

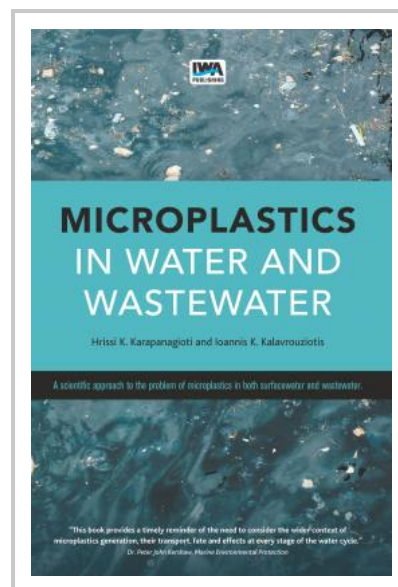
Microplastics in Water and Wastewater

Editor(s): Hrisi Karapanagioti, Ioannis Kalavrouziotis

This book covers the topic of microplastics in water and wastewater. The chapters start with introductory issues related to the growing interest in the scientific community on microplastics and the human water cycle and point out where the microplastics could interact with water. The subsequent chapters examine evidence of the microplastic presence in freshwater, such as in both rivers and lakes, in freshwater biota, and hazardous chemicals associated with microplastics in such systems.

Another set of chapters discuss the presence of microplastics in wastewater: their sources; their transfer through a wastewater treatment plant; the concentration of microplastics in effluents throughout the world; the plastic biomedica used in wastewater treatment plants and the effect on the surrounding environment of effluent wastewater pipes. These chapters also discuss the sampling methods, the sample treatment and analysis techniques used so far for microplastics in wastewater. Additionally, the presence of microplastics in sewage sludge and in soils irrigated with wastewater or fertilized with sludge are discussed. The possible impact of plastics and their additives on plants, microalgae, and humans are reviewed and presented in a critical way. Finally, a chapter summarizes all the relevant regulations and initiatives that point to the necessity of a global directive for the protection of the environment from plastic and microplastic pollution.

The topic of microplastics in freshwater systems and in wastewater has scarcely been studied and requires more attention. *Microplastics in Water and Wastewater* aims to bring these initial findings to the attention of a broader audience and especially to operators and managers of freshwater and wastewater systems. It will also be helpful to people already aware of the marine debris problem to understand the sources of microplastics in the oceans, from freshwater systems and wastewater treatment plants.



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