



>>Entry Name: Samarium(III) sulfate ($\text{Sm}_2(\text{SO}_4)_3$)

Synonym(s): Samarium sulfate

CAS Registry Number: 13692-98-3

$\text{Sm}_2(\text{SO}_4)_3$

Molecular Formula: $\text{O}_{12}\text{S}_3\text{Sm}_2$

Molecular Weight: 588.911

Accurate Mass: 591.694648

Percentage Composition: O 32.60%; S 16.33%; Sm 51.06%

Source/Synthesis: Synth. by heating hydrate

Physical Description: Hygroscopic light yellow solid

Solubility: Sol. H_2O

>>Derivative: Octahydrate

Synonym(s): Samarium sulfate octahydrate

CAS Registry Number: 13465-58-2

Molecular Formula: $\text{H}_{16}\text{O}_{20}\text{S}_3\text{Sm}_2$

Molecular Weight: 733.032

Accurate Mass: 735.779168

Percentage Composition: H 2.20%; O 43.65%; S 13.12%; Sm 41.02%

Use/Importance: Commercially available

Physical Description: Pale yellow monoclinic cryst.

Solubility: Sl. sol. H_2O

Other Data: 8-Coord. $\mu = 1.67\mu_{\text{B}}$. Loses $8\text{H}_2\text{O}$ at 450°

Aldrich: 20428-5

References:

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Coey, J.M.D., *J. Inorg. Nucl. Chem.*, 1976, **38**, 1139, (*Mössbauer*)

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

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