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## Pharmaceutical Residues in the Environment

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Edited by

Jolanta Kumirska

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Pharmaceuticals, due to their pseudo-persistence and biological activity as well as their extensive use in human and veterinary medicine, are a class of environmental contaminants that is of emerging concern. In contrast to some conventional pollutants, they are continuously delivered at low levels, which might give rise to toxicity even without high persistence rates. These chemicals are designed to have a specific physiological mode of action and to resist frequently inactivation before exerting their intended therapeutic effect. These features, among others, result in the bioaccumulation of pharmaceuticals which are responsible for toxic effects in aquatic and terrestrial ecosystems. It is extremely important to know how to remove them from the environment and/or how to implement procedures or treatments resulting in their biological inactivation. Although great advances have been made in their detection in aquatic matrices, there remains limited analytical methodologies available for the trace analysis of target and non-target pharmaceuticals in matrices such as soils, sediments, or biota. There are still many gaps in the data on their fate and behavior in the environment as well as on their threats to ecological and human health. This book has included nine current research and three review articles in this field.



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