1. Record Nr. UNINA9911019722903321

Titolo	Persistent organic pollutants / / edited by Stuart Harrad
Pubbl/distr/stampa	Hoboken, NJ, : Wiley, 2010
ISBN	9786612455414 9781282455412 1282455419 9780470684122 0470684127 9780470684139 0470684135
Descrizione fisica	1 online resource (291 p.)
Altri autori (Persone)	HarradStuart <1962->
Disciplina	577.278
Soggetti	Organohalogen compounds - Toxicology Organohalogen compounds - Environmental aspects Fireproofing agents - Toxicology Fireproofing agents - Environmental aspects Persistent pollutants - Bioaccumulation Persistent pollutants - Environmental aspects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Persistent Organic Pollutants; Contents; Contributors; 1 Beyond the Stockholm Convention: An Introduction to Current Issues and Future Challenges in POPs Research; References; 2 Brominated Flame Retardants; 2.1 Introduction; 2.2 Sources; 2.3 Overview of Measurement Techniques; 2.4 Physicochemical Properties and Their Influence on Environmental Fate and Behaviour; 2.5 Overview of Toxicology; 2.6 Environmental Levels - Present, Past and Future Temporal Trends; 2.7 Human Exposure - Magnitude and Relative Significance of Pathways; 2.8 Summary and Conclusions; Acknowledgements; References 3 Perfluoroalkyl Compounds3.1 Introduction and Nomenclature; 3.1.1 Polyfluorinated Sulfonamides (FSAs); 3.1.2 Fluorotelomer Alcohols

(FTOHs); 3.1.3 Perfluoroalkylsulfonic Acids/Perfluoroalkylsulfonates (PFSAs); 3.1.4 Perfluorocarboxylic Acids/Perfluorocarboxylates (PFCAs); 3.1.5 Fluorotelomer Carboxylic Acids/Fluorotelomer Carboxylates; 3.1.6 Fluorotelomer Sulfonic Acids/Fluorotelomer Sulfonates; 3.1.7 Fluorinated Polymers; 3.1.8 Uses of PFCs; 3.2 Manufacturing and Production; 3.2.1 Electrochemical Fluorination; 3.2.2 Telomerization; 3.2.3 Production; 3.3 Overview of Toxicology
3.3.1 Toxicology of PFSAs and PFCAs3.3.2 Toxicology of FTOHs and FSAs; 3.3.3 Toxicology of FTCAs/FTUCAs; 3.4 Physical Chemical Properties and Environmental Fate; 3.4.1 The Influence of Fluorine; 3.4.2 Water Solubility; 3.4.3 Vapour Pressure; 3.4.4 Henry's Law Constants; 3.4.5 Sorption; 3.4.6 Bioaccumulation; 3.4.7 Other Partitioning Properties; 3.4.8 Persistence of PFCs in the Environment; 3.5 Overview of Measurement Techniques; 3.5.1 Background Contamination; 3.5.2 Sampling Techniques; 3.5.3 Extraction and Clean-up Methods; 3.5.4 Analysis via Liquid Chromatography-Tandem Mass Spectrometry
3.5.5 Analysis via Gas Chromatography-Mass Spectrometry3.5.6 Analysis via Nuclear Magnetic Resonance; 3.5.7 Total Fluorine Analysis; 3.5.8 Analytical Challenges; 3.6 Human Exposure; 3.7 Sources of PFCs to the Environment; 3.7.1 Sources of FSAs and FTOHs; 3.7.2 Sources of PFSAs and PFCAs; 3.7.3 Sources of PFSAs and PFCAs to the Arctic; 3.8 Environmental Measurements; 3.8.1 Atmosphere; 3.8.2 Precipitation; 3.8.3 Groundwater; 3.8.4 Surface Waters; 3.8.5 Sediments; 3.8.6 Wildlife; 3.8.7 Temporal Trends; References; 4 Chirality as an Environmental Forensics Tool; 4.1 Introduction
4.2 Classes of Chiral Legacy and Persistent Organic Pollutants4.2.1 Organochlorine Pesticides; 4.2.2 PCBs and Their Metabolites; 4.2.3 Pyrethroids; 4.2.4 Polycyclic Musks; 4.2.5 Brominated Flame Retardants; 4.3 Measuring and Quantifying Enantiomer composition of POPs; 4.3.1 Measurement of Chiral POPs; 4.3.2 Metrics for Expressing Enantiomer Composition of POPs; 4.4 Chirality to Characterize Environmental Biochemical Processes; 4.4.1 Enantiomer-Specific Microbial Biotransformation of Chiral POPs; 4.4.2 Enantiomer-Specific Transformation and Processing of Chiral POPs by Biota
4.5 Chirality to Quantify Rates of Biotransformation

Sommario/riassunto

Persistent organic pollutants (POPs) are organic compounds that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife. The Stockholm Convention on POPs is a global treaty to protect human health and the environment from POPs which came into force in 2004. Currently, twelve substances or substance groups are included under the Stockholm Convention, but there is a case for including new and emerging POPs such as brominated flame retardants and perfluorinated substances.