Methanediamine, N,N,N',N'-tetraethyl-

Other names:	Bis(diethylamino)methane
	N,N'-Methylenebisdiethylamine
	N,N,N',N'-Tetraethyldiaminomethane
	N,N,N',N'-Tetraethylmethanediamine
	N,N,N',N'-Tetraethylmethylenediamine
	Tetraethylmethylenediamine
Inchi:	InChI=1S/C9H22N2/c1-5-10(6-2)9-11(7-3)8-4/h5-9H2,1-4H3
InchiKey:	UNEXJVCWJSHFNN-UHFFFAOYSA-N
Formula:	C9H22N2
SMILES:	CCN(CC)CN(CC)CC
Mol. weight [g/mol]:	158.28
CAS:	102-53-4

Physical Properties

Property code	Value	Unit	Source
gf	246.46	kJ/mol	Joback Method
hf	-94.03	kJ/mol	Joback Method
hfus	25.11	kJ/mol	Joback Method
hvap	39.71	kJ/mol	Joback Method
log10ws	-1.22		Crippen Method
logp	1.628		Crippen Method
mcvol	157.630	ml/mol	McGowan Method
pc	2298.11	kPa	Joback Method
tb	430.20	K	Joback Method
tc	590.84	K	Joback Method
tf	256.13	K	Joback Method
vc	0.576	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	335.12	J/mol×K	430.20	Joback Method
cpg	351.04	J/mol×K	456.97	Joback Method
cpg	366.30	J/mol×K	483.75	Joback Method

cpg	380.92	J/mol×K	510.52	Joback Method
cpg	394.93	J/mol×K	537.29	Joback Method
cpg	408.34	J/mol×K	564.06	Joback Method
cpg	421.18	J/mol×K	590.84	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.13614e+01
Coeff. B	-2.98973e+03
Coeff. C	-6.31780e+01
Temperature range (K), min.	310.65
Temperature range (K), max.	557.35

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=C102534&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

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