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## P139. TOXICITY TESTING APPLIED TO WASTEWATER TREATMENT

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Population growth and increasing water consumption result in problems related to water throughout the world. Therefore, the number of the studies on the re-use of purified water and meeting the discharge limits has recently increased. While the purified industrial and domestic wastewaters are being discharged into the receiving environment, they should not contain micro-pollutants such as drugs, pesticides and especially chemicals leading to endocrine disorders and discharge limits should be met. These micro-pollutants lead to disruptions in the ecology of the aquatic and terrestrial environment. In recent years, toxicity tests have been implemented and bio-monitoring has been performed in order to determine the pollution parameters. The main aims of the toxicity tests are to determine harmless concentrations on the living creatures and to detect the quality of the surface waters or the level of toxicity of the pollution discharged. The studies aiming at determining the toxic effects of waste waters are conducted in consideration of their short-term and long-term effects on the freshwater (*Selenastrum capricornutum*) and saltwater (*Artemia salina*) algae, invertebrates (*Daphnia magna*) and fish (*Mysidopsis bahia*) so as to obtain results swiftly and to achieve favourable operating costs. Acute toxicity is the toxic substance dose (LD50) or concentration (LC50) needed for killing at least 50% of the experiment organisms or the median effective concentration (EC50) sufficient for immobilizing them. Such test kits as Microtox, Biotox, Lumistox and Toxalert and respirometric measurements are also commonly used. European Union countries discharge their domestic and industrial wastewaters into the receiving environment in line with the toxicity limit values in order to protect their existing resources. In our country, toxicity measurement limit values should be added to the discharge limits.

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