Hydrazine, 1,2-dimethyl-

Other names:	(CH3NH)2
	1,2-Dimethylhydrazin
	1,2-Dimethylhydrazine
	DMH
	Dimethylhydrazine, symmetrical
	Hydrazomethane
	N,N'-Dimethylhydrazine
	Rcra waste number U099
	SDMH
	Symetryczna dwumetylohydrazyna
	UN 2382
	s-Dimethylhydrazine
	sym-Dimethylhydrazine
Inchi:	InChI=1S/C2H8N2/c1-3-4-2/h3-4H,1-2H3
InchiKey:	DIIIISSCIXVANO-UHFFFAOYSA-N
Formula:	C2H8N2
SMILES:	CNNC
Mol. weight [g/mol]:	60.10
CAS:	540-73-8

Physical Properties

Property code	Value	Unit	Source
chl	-1983.00 ± 4.20	kJ/mol	NIST Webbook
gf	144.74	kJ/mol	Joback Method
hf	22.33	kJ/mol	Joback Method
hfus	11.13	kJ/mol	Joback Method
hvap	39.50	kJ/mol	NIST Webbook
hvap	39.33 ± 0.06	kJ/mol	NIST Webbook
ie	9.62	eV	NIST Webbook
ie	8.22	eV	NIST Webbook
ie	7.80 ± 0.10	eV	NIST Webbook
ie	9.02	eV	NIST Webbook
ie	9.02	eV	NIST Webbook
ie	9.00	eV	NIST Webbook
ie	9.00	eV	NIST Webbook
log10ws	-0.03		Crippen Method
logp	-0.660		Crippen Method

mcvol	59.000	ml/mol	McGowan Method
pc	5220.69	kPa	Joback Method
rinpol	645.00		NIST Webbook
rinpol	594.00		NIST Webbook
sl	199.15	J/mol×K	NIST Webbook
tb	360.20	K	NIST Webbook
tc	523.05	K	Joback Method
tf	217.62	K	Joback Method
tt	264.28 ± 0.04	K	NIST Webbook
vc	0.217	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	129.18	J/mol×K	493.46	Joback Method
cpg	123.41	J/mol×K	463.87	Joback Method
cpg	134.71	J/mol×K	523.05	Joback Method
cpg	97.91	J/mol×K	345.50	Joback Method
cpg	104.66	J/mol×K	375.09	Joback Method
cpg	111.16	J/mol×K	404.68	Joback Method
cpg	117.40	J/mol×K	434.28	Joback Method
cpl	171.04	J/mol×K	298.15	NIST Webbook
hfust	13.64	kJ/mol	264.30	NIST Webbook
hfust	13.64	kJ/mol	264.28	NIST Webbook
hfust	13.64	kJ/mol	264.30	NIST Webbook
hvapt	41.00	kJ/mol	285.50	NIST Webbook
hvapt	35.16	kJ/mol	360.20	NIST Webbook
sfust	51.60	J/mol×K	264.28	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.08580e+01
Coeff. B	-1.44879e+03
Coeff. C	-1.28010e+02
Temperature range (K), min.	264.25

Temperature range (K), max.	389.22

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C540738&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
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

Legend

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
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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume