Record Nr. UNINA9910830646403321 Persistent organic pollutants [[electronic resource] /] / edited by Stuart **Titolo** Harrad Pubbl/distr/stampa Hoboken, NJ,: Wiley, 2010 **ISBN** 1-282-45541-9 9786612455414 0-470-68412-7 0-470-68413-5 Descrizione fisica 1 online resource (291 p.) Altri autori (Persone) HarradStuart <1962-> 577.278 Disciplina 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. Persistent Organic Pollutants; Contents; Contributors; 1 Beyond the Nota di contenuto 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;

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 Spectrometrv3.5.6 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

3.1.6 Fluorotelomer Sulfonic Acids/Fluorotelomer Sulfonates: 3.1.7

## 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.