

1. Record Nr.	UNINA9910424640603321
Titolo	Bioavailability of organic chemicals in soil and sediment // Jose Julio Ortega-Calvo, John Robert Parsons (editors)
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2020] ©2020
ISBN	3-030-57919-0
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (X, 428 p.)
Collana	The Handbook of Environmental Chemistry ; ; Volume 100
Disciplina	624.1514
Soggetti	Soils - Organic compound content Soil pollution - Environmental aspects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction Setting of the Scene, Definitions, and Guide to Volume -- Impacts of soil properties and processes on bioavailability or organic compounds -- Sorption of Polar and Ionogenic Organic Chemicals -- Environmental fate assessment of chemicals and the formation of biogenic non-extractable residues (bioNER) -- Impact of Sorption to Dissolved Organic Matter on the Bioavailability of Organic Chemicals -- Measuring and Modelling the Plant Uptake and Accumulation of Synthetic Organic Chemicals: With a Focus on Pesticides and Root Uptake -- Bioaccumulation and toxicity of organic chemicals in terrestrial invertebrates -- Assessment of the Oral Bioavailability of Organic Contaminants in Humans -- Carbon amendments and remediation of contaminated sediments -- Why biodegradable chemicals persist in the environment? A look at bioavailability -- Bioavailability as a Microbial System Property: Lessons Learned from Biodegradation in the Mycosphere -- Bioavailability and Bioaccessibility of Hydrophobic Organic Contaminants in Soil and Associated Desorption-Based Measurements -- Passive Sampling for Determination of the Dissolved Concentrations and Chemical Activities of Organic Contaminants in Soil and Sediment Pore Waters -- Microbial, Plant, and Invertebrate Test Methods in Regulatory Soil Ecotoxicology -- Implementation of Bioavailability in Prospective and Retrospective Risk Assessment of Chemicals in Soils and Sediments -- Concluding

remarks and research needs.

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## Sommario/riassunto

This book discusses bioavailability concepts and methods, summarizing the current knowledge on bioavailability science, as well as possible pathways for integrating bioavailability into risk assessment and the regulation of organic chemicals. Divided into 5 parts, it begins with an overview of chemical distribution in soil and sediment, as well as the bioavailability and bioaccumulation of chemicals in plants, soil, invertebrates and vertebrates (including humans). It then focuses on the impact of sorption processes and reviews bioavailability measurement methods. The closing chapters discuss the impact of bioavailability studies on chemical risk assessment, and highlights further research needs. Written by a multi-disciplinary team of authors, it is an essential resource for scientists in academia and industry, students, as well as for authorities.

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