

structure (solids and liquids)

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Synthesis and X-Ray Structure of New Copper(II) Nitrates: Cu(NO₃)₂ · 2H₂O and β -Modification of Cu(NO₃)₂. —

Blue crystals of Cu(NO₃)₂ · 2H₂O (I) are obtained from the reaction of CuO with anhydrous HNO₃ (reflux, 5-10 min). This compound crystallizes in the monoclinic space group P2₁/c with Z = 4. Stable . β -Cu(NO₃)₂ (II) single crystals are prepared by sublimation of Cu(NO₃)₂ (α + β) in an evacuated tube (150→100 ° C, 24 h). (II) is orthorhombic, space group Pbcn, Z = 12. Both compounds contain square-planar CuO₄ units. In (I) the CuO₄ units are linked by bridging NO₃ groups to form zigzag chains which are connected to layers by additional longer Cu-O bonds. In (II) two types of CuO₄ units are connected to a three-dimensional framework via bridging NO₃ groups. — (TROYANOV, S. I.; MOROZOV, I. V.; ZNAMENKOV, K. O.; KORENEV, YU. M.; Z. Anorg. Allg. Chem. 621 (1995) 7, 1261-1265; Chem. Dep., State Univ., Moscow 119899, Russia; EN)