



>>Entry Name: Ytterbium(III) sulfate (Yb₂(SO₄)₃)

CAS Registry Number: 13469-97-1

Yb₂(SO₄)₃

Molecular Formula: O₁₂S₃Yb₂

Molecular Weight: 634.271

Accurate Mass: 631.725946

Percentage Composition: O 30.27%; S 15.17%; Yb 54.56%

Source/Synthesis: Anhyd. salt prepd. by heating hydrate

Physical Description: V. hygroscopic colourless solid

Melting Point: Mp 900 dec.°

Solubility: Sol. H₂O (sl. sol. hot)

Other Data: μ_{eff} = 5.05μ_B

>>Derivative: Octahydrate

CAS Registry Number: 10034-98-7

Molecular Formula: H₁₆O₂₀S₃Yb₂

Molecular Weight: 778.392

Accurate Mass: 775.810466

Percentage Composition: H 2.07%; O 41.11%; S 12.36%; Yb 44.46%

Physical Description: Colourless prisms

Solubility: V. sol. H₂O

Other Data: 8-Coord., geometry intermed. between square antiprism and dodecahedron. Loses H₂O on heating. Other hydrates reported. Isostructural with Nd analogue

Aldrich: 32603-8

Rare Chemicals Library: S46269-1

References:

Nilson, L.F., *Ber.*, 1880, **13**, 1439, (*synth*)

Cabrera, B. *et al.*, *C. R. Hebd. Seances Acad. Sci.*, 1929, **188**, 1640, (*magnetism*)

Postmus, C. *et al.*, *J. Chem. Phys.*, 1968, **48**, 3605, (*ir*)

Hiltunen, L. *et al.*, *Cryst. Struct. Commun.*, 1976, **5**, 561, (*cryst struct*)

Pokrovskii, A.N. *et al.*, *Zh. Neorg. Khim.*, 1976, **21**, 567; *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1976, **21**, 305, (*tga, dta*)

Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **C8**, 191, (*rev*)

Saito, A., *Thermochim. Acta*, 1988, **124**, 217, (*synth, dta*)