

*Carcinogenic and Mutagenic Metal Compounds 2*, Current Topics in Environmental and Toxicological Chemistry, Volume 11, edited by E. Merian, R.W. Frei, W. Härdi and Ch. Schlatter, Gordon and Breach Science Publishers, 1988, xiv + 544 pages, ISBN 2-88124-663-X.

This volume is the Proceedings of the Second International Workshop on Carcinogenic and Mutagenic Metal Compounds held at Villars-sur-Ollon, in Switzerland, in January 1986. On this occasion the progress which had been achieved since the first workshop in 1983 was stressed, and indeed there have been many advances. Emphasis was also laid on analytical chemistry, speciation, biochemistry, biological effects and interactions of chromium, nickel, cadmium, beryllium and selenium compounds.

In all, 37 papers are presented, the material being divided into nine sections. The first three sections deal with environmental chemistry, speciation and bioavailability in respectively air particulates, waters, sediments, composts and soils, and in nutrition and the food chain. The fate of methylmercury in the aquatic food chain is discussed by May, Stoeppler and Reisinger, with the conclusion that fish, rather than lower organisms in the food chain, have the capacity to accumulate methylmercury. The next section considers analytical techniques for biological and environmental samples. Despite recent improvements it is clear that this is by no means a solved problem, with considerable scope for improvement, both in the production of reference materials, and in reliable multi-element determination.

Part 5 of the volume considers *in vivo* and *in vitro* assays, and biochemical interactions. There are papers examining genetic toxicity of metal compounds, enhancement of mutagenesis by nickel ions, the mechanism of acute nickel toxicity and the production of hydroxyl radicals by solid iron compounds. Part 6 of the volume is devoted entirely to chromium and its compounds, with contributions on genotoxicity, occupational health, metabolism of chromium(VI), membrane permeability, chromium(III) in erythrocytes, chromosomal effects, genetic effects in bacteria, and mutagenicity. Similar topics are considered for cadmium and beryllium in subsequent sections. The final section, a single paper, is a review of the effects of selenium compounds in protecting against cancer.

The book is well produced, with generally clear diagrams and a useful index. There are few references to the organometallic compounds of the elements which are discussed, but organometallic chemists who work with these elements should still have access to a copy of this book. By-products and wastes from organometallic reactions frequently contain substantial amounts of the metal ions in water-soluble form. The hazards which these may present to the research worker, and their safe disposal, cannot fail to be of concern. This was clearly a lively and stimulating meeting, and many of the articles will be of general interest to inorganic chemists.

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