

Toxicity effect of colloidal silver nanoparticles of Barnacles larvae (*Amphibalanus Amphitrite*)

Fatemeh Sadeghi^{1*}
Morteza Yousefzadi²
Sakineh Mashjoor³

1. Master Student, Department of Marine Biology, Hormozgan University, Bandar Abbas, Iran

2. Associate Professor, Department of Marine Biology, Hormozgan University, Bandar Abbas, Iran

3. Ph.D Student of Marine Biology, Hormozgan University, Bandar Abbas, Iran

*Corresponding author:
sadeghi69.fatemeh@gmail.com

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Abstract

Regard to the increasing development of technology, concerns about the potential risks of nanoparticles containing materials release to the environment is increasing. Many ranges from industrial waste and wastewater to water (river, lake, coastal waters, etc) shed that release of nanoparticles in the environment has increase concerns. Environment release of nanoparticles in to the aquatic environment of the new environment problems is one that should be studied. Therefore, in this study the toxicity of silver nanoparticles in larval barnacles (*Amphibalanus amphitrite*) was evaluated by (OECD). The crustaceans are important in terms of economic and ecological. In this study, LC₅₀ within 24 hours for nauplius II, III, IV, V, VI the toxicity of colloidal silver nanoparticles at concentrations of 3. 1.5, 0.75, 0.37, 0.18, 0.09 mg/ml were tested. Considered the control treatment group without nano particles and the results were analyzed with software probit. The result showed that LC₅₀ after 24 hours exposure, respectively, 0.077, 0.046, 0.071, 0.006, 0.009 mg/ml and mortality increased with increasing concentration of exposure to nanoparticles. Showed this material is toxic to the larval of barnacle.

Keywords: Silver nanoparticles, Barnacles nauplius, LC₅₀.