Investigation of acute lethal concentration (LC_{50}96h) and maximum allowable concentration (M.A.C. value) of malachite green in zebra fish (*Danio rerio* Hamilton, 1822)

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Abstract

Acute lethal concentration (LC_{50}96h) and maximum allowable concentration (M.A.C. value) of malachite green in zebra fish (*Danio rerio* Hamilton, 1822) was measured. The purpose of this research was determination of allowable concentration use of malachite green for health uses in the mentioned fish in ornamental fish breeding farm. For this research a total number of 420 healthy zebra fish whit (5±0/5 gr) weight and (2/5±0/1 cm) height in 21 group of 20 (a testate and six treatment and each group three repetitions) were kept in different concentrations of malachite green which consists of (0/001, 0/01, 0/1, 0/3, 1, 2 mg/lit) for 96 hour .the Fish fatality were recorded at 1, 24, 48, 72 and 96 hours and the percentage of casualties was calculated relative to the initial number.Also maximum allowable concentration (M.A.C. value) of malachite green for the fishs under study based on the ratio 1/10 of acute lethal concentration was determined. Finally, the results showed that acute lethal concentration (LC_{50}96h) for zebra fish 0/173 mg/lit and maximum allowable concentration (M.A.C. value) is 0/017 and Compare these values with standard limits determining the toxicity of chemicals to living organisms indicated that malachite green for zebra fish is in the "high toxicity" range.

Keywords: Zebrafish, Acute lethal concentration, Green malachite, (LC5096h).