



>>Entry Name: Samarium(III) oxide (Sm₂O₃)

Synonym(s): Samaria

CAS Registry Number: 12060-58-1

Extra CAS Registry Numbers(s): 12651-06-8

Sm₂O₃

Molecular Formula: O₃Sm₂

Molecular Weight: 348.718

Accurate Mass: 351.824203

Percentage Composition: O 13.76%; Sm 86.24%

Physical Description: Yellow-white powder (orange cryst.)

Melting Point: Mp 2269° (2345°)

Boiling Point: Bp 3780°

Solubility: Insol. H₂O; sol. acid

Other Data: Obtd. on thermal dec. of Sm salts. $\mu_{\text{eff}} = 1.54\mu_{\text{B}}$

Aldrich: 39439-4

Fluka: 84460

Sigma: S1125

References:

Cromer, D.T., *J. Phys. Chem.*, 1957, **61**, 753, (*cryst struct*)

Gmelin Handbook Inorg. Chem., Syst. No. 39, 1974, **C1**, 315, (*rev*)

Bernier, J.C. *et al.*, *Solid State Commun.*, 1975, **16**, 349, (*struct, magnetism*)

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

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

Fierro, J.L.G. *et al.*, *J. Colloid Interface Sci.*, 1984, **100**, 303, (*use*)

Volkov, A.I. *et al.*, *Khim. Khim. Tekhnol. (Minsk)*, 1984, **19**, 42, (*synth*)

Ekstrom, A. *et al.*, *J.A.C.S.*, 1988, **110**, 5226, (*use*)