Comparison of the Toxic and Lethal Effects of the Cleaners Containing and Non-Containing Phosphate and Petroleum Derived Agents on Biomes in Aquatic and Terrestrial Ecosystem

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In this study, the things that can be done to reduce the pollution that comes from the detergents in household waste that cause hydrophilic and terrestrial pollution were researched. Ecologically less harmful products were researched by comparing toxical and lethal effects of cleaning products that don’t contain phosphate and petroleum-derived material on living beings in hydrophilic and terrestrial ecosystem, which can be used instead of the detergents containing phosphate and petroleum-derived material causing pollution. For this purpose, the toxical and lethal effects of the detergents that contain and don’t contain phosphate and petroleum-derived material on Daphnia magna and Lumbricus terrestris (Earthworm) were researched, also the effects of growth and development on Lens culinaris (Lentil) were examined. To compare its effects on eutrophication speed, its effects on the mass increase of Vesicularia dubyana were determined. Also, tests were done to compare the biodegradability periods of both cleaning products in the nature. Considering the data and findings of the experiments, it is determined that cleaning products not containing phosphate and petroleum-derived material have less toxical and lethal effect on Daphnia and earthworm compared to the ones containing phosphate and petroleum-derived material and they cause less mass increase on algae. It was observed that the ones that contain phosphate and petroleum-derived material have more negative effects on the growth and development of plants compared to the one which don’t contain those material. Besides, water pollution caused by detergents and eutrophication problem will be minimized.

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