Hydrazine, 1,1-dimethyl-

Other names:	(CH3)2NNH2
	1,1-Dimethylhydrazin
	1,1-Dimethylhydrazine
	Dimazin
	Dimazine
	Dimethylhydrazine, unsym.
	Dimethylhydrazine, unsymmetrical
	Hydrazine, N,N-dimethyl-
	N,N-Dimethylhydrazine
	NSC 60517
	Niesymetryczna dwu metylohydrazyna
	Rcra waste number U098
	UDMH
	UN 1163
	Unsym-dimethylhydrazine
	Unsymmetrical dimethylhydrazine
	as-Dimethylhydrazine
	asymmetric Dimethylhydrazine
	gem-Dimethylhydrazine
	u-Dimethylhydrazine
	uns-Dimethylhydrazine
Inchi:	InChI=1S/C2H8N2/c1-4(2)3/h3H2,1-2H3
InchiKey:	RHUYHJGZWVXEHW-UHFFFAOYSA-N
Formula:	C2H8N2
SMILES:	CN(C)N
Mol. weight [g/mol]:	60.10
CAS:	57-14-7

Physical Properties

Property code	Value	Unit	Source
affp	927.10	kJ/mol	NIST Webbook
basg	894.70	kJ/mol	NIST Webbook
chl	-1979.70 ± 2.90	kJ/mol	NIST Webbook
chl	-1978.70 ± 3.60	kJ/mol	NIST Webbook
gf	143.19	kJ/mol	Joback Method
hf	83.30 ± 3.60	kJ/mol	NIST Webbook

hfl	48.30 ± 3.60	kJ/mol	NIST Webbook
hfus	9.15	kJ/mol	Joback Method
hvap	35.22	kJ/mol	NIST Webbook
hvap	35.00 ± 0.20	kJ/mol	NIST Webbook
ie	8.85	eV	NIST Webbook
ie	8.82	eV	NIST Webbook
ie	8.10 ± 0.10	eV	NIST Webbook
ie	8.88	eV	NIST Webbook
ie	8.88	eV	NIST Webbook
ie	7.46 ± 0.02	eV	NIST Webbook
ie	7.67 ± 0.05	eV	NIST Webbook
ie	8.28	eV	NIST Webbook
ie	8.05 ± 0.05	eV	NIST Webbook
ie	7.29 ± 0.05	eV	NIST Webbook
ie	7.29 ± 0.05	eV	NIST Webbook
log10ws	0.35		Crippen Method
logp	-0.578		Crippen Method
mcvol	59.000	ml/mol	McGowan Method
pc	5446.55	kPa	Joback Method
rinpol	527.00		NIST Webbook
sl	200.25	J/mol×K	NIST Webbook
tb	336.20	K	NIST Webbook
tb	337.10	K	NIST Webbook
tc	510.91	K	Joback Method
tf	216.00 ± 1.50	K	NIST Webbook
tt	215.95 ± 0.02	K	NIST Webbook
vc	0.195	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	136.06	J/mol×K	510.91	Joback Method
cpg	105.21	J/mol×K	360.26	Joback Method
cpg	111.98	J/mol×K	390.39	Joback Method
cpg	118.44	J/mol×K	420.52	Joback Method
cpg	124.59	J/mol×K	450.65	Joback Method
cpg	130.47	J/mol×K	480.78	Joback Method
cpg	98.13	J/mol×K	330.13	Joback Method
cpl	164.05	J/mol×K	298.15	NIST Webbook
hfust	10.07	kJ/mol	216.00	NIST Webbook
hfust	10.07	kJ/mol	216.00	NIST Webbook

hfust	10.07	kJ/mol	215.95	NIST Webbook
hvapt	35.00	kJ/mol	298.15	NIST Webbook
hvapt	32.55	kJ/mol	336.20	NIST Webbook
hvapt	34.10	kJ/mol	285.00	NIST Webbook
hvapt	36.50	kJ/mol	265.00	NIST Webbook
sfust	46.64	J/mol×K	215.95	NIST Webbook
svapt	117.40	J/mol×K	298.15	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	336.20	K	100.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.47388e+01
Coeff. B	-2.88502e+03
Coeff. C	-5.20320e+01
Temperature range (K), min.	251.67
Temperature range (K), max.	358.06

Sources

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

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=C57147&Units=SI

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

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
rinpol:	Non-polar retention indices
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
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume