



>>Entry Name: Copper(I) bromide (CuBr)

Synonym(s): Cuprous bromide

CAS Registry Number: 7787-70-4

CuBr

Molecular Formula: BrCu

Molecular Weight: 143.45

Accurate Mass: 141.877934

Percentage Composition: Br 55.70%; Cu 44.30%

General Statement: Polymorphic. γ -CuBr (zinc-blende struct.) exists below 390°, β -CuBr (Wurtzite struct.) between 391 and 470°, and α -CuBr (cubic) above 470°

Source/Synthesis: Prepd. by reducing aq. CuSO₄ contains KBr with SO₂ or with metallic Cu. Can also be prepd. from the elements

Use/Importance: Catalyst for activation of CH₂N₂, for the Sandmeyer reaction and the arylation of alkenes by diazonium salts

Physical Description: Colourless cryst.

Melting Point: Mp 504°

Boiling Point: Bp 1345°

Solubility: Sl. sol. H₂O; prac. insol. Me₂CO

Aldrich: 21286-5

Fluka: 61163

Sigma: C1422

References:

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

Rosenstock, H.M. *et al.*, *J. Chem. Phys.*, 1955, **23**, 2442, (*ms*)

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Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **2**, 973, (*synth*)

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

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Theis, A.B. *et al.*, *Synth. Commun.*, 1981, **11**, 157, (*synth*)

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