عنوان مقاله:
The Acute Toxicity of tin dioxide Nanoparticles on Chlorella vulgaris Algae

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خلاصه مقاله:
Nowadays, nanotechnology and the use of its components, including nanoparticles, have successfully improved the situation of industries in advancing production goals. Among these nanoparticles, SnO۲ or tin dioxide nanoparticle, which was used in this study, can be mentioned. Tin dioxide is used in the manufacture of batteries and fuel cells, capacitors, and catalysts, and the health of living organisms will be affected by the negative effects of factory effluents entering rivers and other water sources. In this study, the biotoxicity of tin oxide nanoparticles on Chlorella vulgaris algae, which is one of the primary producers and most important levels of the food chain was investigated. This research was conducted by the OECD acute toxicity test method (Counting method for algae, method ۲۰۱) and statistical probit analysis was performed in order to obtain toxicity data using the probit method. The results of exposure for Chlorella vulgaris in ۴۸ and ۷۲ hours, were EC۵۰ and EC۹۰ equal to ۶.۹۹, ۵۷.۵۴ and ۱۳.۰۸, and ۱.۰۷ x ۱۰۱۰ mg L-۱, respectively. The highest growth decrease after ۴۸ and ۷۲ hours was observed in ۵.۵ mg L-۱ SnO۲ NP. During the test period, no morphological changes were observed for any of the microorganisms, which are based on the toxicity of tin oxide nanoparticles.

کلمات کلیدی:
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