



>>Entry Name: Mercury(II) selenide (HgSe)

CAS Registry Number: 20601-83-6

HgSe

Molecular Formula: HgSe

Molecular Weight: 279.55

Accurate Mass: 281.887137

Percentage Composition: Hg 71.75%; Se 28.25%

cinnabar-type → NaCl-type → body centred tetragonal

Source/Synthesis: Synth. from elements or dil. $\text{HgCl}_2 + \text{H}_2\text{Se}$

Physical Description: Grey black solid (subl. material is violet-black)

Melting Point: Mp 790°

Boiling Point: Subl. 600°

Solubility: Insol. H_2O ; sol. $[\text{NH}_4]\text{SeH}$ to give red soln.

Other Data: Semi-metal at 1 atm.; high pressure phase is superconductive

Aldrich: 40071-8

References:

Kruse, P.W. *et al.*, *Infrared Phys.*, 1962, **2**, 53, (*photoeffects*)

Blue, M.D., *Phys. Chem. Solids*, 1962, **23**, 577, (*synth, elec props*)

Kafalas, J.A. *et al.*, *Phys. Chem. Solids*, 1962, **23**, 1541, (*phase trans, powder struct, cinnabar form*)

Mariano, A.N. *et al.*, *Science (Washington, D.C.)*, 1963, **142**, 672, (*struct*)

Cruceanu, E. *et al.*, *Kristallografiya*, 1964, **9**, 537, (*cryst struct*)

Gmelin Handbook Inorg. Chem., Syst. No. 34, 1968, 1048

Smirnova, R.I. *et al.*, *Zh. Neorg. Khim.*, 1971, **16**, 840, (*synth, thermal anal, powder struct*)

Brauer, G., *Handbuch Prep. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **2**, 1056, (*synth*)

Szuskiewicz, W., *Pr. Inst. Fiz., Pol. Akad. Nauk.*, 1977, **74**, 103, (*opt props*)

Koch, W. *et al.*, *Z. Phys. A*, 1978, **289**, 17, (*Se-77 nmr*)

Gluzman, N.G. *et al.*, *Fiz. Tverd. Tela (Leningrad)*, 1979, **21**, 3192, (*high pressure phase, cryst struct*)

Huang, T.-L. *et al.*, *Phys. Rev. B: Condens. Matter*, 1983, **27**, 7811; 1985, **31**, 5976, (*high pressure phase, powder struct*)

Doctor, N.Z. *et al.*, *J. Solid State Chem.*, 1986, **62**, 177, (*synth*)