Diglycolamine

Other names:	1-Amino-2-(2-hydroxyethoxy)ethane
	2-(2-Aminoethoxy)ethanol
	2-(2-Hydroxyethoxy)ethylamine
	2-(Hydroxyethoxy)ethylamine
	2-Amino-2'-hydroxydiethyl ether
	2-Aminoethoxyethanol
	2-Aminoethyl 2-hydroxyethyl ether
	5-Hydroxy-3-oxapentylamine
	Aminoethoxyethanol
	Diethylene glycol amine
	Diethylene glycol monoamine
	Diglycolamine agent
	Ethanol, 2-(2-aminoethoxy)-
	NSC 86108
	«beta»-(«beta»-Hydroxyethoxy)ethylamine
	«beta»-Hydroxy-«beta»'-aminoethyl ether
	Â«betaÂ»-(Â«betaÂ»-Hydroxyethoxy)ethylamine
	Â«betaÂ»-Hydroxy-Â«betaÂ»'-aminoethyl ether
Inchi:	InChI=1S/C4H11NO2/c5-1-3-7-4-2-6/h6H,1-5H2
InchiKey:	GIAFURWZWWWBQT-UHFFFAOYSA-N
Formula:	C4H11NO2
SMILES:	NCCOCCO
Mol. weight [g/mol]:	105.14
CAS:	929-06-6

Physical Properties

Property code	Value	Unit	Source
gf	-192.57	kJ/mol	Joback Method
hf	-376.55	kJ/mol	Joback Method
hfus	16.59	kJ/mol	Joback Method
hvap	54.23	kJ/mol	Joback Method
log10ws	0.72		Crippen Method
logp	-1.046		Crippen Method
mcvol	88.940	ml/mol	McGowan Method

pc	4800.00	kPa	Critical Point and Vapor Pressure Measurements for 17 Compounds by a Low Residence Time Flow Method
tb	494.20	K	NIST Webbook
tc	653.33	K	Joback Method
tf	301.15	K	Joback Method
vc	0.326	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	200.12	J/mol×K	478.05	Joback Method
cpg	207.83	J/mol×K	507.26	Joback Method
cpg	215.28	J/mol×K	536.48	Joback Method
cpg	222.47	J/mol×K	565.69	Joback Method
cpg	229.39	J/mol×K	594.90	Joback Method
cpg	236.06	J/mol×K	624.11	Joback Method
cpg	242.47	J/mol×K	653.33	Joback Method
pvap	0.29	kPa	356.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	2.94	kPa	399.40	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	3.94	kPa	405.30	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	4.94	kPa	410.10	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	7.44	kPa	419.20	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	9.94	kPa	426.00	Vapor Pressures of Several Commercially Used Alkanolamines

pvap	14.90	kPa	436.20	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	19.90	kPa	443.90	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	24.90	kPa	450.10	Vapor Pressures of Several Commercially Used Alkanolamines
pvap	3.68e-03	kPa	303.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	5.00e-03	kPa	306.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	6.30e-03	kPa	308.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	7.93e-03	kPa	311.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	9.58e-03	kPa	313.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.01	kPa	316.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.02	kPa	318.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	1.94	kPa	391.50	Vapor Pressures of Several Commercially Used Alkanolamines

pvap	0.03	kPa	324.30	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines	
pvap	0.03	kPa	326.30	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines	
pvap	0.04	kPa	329.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines	
pvap	0.05	kPa	331.30	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines	
pvap	0.06	kPa	334.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines	
pvap	0.07	kPa	336.30	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines	
pvap	0.09	kPa	339.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines	
pvap	0.10	kPa	341.30	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines	
pvap	0.12	kPa	344.30	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines	
pvap	0.14	kPa	346.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines	

pvap	0.17	kPa	349.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.21	kPa	351.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.24	kPa	353.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.02	kPa	321.30	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
pvap	0.36	kPa	359.20	Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines
rhol	1063.90	kg/m3	283.15	Densities and Excess Properties of Primary Amines in Alcoholic Solutions
rhol	1015.24	kg/m3	343.15	Densities and Excess Properties of Primary Amines in Alcoholic Solutions
rhol	1047.80	kg/m3	303.15	Densities and Excess Properties of Primary Amines in Alcoholic Solutions
rhol	1039.73	kg/m3	313.15	Densities and Excess Properties of Primary Amines in Alcoholic Solutions
rhol	1031.63	kg/m3	323.15	Densities and Excess Properties of Primary Amines in Alcoholic Solutions

rhol	1023.46	kg/m3	333.15	Densities and Excess Properties of Primary Amines in Alcoholic Solutions
rhol	1055.86	kg/m3	293.15	Densities and Excess Properties of Primary Amines in Alcoholic Solutions

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	2.49459e+01
Coeff. B	-7.47109e+03
Coeff. C	-1.02786e+02
Temperature range (K), min.	405.77
Temperature range (K), max.	483.30

Sources

Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Solubility data for benzene in aqueous solutions of methyldiethanolamine (MDEA) and of diglycolamine (DGA):	https://www.doi.org/10.1016/j.tca.2006.01.012
Solubility of ethylbenzene and xylene in pure water and aqueous alkanolamine solutions:	https://www.doi.org/10.1016/j.jct.2008.01.021
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
Vapor Pressures of Several Commercially Used Alkanolamines:	https://www.doi.org/10.1021/je101259r
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Densities and Excess Properties of Primary Amines in Alcoholic Solutions:	https://www.doi.org/10.1021/je3013205
Mutual Diffusion Coefficients of Some Aqueous Alkanolamines Solutions:	https://www.doi.org/10.1021/je049828h
Solubility of Ethane in Aqueous Solutions of 2-(2-Aminoethoxy)ethanol:	https://www.doi.org/10.1021/je100796f
Critical Point and Vapor Pressure Measurements for 17 Compounds by a Low Residence Time Flow Method:	https://www.doi.org/10.1021/je060269j
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C929066&Units=SI
Excess molar enthalpies for binary mixtures of different amines with water:	https://www.doi.org/10.1016/j.jct.2015.04.030
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Solubility data for toluene in various aqueous alkanolamine solutions:	https://www.doi.org/10.1016/j.jct.2006.07.027

Vapor Pressures and Enthalpies of Vaporization of a Series of Low-Volatile Alkanolamines: https://www.doi.org/10.1021/je2002489

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