1,2-Ethanediamine, N,N-dimethyl-

Other names:	1,2-Ethanediamine, N1,N1-dimethyl-
	1-Amino-2-dimethylaminoethane
	2-(Dimethylamino)ethylamine
	2-aminoethyldimethylamine
	2-dimethylamino-1-ethylamine
	Ethylenediamine, N,N-dimethyl-
	N,N-Dimethyl-1,2-diaminoethane
	N,N-Dimethyl-1,2-ethanediamine
	N,N-Dimethyl-1,2-ethylenediamine
	N,N-Dimethylethanediamine
	N,N-Dimethylethylenediamine
	N-(2-Aminoethyl)-N,N-dimethylamine
	NSC 24506
	Unsym-dimethylethylenediamine
	«beta»-(Dimethylamino)ethylamine
	Â«betaÂ»-(Dimethylamino)ethylamine
Inchi:	InChI=1S/C4H12N2/c1-6(2)4-3-5/h3-5H2,1-2H3
InchiKey:	DILRJUIACXKSQE-UHFFFAOYSA-N
Formula:	C4H12N2
SMILES:	CN(C)CCN
Mol. weight [g/mol]:	88.15
CAS:	108-00-9

Physical Properties

Property code	Value	Unit	Source
gf	160.03	kJ/mol	Joback Method
hf	-24.57	kJ/mol	Joback Method
hfus	14.33	kJ/mol	Joback Method
hvap	37.18	kJ/mol	Joback Method
log10ws	0.50		Crippen Method
logp	-0.493		Crippen Method
mcvol	87.180	ml/mol	McGowan Method
pc	4178.49	kPa	Joback Method
tb	375.89	K	Joback Method
tc	556.09	K	Joback Method
tf	250.57	K	Joback Method
vc	0.306	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	164.25	J/mol×K	375.89	Joback Method
cpg	174.32	J/mol×K	405.92	Joback Method
cpg	183.93	J/mol×K	435.96	Joback Method
cpg	193.12	J/mol×K	465.99	Joback Method
cpg	201.89	J/mol×K	496.02	Joback Method
cpg	210.26	J/mol×K	526.05	Joback Method
cpg	218.23	J/mol×K	556.09	Joback Method
dvisc	0.0008950	Pa×s	298.15	Density, Speed of Sound, Viscosity, and Surface Tension of Dimethylethylenediamine + Water and (Ethanolamine + Dimethylethanolamine) + Water from T = (293.15 to 323.15) K
dvisc	0.0009880	Pa×s	293.15	Density, Speed of Sound, Viscosity, and Surface Tension of Dimethylethylenediamine + Water and (Ethanolamine + Dimethylethanolamine) + Water from T = (293.15 to 323.15) K
dvisc	0.0008190	Pa×s	303.15	Density, Speed of Sound, Viscosity, and Surface Tension of Dimethylethylenediamine + Water and (Ethanolamine + Dimethylethanolamine) + Water from T = (293.15 to 323.15) K

dvisc	0.0006930	Pa×s	313.15	Density, Speed of Sound, Viscosity, and Surface Tension of Dimethylethylenediamine + Water and (Ethanolamine + Dimethylethanolamine) + Water from T = (293.15 to 323.15) K
dvisc	0.0005960	Pa×s	323.15	Density, Speed of Sound, Viscosity, and Surface Tension of Dimethylethylenediamine + Water and (Ethanolamine + Dimethylethanolamine) + Water from T = (293.15 to 323.15) K
pvap	0.89	kPa	276.70	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	0.75	kPa	274.20	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	0.81	kPa	275.20	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	0.74	kPa	273.80	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	0.97	kPa	278.20	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study

pvap	1.11	kPa	280.70	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	1.31	kPa	283.20	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	1.56	kPa	285.60	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	1.82	kPa	288.20	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	2.09	kPa	290.70	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	2.39	kPa	293.20	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	2.76	kPa	295.60	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	3.19	kPa	298.20	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	3.28	kPa	298.20	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study

pvap	3.76	kPa	300.70	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	3.73	kPa	300.70	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	4.33	kPa	303.20	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study
pvap	4.29	kPa	303.20	Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.56383e+01
Coeff. B	-3.66123e+03
Coeff. C	-4.64150e+01
Temperature range (K), min.	284.92
Temperature range (K), max.	400.95

Sources

Thermodynamic Properties of N-Methyl-Substituted Ethane-1,2-diamines: Experimental and Computational Study:	https://www.doi.org/10.1021/acs.jced.5b01003
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C108009&Units=SI

The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Density, Speed of Sound, Viscosity, and Surface Tension of Dimethylethylenediamine + Water and (Ethanolamine + Dimethylethanolamine) + Water from T = (293.15 to 323.15) K:	https://www.doi.org/10.1021/acs.jced.5b00447

Legend

cpg:	Ideal gas 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
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume