



>>Entry Name: ***N,N'*-Bis(3-aminopropyl)-1,3-propanediamine**, 9Cl

Synonym(s): 1,11-Diamino-4,8-diazaundecane. 1,5,9,13-Tetraazatridecane, 8Cl. Norspermine. **Thermine**

CAS Registry Number: 4605-14-5

Extra CAS Registry Numbers(s): 16632-23-8

$\text{H}_2\text{NCH}_2\text{CH}_2\text{CH}_2\text{NHCH}_2\text{CH}_2\text{CH}_2\text{NHCH}_2\text{CH}_2\text{CH}_2\text{NH}_2$

Molecular Formula: $\text{C}_9\text{H}_{24}\text{N}_4$

Molecular Weight: 188.315

Accurate Mass: 188.200096

Percentage Composition: C 57.40%; H 12.85%; N 29.75%

Biological Source: Metab. of various bacteria and plant spp.

Melting Point: Mp 260° (as tetrahydrochloride)

Aldrich: 40481-0

References:

Aldrich Library of ^{13}C and ^1H FT NMR Spectra, 1992, **1**, 503B, (*nmr*)

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **1**, 309B, (*ir*)

Dagnall, S.P. *et al.*, *J.C.S. Perkin 2*, 1984, 435, (*cmr*)

Clay, R.M. *et al.*, *Inorg. Chem.*, 1985, **24**, 3330, (*synth*)

Hamana, K. *et al.*, *J. Biochem. (Tokyo)*, 1985, **97**, 1595; 1991, **109**, 444, (*occur*)

Vaultier, M. *et al.*, *Synth. Commun.*, 1992, **22**, 665, (*synth*)