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Assessment of acute toxicity of medical masks that have lost their consumer properties

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Daphnia magna Straus.

Abstract

This article reviews the toxicity assessment of used medical masks. Due to the current unfavorable epidemiological situation around the world, the amount of medical waste is growing exponentially. Special controversy is caused by medical masks that are used outside the walls of medical institutions and are not considered medical waste, according to the law. Used medical masks are not specially sorted and end up in landfills along with household waste. Determining the toxicity of such a waste is extremely important.

The toxicity of the used medical masks was determined using two test objects of crustaceans *Daphnia magna* Straus and the drug "Ecolum". The used medical masks were previously crushed and an aqueous extract obtained by leaching with distilled water (1:10). Samples were obtained by a series of dilutions for further testing on test objects.

Studies have shown that used medical masks are not acutely toxic. When using the crustaceans *Daphnia magna* Straus as a test object, the value $A = 48.8 \pm 4.88\%$, which indicates the absence of acute toxicity. When determining the toxicity index using the "Ecolum" preparation, the value of $T = 46.22 \pm 4.62$, which is also below the threshold value for wastes with acute toxicity. The absence of acute toxicity does not ensure the safety of the waste for the environment. There is a need to recycle this type of waste.

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- [7] *NND F T 14.1: 2: 3: 4.11-04* Toxicological control methods. Methods for determining the integral toxicity of surface, including sea, ground, drinking, waste water, water extracts of soils, waste, sewage sludge by changing the intensity of bacterial bioluminescence with the "ECOLUM" test system.
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