



>>Entry Name: Gadolinium(III) oxide (Gd₂O₃)

Synonym(s): Gadolinia

CAS Registry Number: 12064-62-9

Gd₂O₃

Molecular Formula: Gd₂O₃

Molecular Weight: 362.498

Accurate Mass: 363.832943

Percentage Composition: Gd 86.76%; O 13.24%

General Statement: Occurs as rare earth sesquioxide B and C structs.

Physical Description: White hygroscopic powder

Melting Point: Mp 2339°

Boiling Point: Bp 3900°

Solubility: Insol H₂O; sol. acid

Other Data: μ_{eff} = 7.90μ_B. Obt. by thermal dec. of Gd salts

Aldrich: 27851-3

Fluka: 48220

Sigma: G0125

References:

Guentert, O.J. *et al.*, *Acta Cryst.*, 1958, **11**, 746, (*cryst struct*)

Schinkel, Y. *et al.*, *Phys. Lett. A*, 1973, **44**, 467, (*magnetism*)

Moon, R.M. *et al.*, *Phys. Rev. B*, 1975, **11**, 1609, (*magnetism*)

Andreeva, A.F. *et al.*, *Izv. Akad. Nauk SSSR, Neorg. Mater.*, 1978, **14**, 502, (*synth*)

Dole, S.C. *et al.*, *Mater. Sci. Eng.*, 1978, **32**, 277, (*synth*)

Eyring, L., *Handbook on the Physics and Chemistry of Rare Earths*, 1979, **3**, 337, (*rev*)

Zarembowitch, J. *et al.*, *J. Raman Spectrosc.*, 1980, **9**, 263, (*Raman*)

Gouteron, J. *et al.*, *J. Solid State Chem.*, 1981, **38**, 288, (*ir, Raman, struct*)

Gmelin Handbook Inorg. Chem., Syst. No. 39, 1984, **C1**, 378, (*rev*)

Porotnikov, N.V. *et al.*, *Zh. Neorg. Khim.*, 1985, **30**, 1635, (*ir*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, GAP000