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>>Entry Name: Silver(I) iodide

CAS Registry Number: 7783-96-2

AgI

**Molecular Formula:** AgI

**Molecular Weight:** 234.773

**Accurate Mass:** 233.809565

**Percentage Composition:** Ag 45.95%; I 54.05%

sphalerite struct. NaCl struct. available only at elevated pressure

**Source/Synthesis:** Synth. from  $\text{Ag}^{(+)} + \text{I}^{(-)}$  in  $\text{H}_2\text{O}$ ; addn. of 1-thioglycerol gives nanoparticles

**Use/Importance:** Used in cloud precipitation and as a local antiinfective. Commercially available. Many studies of optical and surface props. for role in photography and in applic. in glass electrolytes

**Physical Description:** Light yellow odourless powder. Slowly darkens in light. Cryst. are hexagonal or cubic

**Melting Point:** Mp 558°

**Boiling Point:** Bp 1504°

**Solubility:** Insol.  $\text{H}_2\text{O}$ , acids, ammonium carbonate; sol. aq. alkali cyanides and iodides

**Other Data:**  $\Delta H_f -62.6 \text{ kJ mol}^{-1}$ ;  $\Delta G_f -66.6 \text{ kJ mol}^{-1}$

**Aldrich:** 20440-4

**Fluka:** 85200

**References:**

Cochrane, G., *Br. J. Appl. Phys.*, 1967, **18**, 687, (*synth, single cryst*)

Canterford, J.H. *et al.*, *Halides of the Second and Third Row Transition Metals*, Wiley, 1968, 395

Takahashi, T., *J. Appl. Electrochem.*, 1973, **3**, 79, (*conductivity*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **2**, 995, (*synth*)

Wright, A.F. *et al.*, *J. Phys. C: Solid State Phys.*, 1977, **10**, 2271, (*cryst struct*)

Boyle, J.B. *et al.*, *Phys. Rev. Lett.*, 1977, **38**, 1362, (*exafs*)

Cava, R.J. *et al.*, *Solid State Commun.*, 1977, **24**, 411, (*nd*)

*Kirk-Othmer Encycl. Chem. Technol.*, 3rd edn., Wiley, 1978, **21**, 16

Wells, A.F., *Structural Inorg. Chem.*, 5th Ed. O.U.P., 1984, 410, (*struct*)

*Merck Index*, 11th edn., 1989, No. 8462

Chen, S. *et al.*, *Chem. Comm.*, 1997, 2301-2302, (*nanoparticles*)