



>>Entry Name: Copper oxide (CuO)

Synonym(s): Cupric oxide. Black copper oxide. Tenorite

CAS Registry Number: 1317-38-0

Extra CAS Registry Numbers(s): 1317-92-6

CuO

Molecular Formula: CuO

Molecular Weight: 79.545

Accurate Mass: 78.934513

Percentage Composition: Cu 79.89%; O 20.11%

General Statement: Has distorted Cooperite (PtS) struct.

Source/Synthesis: Occurs in nature as the mineral *Tenorite*. Prepd. by ignition of CuCO₃ or Cu(NO₃)₂; also by oxidation of Cu in O₂

Use/Importance: Used as a pigment in ceramics

Physical Description: Brownish-black amorph. or cryst. powder

Melting Point: Mp 1326°

Solubility: Insol. H₂O, EtOH

Other Data: Antiferromagnetic below 225K

Aldrich: 20313-0

Fluka: 61203

Sigma: C2520

References:

Wilke, K.T., *Z. Anorg. Allg. Chem.*, 1964, **330**, 164, (*synth*)

Asbrink, S. *et al.*, *Acta Cryst. B*, 1970, **26**, 8, (*cryst struct*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **2**, 979, (*synth*)

Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **7**, 106, (*rev*)

Forsynth, J.B. *et al.*, *J. Phys. C: Solid State Phys.*, 1988, **21**, 2917, (*magnetism*)

Tsuda, T. *et al.*, *J. Phys. Soc. Jpn.*, 1988, **57**, 2908, (*Cu nmr*)

Hanuza, J. *et al.*, *J. Mol. Struct.*, 1989, **193**, 57, (*ir, Raman*)

Merck Index, 11th edn., 1989, No. 2650

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, CNO250