Hydrazine, methyl-

Other names:	1-Methylhydrazine
	CH3NHNH2
	Hydrazomethane
	MMH
	Methylhydrazine
	Metylohydrazyna
	Monomethylhydrazine
	Rcra waste number P068
	UN 1244
	methyl hydrazine
Inchi:	InChI=1S/CH6N2/c1-3-2/h3H,2H2,1H3
InchiKey:	HDZGCSFEDULWCS-UHFFFAOYSA-N
Formula:	CH6N2
SMILES:	CNN
Mol. weight [g/mol]:	46.07
CAS:	60-34-4

Physical Properties

Property code	Value	Unit	Source
affp	898.80	kJ/mol	NIST Webbook
basg	866.40	kJ/mol	NIST Webbook
chl	-1305.20	kJ/mol	NIST Webbook
chl	-1305.20 ± 0.59	kJ/mol	NIST Webbook
gf	113.38	kJ/mol	Joback Method
hf	94.50	kJ/mol	NIST Webbook
hfl	54.14	kJ/mol	NIST Webbook
hfus	8.64	kJ/mol	Joback Method
hvap	40.37	kJ/mol	NIST Webbook
hvap	40.50	kJ/mol	NIST Webbook
ie	9.34	eV	NIST Webbook
ie	9.36	eV	NIST Webbook
ie	7.70 ± 0.15	eV	NIST Webbook
ie	7.70 ± 0.15	eV	NIST Webbook
ie	8.67	eV	NIST Webbook
ie	9.32	eV	NIST Webbook
ie	7.67 ± 0.02	eV	NIST Webbook
ie	8.60 ± 0.10	eV	NIST Webbook

ie	8.40 ± 0.05	eV	NIST Webbook
ie	8.00 ± 0.06	eV	NIST Webbook
log10ws	1.34		Aqueous Solubility Prediction Method
log10ws	1.34		Estimated Solubility Method
logp	-0.920		Crippen Method
mcvol	44.910	ml/mol	McGowan Method
pc	6461.89	kPa	Joback Method
sl	165.94	J/mol×K	NIST Webbook
tb	364.00	K	NIST Webbook
tc	534.92	K	Joback Method
tf	236.45	K	Aqueous Solubility Prediction Method
tt	220.79 ± 0.02	K	NIST Webbook
vc	0.155	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	94.05	J/mol×K	471.61	Joback Method
cpg	98.27	J/mol×K	503.27	Joback Method
cpg	75.31	J/mol×K	344.98	Joback Method
cpg	80.29	J/mol×K	376.64	Joback Method
cpg	85.07	J/mol×K	408.29	Joback Method
cpg	89.65	J/mol×K	439.95	Joback Method
cpg	102.31	J/mol×K	534.92	Joback Method
cpl	134.93	J/mol×K	298.15	NIST Webbook
hfust	10.42	kJ/mol	220.80	NIST Webbook
hfust	10.42	kJ/mol	220.80	NIST Webbook
hfust	10.42	kJ/mol	220.79	NIST Webbook
hvapt	41.80	kJ/mol	286.50	NIST Webbook
hvapt	36.12	kJ/mol	364.00	NIST Webbook
hvapt	40.37	kJ/mol	298.15	NIST Webbook
sfust	47.19	J/mol×K	220.79	NIST Webbook
svapt	135.39	J/mol×K	298.15	NIST Webbook

Correlations

Information	Value

Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.30982e+01
Coeff. B	-2.29728e+03
Coeff. C	-9.30910e+01
Temperature range (K), min.	272.42
Temperature range (K), max.	388.91

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C60344&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
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.cheric.org/files/research/kdb/mol/mol1457.mol
Aqueous Solubility Prediction Method:	http://onschallenge.wikispaces.com/file/view/AqueousDataset002.xlsx/351826032/AqueousDa
Estimated Solubility Method:	http://pubs.acs.org/doi/suppl/10.1021/ci034243x/suppl_file/ci034243xsi20040112_053635.txt

Legend

affp:	Proton affinity
basg:	Gas basicity
chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
cpl:	Liquid phase 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
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure

pvap:	Vapor pressure
sfust:	Entropy of fusion at a given temperature
sl:	Liquid phase molar entropy at standard conditions
svapt:	Entropy of vaporization at a given temperature
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume