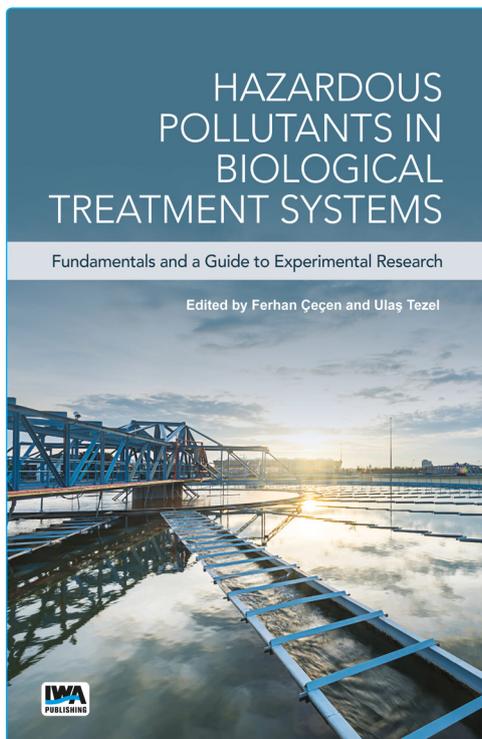


# Hazardous Pollutants in Biological Treatment Systems: Fundamentals and a Guide to Experimental Research

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Hazardous pollutants are a growing concern in treatment engineering. In the past, biological treatment was mainly used for the removal of bulk organic matter and the nutrients nitrogen and phosphorus. However, relatively recently the issue of hazardous pollutants, which are present at very low concentrations in wastewaters and waters but are very harmful to ecosystems and humans, is becoming increasingly important. Today, treatment in the water environment becomes a challenge as the water quality standards become stricter. This book focuses entirely on the hazardous pollutants present in wastewater and water and gives an elaborate insight into their fate and effects during biological treatment.

Currently, in commercial and industrial products and processes, thousands of chemicals are used that reach water. Many of those chemicals are carcinogens, mutagens, endocrine disruptors and toxicants. Therefore, water containing hazardous pollutants should be treated before discharged to the environment or consumed by humans.

This book first addresses the characteristics, occurrence and origin of hazardous organic and inorganic pollutants. Then, it concentrates on the fate and effects of these pollutants in biological wastewater and drinking water treatment units. It also provides details about analysis of hazardous pollutants, experimental methodologies, computational tools used to assist experiments, evaluation of experimental data and examination of microbial ecology by molecular microbiology and genetic tools.

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