



>>Entry Name: Sodium bromide (NaBr), 8CI

CAS Registry Number: 7647-15-6

NaBr

Molecular Formula: BrNa

Molecular Weight: 102.894

Accurate Mass: 101.928103

Percentage Composition: Br 77.66%; Na 22.34%

Source/Synthesis: Synth. by neutralisation of NaOH or Na₂CO₃ with aq. HBr initially as dihydrate

Use/Importance: Commercially available

Biological Use/Importance: Sedoneural, anticonvulsant agent

Physical Description: Hygroscopic colourless cubic cryst.

Melting Point: Mp 747°

Boiling Point: Bp 1390°

Solubility: V. sol. H₂O (116 g per 100 cm³ at 50°; 121 g per 100 cm³ at 100°)

Other Data: ΔH_f° -361.4 kJ mol⁻¹; ΔG_f° -349.3 kJ mol⁻¹; S° 86.8 JK⁻¹ mol⁻¹

Hazard & Toxicity: Irritant

Aldrich: 46059-1

Fluka: 71329

Sigma: S4547

>>Derivative: Dihydrate

CAS Registry Number: 13466-08-5

Molecular Formula: BrH₄NaO₂

Molecular Weight: 138.924

Percentage Composition: Br 57.52%; H 2.90%; Na 16.55%; O 23.03%

Source/Synthesis: Cryst. from aq. solns. of NaBr

Physical Description: Colourless monoclinic cryst. Dec. on heating with H₂O loss (-2H₂O at 51°)

Solubility: V. sol. H₂O (79 g per 100 cm³ at 25°)

Other Data: ΔH_f° -952 kJ mol⁻¹; ΔG_f° -828 kJ mol⁻¹; S° 179 JK⁻¹ mol⁻¹

References:

Swanson, H.E. *et al.*, *Natl. Bur. Stand. Circ. (U.S.)*, 1954, **3**, 47, (*cryst struct*)

Lecomte, J., *Boll. Sci. Fac. Chim. Ind. Bologna*, 1963, **21**, 51; *CA*, 1964, **60**, 4956d, (*ir*)

Haaf, W.R. *et al.*, *Acta Cryst.*, 1964, **17**, 730, (*cryst struct, dihydrate*)

Gmelin Handbook Inorg. Chem., Syst. No. 21, 1964, **1**, 150, (*rev, bibl*)

Bonera, G. *et al.*, *Phys. Rev.*, 1968, **165**, 391, (*Br-81 nmr*)

Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **21**, 224, (*rev*)

Chase, M.W. *et al.*, *J. Phys. Chem. Ref. Data*, 1985, **14**, 447, (*thermodyn*)

Tabeta, R. *et al.*, *Bull. Chem. Soc. Jpn.*, 1986, **59**, 1957, (*Na-23 nmr*)

Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 3134B, (*haz*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, SFG500