[1,1'-Biphenyl]-4,4'-diamine, N,N'-diphenyl-

Other names:	Benzidine, N,N'-diphenyl-
	Diphenylbenzidine
	N,N'-Diphenylbenzidine
	N,N-Diphenylbenzidine
	N(4),N(4')-Diphenyl-biphenyl-4,4'-diamine
Inchi:	InChI=1S/C24H20N2/c1-3-7-21(8-4-1)25-23-15-11-19(12-16-23)20-13-17-24(18-14-20)2
InchiKey:	FDRNXKXKFNHNCA-UHFFFAOYSA-N
Formula:	C24H20N2
SMILES:	c1ccc(Nc2ccc(-c3ccc(Nc4ccccc4)cc3)cc2)cc1
Mol. weight [g/mol]:	336.43
CAS:	531-91-9

Physical Properties

Property code	Value	Unit	Source
gf	760.36	kJ/mol	Joback Method
hf	491.43	kJ/mol	Joback Method
hfus	43.50	kJ/mol	Joback Method
hvap	92.32	kJ/mol	Joback Method
log10ws	-7.69		Crippen Method
logp	6.841		Crippen Method
mcvol	273.940	ml/mol	McGowan Method
pc	2062.36	kPa	Joback Method
tb	965.54	K	Joback Method
tc	1236.81	K	Joback Method
tf	596.28	K	Joback Method
vc	1.018	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	840.20	J/mol×K	965.54	Joback Method
cpg	854.35	J/mol×K	1010.75	Joback Method
cpg	867.21	J/mol×K	1055.96	Joback Method
cpg	878.98	J/mol×K	1101.18	Joback Method

cpg	889.84	J/mol×K	1146.39	Joback Method
cpg	899.98	J/mol×K	1191.60	Joback Method
cpg	909.61	J/mol×K	1236.81	Joback Method

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=C531919&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

cpg:	Ideal gas heat capacity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
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