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Nota di contenuto	Properties, Potential Toxicity and Transformations of VMSs in the Environment -- Main Uses and Environmental Emissions of Volatile Methylsiloxanes -- Analytical Methods for Volatile Methylsiloxanes Quantification: Current Trends and Challenges -- Fate of Volatile Methylsiloxanes in Wastewater Treatment Plants -- Presence of Siloxanes in Sewage Biogas and Their Impact on Its Energetic Valorization -- Volatile Dimethylsiloxanes in Aquatic Systems -- Cyclic and Linear Siloxanes in Indoor Environments: Occurrence and Human Exposure -- Levels of Volatile Methyl Siloxanes in Outdoor Air -- Atmospheric Fate of Volatile Methyl Siloxanes -- Bioconcentration, Bioaccumulation and Biomagnification of Volatile Methylsiloxanes in Biota -- Volatile Methyl Siloxanes in Polar Regions -- Concluding Remarks and Future Perspectives.

Sommario/riassunto

Comprising 12 chapters, this book focuses on volatile methylsiloxanes (VMSs), the shorter-chained organosiloxanes, and reviews the main areas and environmental compartments where they have been found and studied. It opens with a detailed description of the structural and functional properties, toxic risks and possible transformations of VMSs in the environment and their main uses in various activities and products, as well as the identification of the main sources of emission. Further chapters examine the analytical strategies and protocols that have been used to address the quantification of VMSs, including the issue of possible cross-contaminations. The book also discusses the presence of VMSs in wastewater treatment plants (WWTPs) and in water bodies, their atmospheric fate and levels in biota, as well as occurrences of VMSs in remote areas of the world. It closes with a comprehensive conclusion and discussion on future directions for upcoming studies. This book is not intended as a finishing line, but rather as an important step towards improving our understanding of VMSs, to fuel new collaborations between research groups and/or with industry and lastly to convince more researchers to explore the mysteries of these ubiquitous, yet understudied, chemicals.