

1. Record Nr.	UNINA9910483630703321
Autore	Kallenborn Roland
Titolo	Chiral Environmental Pollutants : Analytical Methods, Environmental Implications and Toxicology / / by Roland Kallenborn, Heinrich Hühnerfuss, Hassan Y. Aboul-Enein, Imran Ali
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	3-030-62456-0
Edizione	[2nd ed. 2021.]
Descrizione fisica	1 online resource (XVI, 323 p. 57 illus., 19 illus. in color.)
Disciplina	615.902
Soggetti	Environmental chemistry Separation (Technology) Pollution Food science Pharmacology Environmental Chemistry Separation Science Food Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Introduction -- Criteria for the selection of a proper enantiomer selective analytical method -- Enantiomer selective high- and ultra-high performance liquid chromatography -- Enantiomer selective electrophoresis and electrochromatography -- Enantiomer selective high-resolution gas chromatography (esHRGC) -- Other methods for the elucidation of molecular structures and mechanistic details of enantiomers -- Quality control and evaluation criteria for enantiomer selective separation methods in environmental sciences -- Enantiomer specific fate and behaviour of chiral contaminants -- Source Characterization and Contamination -- Chirality in environmental toxicity and fate assessments -- Perspectives.
Sommario/riassunto	Now in its updated second edition, this book describes emerging chiral environmental pollutants and their importance in environmental and human toxicology, as well as enantiomer selective separation and

analytical methods. Compared to the first edition from 2001, the book has been completely restructured and a wealth of new material has been added to account for new developments. The book reports on the modern enantiomer selective separation methods, including enantio-selective chromatography techniques, which have even been successfully tested in space during the ESA Rossetta mission. The authors clearly outline why the topic of chiral environmental pollutants has become even more important: many new chiral compounds have been released in recent years (e.g. as new pharmaceuticals or agrochemicals), and traces of these compounds can now be found in the environment. The authors explain that (and how) chirality can be a very important feature for the bioactivity of anthropogenic pollutants. In this book, readers find an introduction to the topic, including all important aspects, from the introduction of new enantiomer selective analytical methods, and of emerging chiral environmental pollutants, to aspects on environmental and human toxicology and exposure, risk assessment, and aspects on climate change as well as other new aspects on chirality in the environment. The book is thus a must-read for everybody working in the field of chiral environmental pollutants, but it is also beneficial for teaching purposes in specialized post-graduate courses in advanced analytical chemistry, pharmaceutical analytics, or environmental chemistry.

---