



>>Entry Name: Copper(I) iodide (CuI)

ENTRY UNDER REVIEW

Synonym(s): Cuprous iodide

CAS Registry Number: 7681-65-4

Related CAS Registry Numbers(s): 24401-69-2

CuI

Molecular Formula: CuI

Molecular Weight: 190.451

Accurate Mass: 189.844071

Percentage Composition: Cu 33.37%; I 66.63%

General Statement: Polymorphic. γ -CuI (zinc blende struct.) exists below 420°, β -CuI (wurtzite struct.) between 402 and 440°, and α -CuI (cubic) above 440°

Source/Synthesis: Occurs in nature as the rare mineral *Marshite*. Prepd. by precipitation from $\text{CuSO}_4 + \text{KI}$ in the presence of excess H_2SO_3

Use/Importance: Used as a catalyst in org. synth. and as the classical precursor for organocopper(I) and organocuprate reagents, as a feed additive (source of iodine), and in cloud seeding. Dietary iodine supplement for use in table salt and animal feed

Physical Description: White cryst. Stable in light and air

Melting Point: Mp 606°

Boiling Point: Bp 1290°

Solubility: V. insol. H_2O

Aldrich: 21555-4

Fluka: 61195

Sigma: C1672

References:

Krug, J. *et al.*, *Z. Naturforsch., A*, 1952, **7**, 369, (*cryst struct, polymorphs*)

Inorg. Synth., 1960, **6**, 3, (*synth*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 169, (*use*)

Brauer, G., *Handbuch Prep. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **2**, 975, (*synth*)

Matsumoto, K. *et al.*, *Talanta*, 1975, **22**, 695, (*ms*)

Burns, G. *et al.*, *Solid State Commun.*, 1977, **24**, 753, (*Raman*)

Becker, K.D. *et al.*, *J. Chem. Phys.*, 1978, **68**, 3785, (*nmr*)

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