



>>Entry Name: Beryllium hydroxide (Be(OH)₂), 8Cl

CAS Registry Number: 13327-32-7

Be(OH)₂

Molecular Formula: BeH₂O₂

Molecular Weight: 43.027

Accurate Mass: 43.017662

Percentage Composition: Be 20.95%; H 4.68%; O 74.37%

General Statement: Orthorhombic, struct. resembles ε-Zn(OH)₂. Freshly precipitated Be(OH)₂ is an amorph. jelly-like material which is transformed with time into a much less sol. modification. Hydrol. of beryllium(II) in aq. salt solns. results in the formation of Be₂(OH)³⁽⁺⁾, Be₃(OH)₃³⁽⁺⁾ and Be₅(OH)₇³⁽⁺⁾ species

Source/Synthesis: Prep. by hydrol. of Be²⁽⁺⁾ salts in aq. [NH₄]Cl or NaCl soln.

Physical Description: Colourless orthorhombic cryst. Dec. on heating with H₂O loss forming BeO (>1000°)

Solubility: Pract. insol. H₂O (3 x 10⁻⁵ g per 100 cm³ at 25°)

Other Data: ΔH_f^o -906 kJ mol⁻¹, ΔG_f^o -818 kJ mol⁻¹; S^o 50 J K⁻¹mol⁻¹

Hazard & Toxicity: Highly toxic; suspected carcinogen

>>Derivative: Dihydrate

CAS Registry Number: 65860-57-3

Molecular Formula: BeH₆O₄

Molecular Weight: 79.057

Accurate Mass: 79.038792

Percentage Composition: Be 11.40%; H 7.65%; O 80.95%

Physical Description: Colourless cryst., dec. on heating with H₂O loss

>>Variant: β-form

Molecular Formula: BeH₂O₂

Molecular Weight: 43.027

Accurate Mass: 43.017662

Percentage Composition: Be 20.95%; H 4.68%; O 74.37%

Source/Synthesis: Synth. from NaOH and BeSO₄·4H₂O

Physical Description: Colourless cryst.

References:

Haber, F. *et al.*, *Z. Anorg. Allg. Chem.*, 1940, **38**, 377, (*synth*)

Seitz, A. *et al.*, *Z. Anorg. Allg. Chem.*, 1950, **261**, 94, (*cryst struct*)

Mesmer, R.E. *et al.*, *Inorg. Chem.*, 1967, **6**, 1951, (*hydrol*)

Walrafen, G.E. *et al.*, *Appl. Spectrosc.*, 1979, **33**, 524, (*dihydrate, ir, Raman*)

Chase, M.W. *et al.*, *J. Phys. Chem. Ref. Data*, 1985, **14**, 389, (*thermochem data*)

Stahl, R. *et al.*, *Z. Anorg. Allg. Chem.*, 1998, **624**, 1130-1136, (*β-form, synth, cryst struct*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, BFS250