



>>Entry Name: Bis(cyano-C)cuprate(1-), 9CI

Synonym(s): Dicyanocuprate(1-)

CAS Registry Number: 13682-73-0

$[\text{Cu}(\text{CN})_2]^{(-)}$

Molecular Formula: $\text{C}_2\text{CuN}_2^{(-)}$

Molecular Weight: 115.581

Accurate Mass: 114.945746

Percentage Composition: C 20.78%; Cu 54.98%; N 24.24%

General Statement: The anion forms helical chains with each copper atom 3-coord.

>>Derivative: Na salt

Synonym(s): Sodium dicyanocuprate(I). Copper sodium cyanide ($\text{CuNa}(\text{CN})_2$). Cuprous sodium cyanide

CAS Registry Number: 13715-19-0

Molecular Formula: $\text{C}_2\text{CuN}_2\text{Na}$

Molecular Weight: 138.571

Accurate Mass: 137.935513

Percentage Composition: C 17.34%; Cu 45.86%; N 20.22%; Na 16.59%

Melting Point: Mp 100° (dec.)

>>Derivative: K salt

Synonym(s): Potassium dicyanocuprate(I). Copper potassium cyanide ($\text{CuK}(\text{CN})_2$). Cuprous potassium cyanide

Molecular Formula: C_2CuKN_2

Molecular Weight: 154.68

Accurate Mass: 153.909453

Percentage Composition: C 15.53%; Cu 41.08%; K 25.28%; N 18.11%

Use/Importance: Used in electroplating

Physical Description: Cryst. (KCN aq.)

Solubility: Spar. sol. H_2O

References:

Basset, H. *et al.*, *J.C.S.*, 1924, 1660, (*synth*)

Staritzky, E. *et al.*, *Anal. Chem.*, 1956, **28**, 419, (*synth, cryst struct*)

Cromer, D.T., *J. Phys. Chem.*, 1957, **61**, 1388, (*cryst struct*)

Sharpe, A.G., *The Chemistry of Cyano Complexes of the Transition Metals*, Interscience, New York, 1976, 266

Hwang, J.Y. *et al.*, *J. Chin. Inst. Chem. Eng.*, 1987, **18**, 151, (*ir, Raman, relat compds*)

Merck Index, 11th edn., 1989, No. 2672

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, PLC175