[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-

Other names: 2-Tolidin
2-Tolidina
2-Tolidine
3,3'-Dimethyl-4,4'-biphenyldiamine
3,3'-Dimethyl-4,4'-diaminobiphenyl
3,3'-Dimethyl-4,4'-diphenyldiamine
3,3'-Dimethylbenzidine
3,3'-Dimethyldiphenyl-4,4'-diamine
3,3'-Tolidine
3,3'-dimethyl-[1,1'-biphenyl]-4,4'-diamine
3,3'-dimethylbiphenyl-4,4'-diamine
4,4'-Bi-o-toluidine
4,4'-Di-o-toluidine
4,4'-Diamino-3,3'-dimethylbiphenyl
4,4'-Diamino-3,3'-dimethyldiphenyl
Benzidine, 3,3'-dimethyl-
C.I. 37230
C.I. Azoic Diazo Component 113
Diaminoditolyl
Fast Dark Blue Base R
O,O'-Tolidine
Rcra waste number U095
o-Tolidin
o-tolidine

Inchi: InChI=1S/C14H16N2/c1-9-7-11(3-5-13(9)15)12-4-6-14(16)10(2)8-12/h3-8H,15-16H2,1-2

InchiKey: NUIURNJTPRWVAP-UHFFFAOYSA-N

Formula: C14H16N2

SMILES: Cc1cc(-c2ccc(N)c(C)c2)ccc1N

Mol. weight [g/mol]: 212.29

CAS: 119-93-7

Physical Properties

Property code	Value	Unit	Source
gf	386.20	kJ/mol	Joback Method
hf	162.47	kJ/mol	Joback Method
hfus	28.94	kJ/mol	Joback Method

hvap	75.24	kJ/mol	Joback Method
log10ws	-4.29		Crippen Method
logp	3.135		Crippen Method
mcvol	180.560	ml/mol	McGowan Method
pc	2934.52	kPa	Joback Method
rinpol	381.39		NIST Webbook
rinpol	380.70		NIST Webbook
tb	738.06	K	Joback Method
tc	992.65	K	Joback Method
tf	516.98	K	Joback Method
vc	0.661	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	490.91	J/mol×K	738.06	Joback Method
cpg	505.55	J/mol×K	780.49	Joback Method
cpg	519.04	J/mol×K	822.92	Joback Method
cpg	531.45	J/mol×K	865.35	Joback Method
cpg	542.84	J/mol×K	907.78	Joback Method
cpg	553.26	J/mol×K	950.22	Joback Method
cpg	562.77	J/mol×K	992.65	Joback Method

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C119937&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Solubility of o-tolidine in pure and modified supercritical carbon dioxide:	https://www.doi.org/10.1016/j.fluid.2011.11.010
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume