Record Nr. UNINA9910145904403321 Autore Ali Imran Titolo Chiral pollutants [[electronic resource]]: distribution, toxicity, and analysis by chromatography and capillary electrophoresis / / Imran Ali and Hassan Y. Aboul-Enein Chichester, West Sussex, Eng.;; Hoboken, NJ,: J. Wiley, c2004 Pubbl/distr/stampa **ISBN** 1-280-27616-9 9786610276165 0-470-30051-5 0-470-86781-7 0-470-86782-5 Descrizione fisica 1 online resource (366 p.) Altri autori (Persone) Aboul-EneinHassan Y Disciplina 615.902 Soggetti Environmental toxicology **Enantiomers - Toxicology Enantiomers - Separation** Chromatographic analysis Capillary electrophoresis Electronic books. 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 Chiral Pollutants: Distribution, Toxicity and Analysis by Chromatography and Capillary Electrophoresis; Dedication; Contents; Preface; Acknowledgements; About the Book; About the Authors; 1 Introduction; 1.1 The Importance of the Environment; 1.2 Environmental Pollutants; 1.3 Chirality and its Occurrence; 1.4 The Chemical Evolution of Chirality: 1.5 The Electronic Theory of Chirality: 1.6 The Importance of Chirality; 1.7 Nomenclature for Chiral Pollutants; 1.8 Chirality in Environmental Pollutants; 1.9 Chirality and its Consequences in the Environment 1.10 The Enantiomeric Ratio and Fractions of Chiral Pollutants1.11

Methods for the Separation of Chiral Pollutants; 1.11.1

Chromatographic Methods; 1.11.2 The Capillary Electrophoretic

Method; 1.12 Chiral Selectors in Chromatography and Capillary Electrophoresis; 1.13 Detection in Chromatography and Capillary Electrophoresis; 1.14 Other Methods of Separation of Chiral Pollutants; References; 2 Chiral Pollutants: Sources and Distribution; 2.1 Introduction; 2.2 Sources of Contamination; 2.3 The Distribution of Chiral Pollutants; 2.3.1 Distribution in Water; 2.3.2 Distribution in Sediment

- 2.3.3 Distribution in Soil2.3.4 Distribution in Air; 2.3.5 Distribution in Aquatic and Amphibian Biota; 2.3.6 Distribution in Terrestrial Biota; 2.3.7 Distribution in Food Products; 2.4 Conclusions; References; 3 Chiral Pollutants: Biotransformation, Biodegradation and Metabolism; 3.1 Introduction; 3.2 The Mechanisms of the Interactions of Chiral Xenobiotics in Biological Systems; 3.3 The Fate of Chiral Pollutants in the Ecosystem; 3.3.1 Biotransformation; 3.4 Photochemical Conversion; 3.5 Metabolism; 3.6 Conclusions; References; 4 The Enantioselective Toxicities of Chiral Pollutants
- 4.1 Introduction4.2 The Enantioselective Toxicities of PCBs; 4.3 The Enantioselective Toxicities of HCH; 4.4 The Enantioselective Toxicities of Other Chlorinated Pesticides; 4.5 The Enantioselective Toxicities of Phosphorous Pesticides; 4.6 The Enantioselective Toxicities of Polyaromatic Hydrocarbons (PAHs); 4.7 The Enantioselective Toxicities of Other Xenobiotics; 4.8 The Enantioselective Toxicities of Drugs and Pharmaceuticals; 4.9 Conclusions; References; 5 Sample Preparation; 5.1 Introduction; 5.2 Sampling; 5.3 Filtration; 5.4 Homogenization; 5.5 Extraction
- 5.5.1 The Extraction of Solid Samples5.5.2 The Extraction of Liquid Samples; 5.6 Membrane Methods in Sample Preparation; 5.7 Clean-up; 5.8 Pre-concentration; 5.9 Conclusions; References; 6 The Analysis of Chiral Pollutants by Gas Chromatography; 6.1 Introduction; 6.2 Chiral Selectors; 6.2.1 Structures and Properties; 6.2.2 Preparation and Commercialization; 6.2.3 Other Chiral GC CSPs; 6.3 Applications; 6.4 The Optimization of GC Conditions; 6.4.1 Mobile Phases; 6.4.2 Temperature; 6.4.3 The Column Dimensions; 6.4.4 Structures and Types of Chiral Selectors

6.4.5 The Structures of Chiral Pollutants

## Sommario/riassunto

Today, among the various chiral discrimination methods, chromatography and capillary electrophoresis techniques have become powerful tools in environmental analysis. Therefore, there is a need to describe the art of the determination of the chiral pollutants in the environmental matrices. This book provides the complete information on the types of the chiral pollutants, their toxicities and methods of determination by chromatography and capillary electrophoresis.