



>>Entry Name: Gadolinium sulfate ($\text{Gd}_2(\text{SO}_4)_3$)

CAS Registry Number: 13628-54-1

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

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

Molecular Weight: 602.691

Accurate Mass: 603.703388

Percentage Composition: Gd 52.18%; O 31.86%; S 15.96%

Source/Synthesis: Synth. by heating hydrate

Physical Description: Colourless cryst.

Melting Point: Mp 500 dec.°

Solubility: Sl. sol. H_2O

>>Derivative: Octahydrate

CAS Registry Number: 13450-87-8

Physical Description: Colourless monoclinic cryst.

Solubility: Sl. sol. H_2O

Other Data: $\mu_{\text{eff}} = 7.82\mu_{\text{B}}$. Has 8-coord. Gd bound to four water and four sulfate oxygens in sq. antiprisms

Aldrich: 20330-0

References:

Benedicks, C., *Z. Anorg. Allg. Chem.*, 1900, **22**, 393, (*synth*)

Ivanov, V.I., *Acta Cryst. A, Suppl.*, 1966, **21**, 55, (*cryst struct*)

Mukherji, A. *et al.*, *J. Phys. Soc. Jpn.*, 1967, **22**, 525, (*magnetism*)

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

Cetas, T.C., *Metrologia*, 1976, **12**, 27, (*magnetism*)

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

Misra, S.K. *et al.*, *J. Phys. Chem. Solids*, 1979, **40**, 477, (*epr*)

Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **C8**, 165, (*rev*)

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

Hummel, H.U. *et al.*, *Z. Anorg. Allg. Chem.*, 1993, **619**, 805, (*cryst struct, dta*)