
Book review

Occurrence and Analysis of Organometallic Compounds in the Environment by T.R. Compton. Published by John Wiley and Sons

This book can be considered in roughly two parts. The first part gives an overview of what is found, and where. Following a very brief introduction, the text launches into the second chapter which outlines the measured levels of both organometallic derivatives and inorganic metal ions in different types of location, water resources, soils and the atmosphere, and the flora and fauna therein. The next chapter discusses the toxic effects of organic derivatives of mercury, lead, tin and arsenic, with a section specific to the health effects of ingestion of metals and organometallics by humans. Following this, toxicity testing is discussed, including lethal dose, adverse effect dose, maximum safe concentration standards, and variations caused by time and temperature. The fifth chapter outlines bioaccumulation processes of the various types of pollutant in fish, invertebrates and plants. Each chapter has its own set of references, about 170 in all and examples are taken from the North Sea to the Pacific coast.

The sixth and final chapter constitutes the other half of the book. It is here that detailed analytical procedures are found for the organic derivatives of mercury, lead, tin, cadmium, arsenic, antimony, selenium, germanium, manganese, copper, nickel, silicon, boron, phosphorus and sulphur. The procedures include a wide variety of techniques, including potentiometric, spectrophotometric and radio-analytical methods, X-ray fluorescence, neutron activation, atomic absorption, flow injection, nuclear magnetic resonance, and chromatographic techniques. The preparation and analysis of samples from different sources, aqueous, sediment, biological and industrial are discussed, together with sensitivity limitations and pitfalls. Nearly 360 references to techniques and examples are given at the end of this chapter.

While the book is primarily of particular interest to the analytical chemist, it is also a very useful book for those with an interest in, or need to know about, the effects of organometallic contaminants in the environment. It is a timely and well presented addition to the resources of both analysts and environmentalists in both industry and academia.

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