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ACUTE TOXICITY OF COPPER OXIDE NANOPARTICLE TO *DAPHNIA MAGNA* STRAUS, 1820 (CLADOCERA, CRUSTACEA)

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Nanomaterials are characterized by presenting size between 1 and 100 nm, and have specific proprieties that indicate their utilization in several areas. Copper nanoparticles (NPs) highlight by have excellent thermal and electrical conductivity, these properties allow their use in processes of heat and energy transference. Aquatic environments can be target of nanomaterials during their fabrication process, or their utilization in consumer products. In these environments, the interactions of nanoparticles with organisms have not yet been well characterized. The aim of this study was to evaluate the acute toxicity of copper oxide nanoparticles (CuONPs) to the cladocera *Daphnia magna,* thought the estimative of the mean effective concentration (EC_{50}-48h), that is, the concentration that causes effect (mortality and/or immobility) to 50% of the exposed organisms. The organisms were cultivated according to ABNT (2009). The CuONPs were synthesized according to Misra et al. (2014). Neonates of *D. magna* (< 24 h old) were exposed to CuONPs at the concentrations of 0 (control); 0.01; 0.03; 1.0; 3.0; 6.0 and 10.0 mg L^{-1} in an acute toxicity test during 48 hours. Every 24 hours, the mortality and/or immobility on organisms were evaluated. Water quality parameters were monitored during the assay. The CuONPs were characterized in the exposure medium at 0 and 48 hours. The CuONPs were toxic to the cladocera *D. magna*, with the estimated EC_{50}-48h of 1.22 mg L^{-1}. Water quality parameters of pH, dissolved oxygen and temperature remained constant during the exposure. There was CuONPs aggregation in the exposure medium. Our results are important for the understanding of the toxicity potential of these CuONPs on aquatic organisms, and the NPs behavior in the exposure medium. Therefore the regulation of CuONPs concentrations in the aquatic environment is of great importance for the cladocerans species protection and for the balance of aquatic food chains.