Spermine

Other names:	N,N'-Bis(3-aminopropyl)-1,4-butanediamine N,N'-Bis(3-aminopropyl)butane-1,4-diamine 1,4-Butanediamine, N,N'-bis(3-aminopropyl)- Diaminopropyltetramethylenediamine Gerontine Musculamine Neuridine Spermin 1,4-Bis(aminopropyl)butanediamine 1,4-Diaminobutane, N,N'-bis(3-aminopropyl)- 4,9-Diazadodecane-1,12-diamine 4,9-Diaza-1,12-dodecanediamine 1,4-Butanediamine, N1,N4-bis(3-aminopropyl)- NSC 268508 4,9-diazadodecamethylenediamine
Inchi:	InChI=1S/C10H26N4/c11-5-3-9-13-7-1-2-8-14-10-4-6-12/h13-14H,1-12H2
InchiKey:	PFNFFQXMRSDOHW-UHFFFAOYSA-N
Formula:	C10H26N4
SMILES:	NCCCNCCCCNCCCN
Mol. weight [g/mol]:	202.34
CAS:	71-44-3

Physical Properties

Property code	Value	Unit	Source
gf	345.00	kJ/mol	Joback Method
hf	-75.21	kJ/mol	Joback Method
hfus	42.25	kJ/mol	Joback Method
hvap	72.01	kJ/mol	Joback Method
log10ws	-1.26		Crippen Method
logp	-0.357		Crippen Method
mcvol	191.680	ml/mol	McGowan Method
pc	2407.64	kPa	Joback Method
tb	673.60	K	Joback Method
tc	861.11	K	Joback Method
tf	474.30	K	Joback Method
vc	0.724	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	559.46	J/mol×K	673.60	Joback Method
cpg	574.28	J/mol×K	704.85	Joback Method
cpg	588.34	J/mol×K	736.10	Joback Method
cpg	601.69	J/mol×K	767.35	Joback Method
cpg	614.33	J/mol×K	798.61	Joback Method
cpg	626.31	J/mol×K	829.86	Joback Method
cpg	637.64	J/mol×K	861.11	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	423.20	K	0.70	NIST Webbook

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C71443&Units=SI
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

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
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume