3,3'-Iminobispropylamine

Other names:	1,3-Propanediamine, N-(3-aminopropyl)- 1,3-Propanediamine, N1-(3-aminopropyl)- 1,7-Diamino-4-azaheptane 1-Propanamine, 3,3'-iminobis- 3,3'-Iminodi(propylamine) 3,3'-Iminopropylamine 3,3'-diaminodipropylamine 3,3-Diaminodipropylamine 4-Azaheptamethylenediamine 4-Azaheptane-1,7-diamine Aminobis(propylamine) Caldine Dipropylamine, 3,3'-diamino- Dipropylene triamine Dipropylentriamin Imino-bis(3-propylamine) Iminobis(propylamine) N-(3-Aminopropyl)-1,3-propanediamine N-3-Aminopropyl-1,3-diaminopropane NSC 7773 Norspermidine P 2 (hardener) Propylamine, 3,3'-iminobis- UN 2269 bis(3-aminopropyl)amine dipropylamine, 3,3'-diamino imino-bis-propylamine
Inchi:	InChI=1S/C6H17N3/c7-3-1-5-9-6-2-4-8/h9H,1-8H2
InchiKey:	OTBHHUPVCYLGQO-UHFFFAOYSA-N
Formula:	C6H17N3
SMILES:	NCCCNCCCN
Mol. weight [g/mol]:	131.22
CAS:	56-18-8

Physical Properties

Property code	Value	Unit	Source

gf	221.93	kJ/mol	Joback Method
hf	-46.12	kJ/mol	Joback Method
hfus	26.79	kJ/mol	Joback Method
hvap	56.67	kJ/mol	Joback Method
log10ws	-0.39		Crippen Method
logp	-0.726		Crippen Method
mcvol	125.340	ml/mol	McGowan Method
pc	3598.56	kPa	Joback Method
ripol	1960.00		NIST Webbook
ripol	1948.00		NIST Webbook
ripol	1948.00		NIST Webbook
ripol	1930.00		NIST Webbook
tb	513.75	K	NIST Webbook
tc	726.53	K	Joback Method
tf	267.93 ± 0.30	K	NIST Webbook
tf	267.10 ± 0.60	K	NIST Webbook
tf	258.37 ± 0.35	K	NIST Webbook
tf	258.60 ± 0.25	K	NIST Webbook
tf	268.15 ± 0.20	K	NIST Webbook
tf	267.05	K	NIST Webbook
vc	0.465	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	310.83	J/mol×K	531.91	Joback Method
cpg	366.28	J/mol×K	694.09	Joback Method
cpg	356.30	J/mol×K	661.66	Joback Method
cpg	345.78	J/mol×K	629.22	Joback Method
cpg	334.71	J/mol×K	596.78	Joback Method
cpg	323.06	J/mol×K	564.35	Joback Method
cpg	375.75	J/mol×K	726.53	Joback Method
rhol	906.97	kg/m3	323.00	Measurement and Correlation of the Physicochemical Properties of Novel Aqueous Bis(3-aminopropyl)amine and Its Blend with N-Methyldiethanolamine for CO2 Capture

rhol	911.18	kg/m3	318.00	Measurement and Correlation of the Physicochemical Properties of Novel Aqueous Bis(3-aminopropyl)amine and Its Blend with N-Methyldiethanolamine for CO2 Capture
rhol	915.28	kg/m3	313.00	Measurement and Correlation of the Physicochemical Properties of Novel Aqueous Bis(3-aminopropyl)amine and Its Blend with N-Methyldiethanolamine for CO2 Capture
rhol	919.32	kg/m3	308.00	Measurement and Correlation of the Physicochemical Properties of Novel Aqueous Bis(3-aminopropyl)amine and Its Blend with N-Methyldiethanolamine for CO2 Capture
rhol	923.34	kg/m3	303.00	Measurement and Correlation of the Physicochemical Properties of Novel Aqueous Bis(3-aminopropyl)amine and Its Blend with N-Methyldiethanolamine for CO2 Capture
rhol	927.36	kg/m3	298.00	Measurement and Correlation of the Physicochemical Properties of Novel Aqueous Bis(3-aminopropyl)amine and Its Blend with N-Methyldiethanolamine for CO2 Capture

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source

tbrp	424.20	K	6.70	NIST Webbook

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Excess molar enthalpies for binary mixtures of different amines with water:	https://www.doi.org/10.1016/j.jct.2015.04.030
Measurement and Correlation of the Physicochemical Properties of Novel Aqueous Bis(3-aminopropyl)amine and Its Blend with N-Methyldiethanolamine for CO2 Capture:	https://www.doi.org/10.1021/acs.jced.5b00922
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=C56188&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
rhol:	Liquid Density
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume