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Book review

Analysis of Hazardous Substances in Biological Materials, Volume 6. Edited by J. Angerer and K.-H. Schaller, Wiley-VCH, Weinheim, 1999, 277 pp.

The field of analysis of hazardous substances in biological materials is a very broad one with regards to the variety of substances, matrices and methods to be applied. One may expect from the title of the book that it covers the subject broadly spanning from inorganic to organic substances to be analysed in any biological matrix. In other words, the title suggests a kind of handbook but which is not the case; in contrary, it represents a special volume of a special series of which the first volumes are written in German followed now by an English one. The general concert of this book series is a substance oriented description of standard (reference) methods to analyse sensitively these substances in various complex matrices.

Accordingly, Volume 6 comprises of several more or less independent chapters starting with a comprehensive description of ICP/MS as a special analytical method of instrumental analysis. This method oriented chapter is followed by a uniquely formatted application oriented chapter on ICP/MS for the determination of antimony, lead, cadmium, platinum, mercury, tellurium, thallium, bismuth, tungsten, and tin in urine. Along the line of analysing inorganic hazardous compounds, by two separate chapters the determination of aluminium in plasma using AAS and of ^{232}thorium and ^{238}uranium in urine using again ICP/MS are described in detail and in a standardised format which follows the general characteristics of this book and book series.

Besides and again in the standardised format there follow 8 more chapters each describing comprehensively the analysis of organic hazardous compounds (amitrole, 2,4-diamino-6-chloro-s-triazine; 3,4-dihydroxychlorobenzene; nydrazine and *N*-acetylhydrazine; PAH metabolites; pentachlorophenol; phenols, and pyrethroid metabolites) in urine, serum and/or plasma. The selection of these substances seems in the first glance quite arbitrary, but in the light of the scope of the book (series) and of the field the authors are actively working in, it makes sense. However, it should be stated that this volume represents more or less a collection of eleven very standardised analytical method descriptions and protocols to be followed for ''biological monitoring'' of individual substances being within the scope of occupational medicine and to some extent of environmental medicine. This volume is therefore not a book in the usual sense.

The valuable part and concept of this unconventional compendium is not only the method description itself but may also be the guidance of the reader how to set up and to describe comprehensively a robust bioanalytical method and to focus also on validation issues with the goal to achieve comparable analytical results by different laboratories. The merits of such a pragmatic protocol seem evident; however, the reader should never forget that, by following uncritically such protocols, systematic errors may occur and the users therefore should never follow a protocol blindly. This is an educative aspect which did not become so evident and could have been stressed a bit more explicitly in the form of some reflections in the preface, in order to make this book of somewhat more general applicability to a broader audience and less specific.

To round up, in its current form the book is

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dedicated by a general chapter to the ICP/MS and to method descriptions applied to biosamples. In eleven chapters laid out in a more or less standardised format, relevant bioanalytical applications of selected inorganic and organic substances are described. The question comes up whom to recommend this book mainly representing a collection of analytical methods? It is certainly highly recommendable for those colleagues who are engaged in the bioanalysis field of occupational and environmental medicine. But this recommendation can be extended to practitioners who are working in similar fields, including in drug monitoring, etc., as the format how a method can be described and validated is of exemplary clearness, not to say of German perfection. However, it has to be kept in mind that this book covers only a small spectrum of hazardous substances to be analysed and therefore may be regarded as quite specific.

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