Methanamine, N-methyl-N-nitro-

Other names:	Dimethylnitramine
	Dimethylamine, N-nitro-
	s-N,N-Dimethyl nitramine
	Dimethylnitroamine
	N-Nitrodimethylamine
	N,N-Dimethylnitramine
	(CH3)2NNO2
	Dimethylnitramin
	DMNO
	DMN
	N-Nitro-DMA
	NSC 137860
Inchi:	InChI=1S/C2H6N2O2/c1-3(2)4(5)6/h1-2H3
InchiKey:	XRWKADIRZXTTLH-UHFFFAOYSA-N
Formula:	C2H6N2O2
SMILES:	CN(C)[N+](=O)[O-]
Mol. weight [g/mol]:	90.08
CAS:	4164-28-7

Physical Properties

Property code	Value	Unit	Source
affp	828.30	kJ/mol	NIST Webbook
basg	795.80	kJ/mol	NIST Webbook
chl	-1574.00 ± 4.20	kJ/mol	NIST Webbook
chs	-1570.00 ± 1.00	kJ/mol	NIST Webbook
chs	-1561.00	kJ/mol	NIST Webbook
gf	112.29	kJ/mol	Joback Method
hf	-5.00 ± 1.00	kJ/mol	NIST Webbook
hfl	-71.10 ± 4.20	kJ/mol	NIST Webbook
hfs	-75.00 ± 1.00	kJ/mol	NIST Webbook
hfus	15.32	kJ/mol	Joback Method
hsub	69.87	kJ/mol	NIST Webbook
hvap	38.68	kJ/mol	Joback Method
ie	9.53	eV	NIST Webbook
log10ws	-0.30		Crippen Method
logp	-0.260		Crippen Method
mcvol	66.440	ml/mol	McGowan Method

pc	5102.04	kPa	Joback Method
tb	460.20	K	NIST Webbook
tc	618.67	K	Joback Method
tf	345.45 ± 1.50	K	NIST Webbook
vc	0.247	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	146.83	J/mol×K	514.06	Joback Method
cpg	153.21	J/mol×K	548.93	Joback Method
cpg	159.19	J/mol×K	583.80	Joback Method
cpg	125.17	J/mol×K	409.44	Joback Method
cpg	132.83	J/mol×K	444.31	Joback Method
cpg	140.04	J/mol×K	479.18	Joback Method
cpg	164.81	J/mol×K	618.67	Joback Method
hfust	17.26	kJ/mol	331.50	NIST Webbook
hfust	37.66	kJ/mol	327.00	NIST Webbook
hsubt	69.90	kJ/mol	319.50	NIST Webbook

Sources

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws
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=C4164287&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

affp: Proton affinity
basg: Gas basicity
chl: Standard liquid enthalpy of combustion
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
hfl:	Liquid phase enthalpy of formation at standard conditions
hfs:	Solid phase enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
hsub:	Enthalpy of sublimation at standard conditions
hsubt:	Enthalpy of sublimation at a given temperature
hvap:	Enthalpy of vaporization at standard conditions
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume