



>>Entry Name: Sodium amide, 8CI

Synonym(s): Sodamide

CAS Registry Number: 7782-92-5

NaNH₂

Molecular Formula: H₂NNa

Molecular Weight: 39.012

Accurate Mass: 39.008491

Percentage Composition: H 5.17%; N 35.90%; Na 58.93%

Source/Synthesis: Synth. either by dec. of solns. of Na in liq. NH₃ in the presence of a catalyst or by reaction of liq. Na with gaseous NH₃ at =300°

Use/Importance: Commercially available either as the solid or suspended in toluene or xylene. Widely used as a catalyst and reagent in org. chem.

Physical Description: Colourless orthorhombic cryst. Moisture sensitive

Melting Point: Mp 210°

Boiling Point: Bp 400°

Solubility: Spar. sol. liq. NH₃ (0.14 g per 100 cm³ at 0°)

Other Data: ΔH_f -124 kJ mol⁻¹; ΔG_f -64 kJ mol⁻¹; S° 77 J K⁻¹ mol⁻¹. Dissolves in H₂O → NaOH and NH₃. Dec. on heating with evolution of H₂, N₂ and NaH

Hazard & Toxicity: Flammable solid

Aldrich: 29158-7

Fluka: 71282

References:

Juza, R. *et al.*, *Z. Anorg. Allg. Chem.*, 1956, **284**, 72, (*cryst struct*)

Novak, A., *C. R. Hebd. Seances Acad. Sci.*, 1965, **261**, 455, (*ir*)

Gmelin Handbook Inorg. Chem., Syst. No. 21, 1966, **3**, 917, (*rev, bibl*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1034, (*use*)

Cunningham, P.T. *et al.*, *J. Chem. Phys.*, 1972, **57**, 1415, (*Raman*)

Krachanov, Kh. *et al.*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, **12**, 3, (*uses*)

Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 3129A, (*haz*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, SEN000