

Contribution of Wastewater Treatment Plant as Source of Microplastics: A Review

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Abstract

Presence of Microplastics as an emerging contaminant in the water can endanger living creatures. Recent researches focused on wastewater stated that wastewater treatment plant (WWTP) as one of the key sources of Microplastics found in water body or catchment area, related that WWTP is not effective in filtering out the contaminant. In this study, a review of contribution of WWTP as source of Microplastics was carried out at an airport WWTP with capacity 50 m³/days. The WWTP only treat domestic wastewater from activities in the airport. Descriptive approach for the review was done with the following objectives: 1) method that can be used in detecting Microplastics in WWTP; 2) characteristic of Microplastics in WWTP; and 3) advanced treatment that can be used to remove Microplastics in WWTP. The WWTP is disposing effluent indirectly into water body, but to rice field around it. Therefore, it is important to consider the impact because it can enter the human food chain, which also harmful for other living creatures. An advanced treatment is needed to eliminate impurities and Microplastics so it could safely be disposed into the environment. This study was conducted as an effort to reduce Microplastics pollution found in the environment.

Keywords

advanced treatment, effluent; microplastics; wastewater treatment plant; water body