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P16. INVESTIGATION OF ACUTE TOXICITY OF SODIUM OMADINE ON *DREISSENA POLYMORPHA (ZEBRA MUSSEL)*

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Sodium omadine (NaOM, sodium pyrithione), a pollutant reaching aquatic ecosystems, used in our country and the world, is a wide spectrum antimicrobial preservative. In addition, it is an additive and biocidal (preventing rotting) agent used against bacterial and fungal growth. The aim of the present study is determination of the 7 days acute LC50 value of NaOM on the Dreissena polymorpha, model organism and invasive mussel species of the aquatic ecosystem.

Samples of D. polymorpha were taken from Hirfanlı Dam Lake and Kesikköprü Dam and transported to the laboratory under cold conditions, then adapted for one week. Each glass container had 2 L of water and 15 zebra mussels were stocked in aerated dechlorinated municipal tap water. Four different exposure dilutions of sodium omadine (aq. sol., 40%, Arch Chemicals, Inc.) were used for 7 days in the exposure experiments: 0.1, 0.5, 1, 2, 4 µg/L. LC50 (mortality) results were estimated using U.S. EPA Probit Analysis Program v1.5.

Average lenghts of the mussels were 14.4 mm (± 3.6). The 7 d LC50 value was estimated as 0.243 µg/L (95% confidence interval = 0.735 - 0.016) in the semistatic bioassay setup. One mussel in the control group (n=15) died on 96 h. NaOM was found to be very toxic to this indicator species. The only studies reporting toxicity of NaOM, LC50 values, were trout < 7.3 µg/L and bluegill sunfish 8100 µg/L. These results show NaOM to be very toxic to aquatic organisms, and agree with our results.

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