



>> **Name: Ammonium bromide**

CAS Registry Number: 12124-97-9

$[\text{NH}_4]^{(+)}\text{Br}^{(-)}$ (cubic)

Molecular Formula: BrH_4N

Molecular Weight: 97.942

Accurate Mass: 96.97271

Percentage Composition: Br 81.58%; H 4.12%; N 14.30%

Source/Synthesis: Synth. from $\text{NH}_3 + \text{Br}_2$ or from $\text{NH}_3 + \text{HBr}$

Use/Importance: Commercially available. Has pharmaceutical and photographic applications

Physical Description: White cryst. solid, subl. when heated

Boiling Point: Subl. 400°

Solubility: V. sol. H_2O

Other Data: d_4^{20} 2.40. V.p. 862 mm at 400°

Aldrich: 34392-7

Fluka: 9697

Sigma: A2335

>> **Derivative:** Tetra-deutero compd.

Synonym(s): Tetradeuteroammonium bromide

CAS Registry Number: 12265-06-4

Molecular Formula: BrD_4N

Molecular Weight: 101.967

Source/Synthesis: Synth. from $\text{NH}_4\text{Br} + \text{excess D}_2\text{O}$

Use/Importance: Commercially available

Physical Description: Tetragonal or cubic cryst.

Solubility: V. sol. H_2O

Other Data: Interatomic distance: N-D 103 pm

Aldrich: 17657-5

Sigma: A5016

References:

Gmelin Handbook Inorg. Chem., Syst. No. 23, 1936, 203

Levy, H.A. *et al.*, *J.A.C.S.*, 1953, **75**, 1536, (*deriv, synth, struct*)

Mellor Compr. Treat. Inorg. Theor. Chem., Longman, London, *Part 1*, 1964, **8/I**, 435, (*rev*)

Press, W. *et al.*, *Phys. Rev. B*, 1976, **14**, 1983, (*deriv, nd*)

Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **2**, 524

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, ANC250