

BOOK REVIEW

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A Review of Hazardous Metals in Toxicology

REFERENCE: Vercruyse, A., Ed., *Hazardous Metals in Toxicology*, Elsevier Science Pub. Co., Inc., 52 Vanderbilt Ave., New York, NY 10017, 1984, 338 pp., \$73.00.

This book contains comprehensive information for analysis and evaluation of metals in human toxicology. After a short general discussion on absorption, metabolism, excretion, and dose-effect relationships, a more detailed chapter deals with biological effects and monitoring exposure to toxic metals. Firstly, principles of biological monitoring are discussed in the context of biochemical effects on animal systems. Then, indices for exposure are discussed in considerable detail for each of the nine most important toxic metals. Each is dealt with in the context of interpretation and the significance of monitoring in blood, urine, hair, or other specimens.

The third chapter deals with instrumentation for metals analysis, discussing digestion methods and then specific instrument techniques. Atomic absorption, voltammetry, nuclear activation analysis, X-ray fluorescence, and mass spectrometry are emphasized, with short treatment of a few additional techniques such as chromatography and colorimetry. A valuable section in this chapter deals with the cost: benefit ratios and the most useful applications for each of the major forms of instrumentation.

Chapters four through eleven (covering about half of the book) discuss specifically analysis for the nine toxic metals: lead, mercury, cadmium, arsenic, thallium, chromium, nickel, selenium, and tellurium. Each is discussed in some detail to include analytical techniques, assessment of toxicity, and interpretation of results. Each chapter is amply referenced and appears to include a thorough review of the literature to date.

Although many methods are discussed and reviewed, a few given in detail, as examples, this is not a methods book. It will serve, however, as Dr. Rokus de Zeeuw, the general editor, aspires to in his preface, as a "valuable reference source for many scientists involved with the analysis of metals and the interpretation of these findings in human toxicology."

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