Acute Toxicity Test of Used oil Waste in Kalimas River of Surabaya to Mujair Fish (Tilapia missambicus) and Nila Fish (Oreochromis niloticus)

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ABSTRACT

Oil waste is one of liquid waste which pollute Kalimas river of Surabaya. It gives worse impact to the aquatic biota. This research was aimed to determine the concentration amount of hydrocarbon in the used oil wastewater of one and some motor vehicles to the mujair and nila fishes. Besides that, this research was also aimed to determine the value of LC50 by those oil wastes. Testing in this research was the acute toxicity test used variant concentration of 0%, 0.2%, 0.4%, 0.6%, 0.8%, and 1% of toxicant volume. The result showed that the value of LC50 by toxicant volume of one vehicle’s used oil waste reached (22.48 ± 1.2)% for mujair fish and (19.59 ± 1.3) for nila fish. Whereas the value of LC50 by toxicant volume of some vehicles’s used oil waste reached (11.58 ± 0.6)% for mujair fish and (22.4 ± 1.3) for nila fish. The content of hydrocarbon at a concentration that causes 50% mortality in the LC50 was 3515.8 mg/L for mujair fish and 3075.6 for nila fish by toxicant waste oil of one motor vehicle, while by toxicant waste oil of some motor vehicles reached 6211.5 mg/L for mujair fish and 16831.4 mg/L for nila fish.

Keywords: oil waste, LC50 toxicity test, Kalimas river.
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