Synthesis, Thermal and X-Ray Investigations of the High-Temperature Phase of Copper(I) Cyanide

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Z. Naturforsch. 58b, 155 – 158 (2003); received October 15, 2002

CuCN was investigated by chemical analysis, IR spectroscopy and powder X-ray diffraction. A high-temperature phase of CuCN was identified and structurally characterized by Rietveld refinement. HT-CuCN is isotypic to AgCN (R\textsuperscript{3}m (No. 166), Z = 3, a = 597.109(8), c = 484.33(5) pm, Cu (3a), C/N (6c), \(z = 0.3915(10)\) at 77 K) with head-tail disorder of the cyanide anions.

Key words: Copper, Cyanide, Structure Elucidation, Thermal Properties, Optical Spectroscopy