N,N-Diethyl-2-aminoethanol

Other names:	(2-Hydroxyethyl)diethylamine (diethylamino)ethanol 2-(Diethylamino)ethyl alcohol 2-(N,N-Diethylamino)ethanol 2-(diethylamino)ethanol 2-Hydroxytriethylamine 2-diethylaminoethanol A 22 DEAE Diaethylaminoaethanol 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
Inchi:	InChI=1S/C6H15NO/c1-3-7(4-2)5-6-8/h8H,3-6H2,1-2H3
InchiKey:	BFSVOASYOCHEOV-UHFFFAOYSA-N
Formula:	C6H15NO
SMILES:	CCN(CC)CCO
Mol. weight [g/mol]:	117.19
CAS:	100-37-8

Physical Properties

Property code	Value	Unit	Source

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	436.00	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	162.10	K	NIST Webbook
tb	436.20	K	NIST Webbook
tb	434.20	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
tc	601.20	K	Joback Method
tf	250.67	K	Joback Method
vc	0.408	m3/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
rhol	884.37	kg/m3	293.15	Intermolecular interactions in binary mixtures of 2-diethylethanolamine with 1-propanol and 1-butanol at different temperatures
rhol	874.93	kg/m3	303.15	Intermolecular interactions in binary mixtures of 2-diethylethanolamine with 1-propanol and 1-butanol at different temperatures
rhol	865.62	kg/m3	313.15	Intermolecular interactions in binary mixtures of 2-diethylethanolamine with 1-propanol and 1-butanol at different temperatures
rhol	891.20	kg/m3	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

rhol	874.40	kg/m3	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
rhol	865.40	kg/m3	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
rhol	856.40	kg/m3	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
rhol	845.60	kg/m3	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
rhol	883.50	kg/m3	293.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture

rhol	875.10	kg/m3	303.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rhol	866.20	kg/m3	313.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rhol	857.50	kg/m3	323.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rhol	849.20	kg/m3	333.15	Density and viscosity of monoethylethanolamine + H2O and monoethylethanolamine + diethylethanolamine solutions for CO2 capture
rhol	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
rhol	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

rhol	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
rhol	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
rhol	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
rhol	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
rhol	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
rhol	880.00	kg/m3	298.15	Study of CO2 Absorption into Phase Change Solvents MAPA and DEEA

rhol	894.42	kg/m3	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
rhol	885.36	kg/m3	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
rhol	876.15	kg/m3	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
rhol	866.83	kg/m3	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
rhol	857.39	kg/m3	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

rhol	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
rhol	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
rhol	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
rhol	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
rhol	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

rhol	875.75	kg/m3	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

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Excess molar enthalpies for binary mixtures of different amines with water: McGowan Method:	https://www.doi.org/10.1016/j.jct.2015.04.030
	http://link.springer.com/article/10.1007/BF02311772
Equilibrium Total Pressure and CO2 Solubility in Binary and Ternary Aqueous Solutions of 2-(Diethylamino)ethanol (DEEA) and 2-(Ethylamino)ethanol (MAEA):	https://www.doi.org/10.1021/je400886w
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Study of CO2 Absorption into Phase Change Solvents: MAPA and DEEA:	https://www.doi.org/10.1021/acs.jced.6b01038
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Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
CO2 absorption with aqueous tertiary amine solutions: Equilibrium solubility and thermodynamic modeling:	https://www.doi.org/10.1016/j.jct.2018.03.020
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NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C100378&Units=SI
Volumetric and viscometric properties of binary and ternary mixtures of monoethanolamine, 2-(diethylamino) ethanol and water from (283.15 to 343.15) K:	https://www.doi.org/10.1016/j.jct.2019.06.032
Experiments and model for the surface tension of DEAE-PZ and DEAE-MEA aqueous solutions:	https://www.doi.org/10.1016/j.jct.2016.10.007
Absorption capacity and viscosity for CO2 capture process using high concentrated 2-DEAE aqueous solution:	https://www.doi.org/10.1016/j.jct.2016.05.022
Isobaric Vapor-Liquid Equilibrium for the Binary Systems (Diethylamine + Ethanol, (Ethanol + 2-Methoxyethanol, and Diethylamine + 2-Methoxyethanol) at 101.3 kPa:	https://www.doi.org/10.1021/je4008712
Solubility of H2O in Density and Viscosity of Aqueous Solutions of 2-(Diethylamino)ethanol and Their Mixtures from (298.15 to 333.15) K:	https://www.doi.org/10.1021/je301371p
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Isobaric Vapor−Liquid Equilibrium for the Binary Systems of Methanol, Diethylamine, and 2-(Diethylamino)ethanol at 101.3 kPa:	https://www.doi.org/10.1021/je301219c
Density and Viscosity of Binary Mixtures of Diethylamine with 2-Methoxyethanol and 2-Ethoxyethanol at (293.15 to 313.15) K:	https://www.doi.org/10.1021/acs.jced.6b00856
Isobaric Vapor−Liquid Equilibrium and Physicochemical Properties of Novel Volumetric Properties of Binary Mixtures of (2-Diethylaminoethanol + Piperazine) at (293.15 to 313.15) K:	https://www.doi.org/10.1021/je400679k
Chromosun Aggregation Patterns of CO2-Triggered Diethylaminoethanol-Water, 2-Methylaminoethanol-Water, and 2-Dimethylaminoethanol-Water Binary Mixtures:	https://www.doi.org/10.1021/je700350b
Detected by Diffusion, Viscosity, and Optical Properties of Several Commercially Used Alkanolamines in Dilute Aqueous Solutions:	https://www.doi.org/10.1021/je101259r
Density and Viscosity of Monoethylethanolamine + H2O and Monoethylethanolamine + diethylethanolamine solutions for CO2 capture:	https://www.doi.org/10.1016/j.tca.2016.08.021
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

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
rhol:	Liquid Density
rinpol:	Non-polar retention indices
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point

vc: Critical Volume