIST Webbook
hvapt	48.50 ± 0.20	kJ/mol	403.50	NIST Webbook
hvapt	45.00 ± 0.20	kJ/mol	403.50	NIST Webbook
hvapt	41.60 ± 0.40	kJ/mol	403.50	NIST Webbook
hvapt	37.80 ± 0.70	kJ/mol	403.50	NIST Webbook
pvap	101.30	kPa	435.94	Isobaric Vapor Liquid Equilibrium for the Binary Systems of Methanol, Diethylamine, and N,N-Diethylethanolamine at p = (60.0 and 101.3) kPa
pvap	0.05	kPa	278.60	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.06	kPa	279.80	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.06	kPa	281.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.07	kPa	282.70	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.08	kPa	284.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.09	kPa	285.10	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.09	kPa	285.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.10	kPa	287.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines

pvap	0.11	kPa	288.00	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.11	kPa	288.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.13	kPa	290.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.14	kPa	291.00	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.15	kPa	292.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.16	kPa	293.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.19	kPa	295.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.20	kPa	296.00	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.20	kPa	296.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.20	kPa	296.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.22	kPa	297.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.23	kPa	298.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines

pvap	0.25	kPa	299.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.29	kPa	301.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.30	kPa	302.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.31	kPa	302.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.35	kPa	304.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.43	kPa	307.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.52	kPa	310.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.63	kPa	313.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.77	kPa	316.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	0.88	kPa	318.30	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	1.94	kPa	333.20	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	2.94	kPa	340.70	Vapor Pressures of Several Commercially Used Alkanolamines

pvap	4.94	kPa	351.00	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	7.44	kPa	359.80	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	0.05	kPa	278.20	Vapor Pressures and Vaporization Enthalpies of a Series of Ethanolamines
pvap	19.90	kPa	383.90	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	29.90	kPa	395.10	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	49.90	kPa	410.50	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	75.00	kPa	423.90	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	100.00	kPa	434.00	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	120.00	kPa	440.90	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	130.00	kPa	443.90	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	150.00	kPa	449.50	Vapor Pressures of Several Commercially Used Alkanolamines

pvap	60.00	kPa	418.34	Isobaric Vapor Liquid Equilibrium for the Binary Systems of Methanol, Diethylamine, and N,N-Diethylethanolamine at p = (60.0 and 101.3) kPa
pvap	9.94	kPa	366.50	Vapor Pressures of Several Commercially Used Alkanolamines
rhoI	884.37	kg/m <sup>3</sup>	293.15	Intermolecular interactions in binary mixtures of 2-diethylethanolamine with 1-propanol and 1-butanol at different temperatures
rhoI	874.93	kg/m <sup>3</sup>	303.15	Intermolecular interactions in binary mixtures of 2-diethylethanolamine with 1-propanol and 1-butanol at different temperatures
rhoI	865.62	kg/m <sup>3</sup>	313.15	Intermolecular interactions in binary mixtures of 2-diethylethanolamine with 1-propanol and 1-butanol at different temperatures
rhoI	891.20	kg/m <sup>3</sup>	293.15	Volumetric and viscometric properties of binary and ternary mixtures of monoethanolamine, 2-(diethylamino) ethanol and water from (293.15 to 333.15) K

rho	874.40	kg/m <sup>3</sup>	303.15	Volumetric and viscometric properties of binary and ternary mixtures of monoethanolamine, 2-(diethylamino) ethanol and water from (293.15 to 333.15) K
rho	865.40	kg/m <sup>3</sup>	313.15	Volumetric and viscometric properties of binary and ternary mixtures of monoethanolamine, 2-(diethylamino) ethanol and water from (293.15 to 333.15) K
rho	856.40	kg/m <sup>3</sup>	323.15	Volumetric and viscometric properties of binary and ternary mixtures of monoethanolamine, 2-(diethylamino) ethanol and water from (293.15 to 333.15) K
rho	845.60	kg/m <sup>3</sup>	333.15	Volumetric and viscometric properties of binary and ternary mixtures of monoethanolamine, 2-(diethylamino) ethanol and water from (293.15 to 333.15) K
rho	883.50	kg/m <sup>3</sup>	293.15	Density and viscosity of monoethylethanolamine + H <sub>2</sub> O and monoethylethanolamine + diethylethanolamine solutions for CO <sub>2</sub> capture



rho1	875.10	kg/m3	303.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rho1	866.20	kg/m3	313.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rho1	857.50	kg/m3	323.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rho1	849.20	kg/m3	333.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rho1	880.37	kg/m3	298.15	Density and Viscosity of Partially Carbonated Aqueous Tertiary Alkanolamine Solutions at Temperatures between (298.15 and 353.15) K
rho1	879.50	kg/m3	298.15	Changes in Aggregation Patterns Detected by Diffusion, Viscosity, and Surface Tension in Water + 2-(Diethylamino)Ethanol Mixtures at Different Temperatures

rhoI	866.41	kg/m3	313.15	Density and Viscosity of Partially Carbonated Aqueous Tertiary Alkanolamine Solutions at Temperatures between (298.15 and 353.15) K
rhoI	856.95	kg/m3	323.15	Density and Viscosity of Partially Carbonated Aqueous Tertiary Alkanolamine Solutions at Temperatures between (298.15 and 353.15) K
rhoI	847.38	kg/m3	333.15	Density and Viscosity of Partially Carbonated Aqueous Tertiary Alkanolamine Solutions at Temperatures between (298.15 and 353.15) K
rhoI	818.60	kg/m3	363.15	Volumetric Properties of Binary Mixtures of 3-(Methylamino)propylamine with Water, N-Methyldiethanolamine, N,N-Dimethylethanolamine, and N,N-Diethylethanolamine from (283.15 to 363.15) K
rhoI	828.02	kg/m3	353.15	Density and Viscosity of Partially Carbonated Aqueous Tertiary Alkanolamine Solutions at Temperatures between (298.15 and 353.15) K
rhoI	880.00	kg/m3	298.15	Study of CO2 Absorption into Phase Change Solvents MAPA and DEEA

rho	894.42	kg/m <sup>3</sup>	283.15	Volumetric Properties of Binary Mixtures of 3-(Methylamino)propylamine with Water, N-Methyldiethanolamine, N,N-Dimethylethanolamine, and N,N-Diethylethanolamine from (283.15 to 363.15) K
rho	885.36	kg/m <sup>3</sup>	293.15	Volumetric Properties of Binary Mixtures of 3-(Methylamino)propylamine with Water, N-Methyldiethanolamine, N,N-Dimethylethanolamine, and N,N-Diethylethanolamine from (283.15 to 363.15) K
rho	876.15	kg/m <sup>3</sup>	303.15	Volumetric Properties of Binary Mixtures of 3-(Methylamino)propylamine with Water, N-Methyldiethanolamine, N,N-Dimethylethanolamine, and N,N-Diethylethanolamine from (283.15 to 363.15) K
rho	866.83	kg/m <sup>3</sup>	313.15	Volumetric Properties of Binary Mixtures of 3-(Methylamino)propylamine with Water, N-Methyldiethanolamine, N,N-Dimethylethanolamine, and N,N-Diethylethanolamine from (283.15 to 363.15) K
rho	857.39	kg/m <sup>3</sup>	323.15	Volumetric Properties of Binary Mixtures of 3-(Methylamino)propylamine with Water, N-Methyldiethanolamine, N,N-Dimethylethanolamine, and N,N-Diethylethanolamine from (283.15 to 363.15) K

rho1	847.84	kg/m3	333.15	Volumetric Properties of Binary Mixtures of 3-(Methylamino)propylamine with Water, N-Methyldiethanolamine, N,N-Dimethylethanolamine, and N,N-Diethylethanolamine from (283.15 to 363.15) K
rho1	838.16	kg/m3	343.15	Volumetric Properties of Binary Mixtures of 3-(Methylamino)propylamine with Water, N-Methyldiethanolamine, N,N-Dimethylethanolamine, and N,N-Diethylethanolamine from (283.15 to 363.15) K
rho1	828.49	kg/m3	353.15	Volumetric Properties of Binary Mixtures of 3-(Methylamino)propylamine with Water, N-Methyldiethanolamine, N,N-Dimethylethanolamine, and N,N-Diethylethanolamine from (283.15 to 363.15) K
rho1	837.74	kg/m3	343.15	Density and Viscosity of Partially Carbonated Aqueous Tertiary Alkanolamine Solutions at Temperatures between (298.15 and 353.15) K
rho1	884.14	kg/m3	293.15	Changes in Aggregation Patterns Detected by Diffusion, Viscosity, and Surface Tension in Water + 2-(Diethylamino)Ethanol Mixtures at Different Temperatures

rho	875.75	kg/m <sup>3</sup>	303.15	Density and Viscosity of Partially Carbonated Aqueous Tertiary Alkanolamine Solutions at Temperatures between (298.15 and 353.15) K
srf	0.03	N/m	303.20	Experiments and model for the surface tension of DEAE-PZ and DEAE-MEA aqueous solutions
srf	0.03	N/m	313.20	Experiments and model for the surface tension of DEAE-PZ and DEAE-MEA aqueous solutions
srf	0.03	N/m	323.20	Experiments and model for the surface tension of DEAE-PZ and DEAE-MEA aqueous solutions
srf	0.03	N/m	283.20	Experiments and model for the surface tension of DEAE-PZ and DEAE-MEA aqueous solutions
srf	0.03	N/m	293.20	Experiments and model for the surface tension of DEAE-PZ and DEAE-MEA aqueous solutions

## Sources

Vapor Pressures of Several Commercially Used Alkanolamines: Excess molar enthalpies for binary mixtures of different amines with water: Density and Viscosity of Partially Carbonated Aqueous Solutions Containing Tertiary Alkanolamine and Piperazine at Temperatures between 298.15 and 353.15 K:

<https://www.doi.org/10.1021/je101259r>

Volumetric and viscometric properties of binary and ternary mixtures of triethylamine, diethylamine, and ethylamine with CO<sub>2</sub> saturated water from (293.15 to 333.15) K:

<https://www.doi.org/10.1016/j.jct.2015.04.030>

<https://www.doi.org/10.1021/acs.jced.7b00144>

Excess molar enthalpies for binary mixtures of different amines with water: Density and Viscosity of Partially Carbonated Aqueous Solutions Containing Tertiary Alkanolamine and Piperazine at Temperatures between 298.15 and 353.15 K:

<http://pubs.acs.org/doi/abs/10.1021/ci9903071>

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<https://www.doi.org/10.1016/j.jct.2019.06.032>

<https://www.doi.org/10.1021/je3013167>

Density and Viscosity of Partially Carbonated Aqueous Tertiary Amine Solutions with aqueous tertiary amine solutions from 5 and 15 wt%.

Volumetric Properties of Binary Mixtures of 2-(Diethylamino)ethanol (DEEA) and 3-(Methylamino)propylamine (MAPA): Density and viscosity of binary mixtures of methanol, H<sub>2</sub>O and 2-(Diethylamino)ethanol (DEEA) and 3-(Methylamino)propylamine (MAPA) at different temperatures.

Changes in Aggregation Patterns Detected by Diffusion, Viscosity, and Surface Tension in Water for the Binary Systems (Diethylamine at Different Temperatures, N,N-Diethylacetamide), and (Diethylamine, CO<sub>2</sub> capture process using high-boiling solvents PZ or DEEA aqueous solution) Solvents MAPA and DEEA: Experiments and model for the surface tension of DEEA-PZ and DEEA-MEA aqueous solution. Liquid Equilibrium for the Binary Systems of Methanol, Propylamine, Equilibrium and Thermodynamic Properties of Novel Solvents MAPA and DEEA (2-(Diethylamino)ethanol and 3-(Methylamino)propylamine).

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<https://www.doi.org/10.1021/je301371p>

## Legend

- chs: Standard solid enthalpy of combustion
- cpg: Ideal gas heat capacity
- gf: Standard Gibbs free energy of formation
- hf: Enthalpy of formation at standard conditions
- hfs: Solid phase 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
- 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
- rho: Liquid Density
- rinpol: Non-polar retention indices
- surf: Surface Tension
- tb: Normal Boiling Point Temperature
- tc: Critical Temperature
- tf: Normal melting (fusion) point

**vc:** Critical Volume

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