Hydrazine, 1,2-diphenyl-

Other names:	(sym)-Diphenylhydrazine
	1,2-DIPHENYLHYDRAZINE
	Benzene, 1,1'-hydrazobis-
	Benzene, hydrazodi-
	HYDRAZODIBENZENE
	Hydrazobenzen
	Hydrazobenzene
	N,N'-Bianiline
	N,N'-DIPHENYLHYDRAZINE
	NCI-C01854
	NSC 3510
	Rcra waste number U109
Inchi:	InChI=1S/C12H12N2/c1-3-7-11(8-4-1)13-14-12-9-5-2-6-10-12/h1-10,13-14H
InchiKey:	YBQZXXMEJHZYMB-UHFFFAOYSA-N
Formula:	C12H12N2
SMILES:	c1ccc(NNc2ccccc2)cc1
Mol. weight [g/mol]:	184.24
CAS:	122-66-7

Physical Properties

Property code	Value	Unit	Source
chs	-6658.40	kJ/mol	NIST Webbook
chs	-6654.00 ± 1.00	kJ/mol	NIST Webbook
chs	-6643.80 ± 6.70	kJ/mol	NIST Webbook
chs	-6717.08	kJ/mol	NIST Webbook
gf	453.76	kJ/mol	Joback Method
hf	288.99	kJ/mol	Joback Method
hfs	221.00	kJ/mol	NIST Webbook
hfs	280.00	kJ/mol	NIST Webbook
hfus	25.12	kJ/mol	Joback Method
hvap	59.73	kJ/mol	Joback Method
ie	7.78	eV	NIST Webbook
ie	7.78 ± 0.05	eV	NIST Webbook
log10ws	-2.92		Estimated Solubility Method
log10ws	-2.92		Aqueous Solubility Prediction Method

logp	3.126		Crippen Method
mcvol	152.380	ml/mol	McGowan Method
pc	3534.66	kPa	Joback Method
rinpol	1588.00		NIST Webbook
rinpol	1588.00		NIST Webbook
rinpol	1596.00		NIST Webbook
rinpol	275.43		NIST Webbook
rinpol	276.42		NIST Webbook
rinpol	1588.00		NIST Webbook
ripol	2299.00		NIST Webbook
ripol	2299.00		NIST Webbook
ripol	2299.00		NIST Webbook
tb	627.66	K	Joback Method
tc	873.08	K	Joback Method
tf	407.00 ± 1.00	K	NIST Webbook
tf	401.90 ± 0.50	K	NIST Webbook
vc	0.561	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	440.32	J/mol×K	832.18	Joback Method
cpg	375.95	J/mol×K	627.66	Joback Method
cpg	391.20	J/mol×K	668.56	Joback Method
cpg	405.18	J/mol×K	709.47	Joback Method
cpg	417.97	J/mol×K	750.37	Joback Method
cpg	429.65	J/mol×K	791.28	Joback Method
cpg	450.04	J/mol×K	873.08	Joback Method
hfust	17.65	kJ/mol	407.20	NIST Webbook
sfust	47.73	J/mol×K	407.20	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	2.26073e+01
Coeff. B	-8.58519e+03

Coeff. C	-1.04100e+02
Temperature range (K), min.	488.75
Temperature range (K), max.	600.47

Sources

Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.cheric.org/files/research/kdb/mol/mol1496.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
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C122667&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

Legend

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
hfs:	Solid 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
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
ripol:	Polar retention indices
sfust:	Entropy of fusion at a given temperature
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume