1,2-Ethanediamine, N-ethyl-

Other names:	2-Ethylaminoethylamine
	2-aminoethyl(ethyl)amine
	Ethylenediamine, N-ethyl-
	N-Ethyl ethylenediamine
	N-Ethyl-1,2-ethanediamine
	N-Ethylenediamine
	N-ethylethane-1,2-diamine
	N-ethylethylenediamine
Inchi:	InChI=1S/C4H12N2/c1-2-6-4-3-5/h6H,2-5H2,1H3
InchiKey:	SCZVXVGZMZRGRU-UHFFFAOYSA-N
Formula:	C4H12N2
SMILES:	CCNCCN
Mol. weight [g/mol]:	88.15
CAS:	110-72-5

Physical Properties

Property code	Value	Unit	Source
gf	138.64	kJ/mol	Joback Method
hf	-38.63	kJ/mol	Joback Method
hfus	16.41	kJ/mol	Joback Method
hvap	41.58	kJ/mol	Joback Method
log10ws	-0.12		Crippen Method
logp	-0.445		Crippen Method
mcvol	87.180	ml/mol	McGowan Method
pc	4260.71	kPa	Joback Method
tb	402.20	K	NIST Webbook
tc	600.57	K	Joback Method
tf	270.76	K	Joback Method
vc	0.324	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	227.44	J/mol×K	600.57	Joback Method

cpg	219.74	J/mol×K	569.41	Joback Method
cpg	211.69	J/mol×K	538.25	Joback Method
cpg	203.25	J/mol×K	507.09	Joback Method
cpg	194.44	J/mol×K	475.94	Joback Method
cpg	185.23	J/mol×K	444.78	Joback Method
cpg	175.61	J/mol×K	413.62	Joback Method
pvap	101.50	kPa	402.20	Vapor Liquid Equilibrium for Mixtures of Ethylethylenediamine, Ethylenediamine, and Water
pvap	101.20	kPa	401.90	Vapor Liquid Equilibrium for Mixtures of Ethylethylenediamine, Ethylenediamine, and Water
pvap	90.20	kPa	398.30	Vapor Liquid Equilibrium for Mixtures of Ethylethylenediamine, Ethylenediamine, and Water
pvap	69.50	kPa	390.20	Vapor Liquid Equilibrium for Mixtures of Ethylethylenediamine, Ethylenediamine, and Water
pvap	49.70	kPa	380.30	Vapor Liquid Equilibrium for Mixtures of Ethylethylenediamine, Ethylenediamine, and Water
pvap	39.50	kPa	374.10	Vapor Liquid Equilibrium for Mixtures of Ethylethylenediamine, Ethylenediamine, and Water
pvap	29.60	kPa	366.50	Vapor Liquid Equilibrium for Mixtures of Ethylethylenediamine, Ethylenediamine, and Water
pvap	20.80	kPa	358.00	Vapor Liquid Equilibrium for Mixtures of Ethylethylenediamine, Ethylenediamine, and Water

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.56462e+01
Coeff. B	-3.85152e+03
Coeff. C	-5.29480e+01
Temperature range (K), min.	274.78
Temperature range (K), max.	425.62

Sources

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=C110725&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
Vapor Liquid Equilibrium for Mixtures of Ethylethylenediamine, Ethylenediamine, and Water:	https://www.doi.org/10.1021/je300819g

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

vc: Critical Volume