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Book review

Analyses of Hazardous Substances in Biological Materials, Deutsche Forschungsgemeinschaft, Working group ''Analytical Chemistry'', Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (Chairman H. Greim), Volume 7, 2001, Wiley-VCH, Weinheim, New York, Chichester, Brisbane, Singapore, Toronto, ISBN: 3-527-27048-5, 309 pages, 47 figures and 65 tables, Hardcover. Single price: DM 248.00, 126.00 €. Subscription price: DM 178.00, 91.01 €. Edited by J. Angerer and K.H. Schaller

Biological monitoring is of great importance in the evaluation of occupational exposure to hazardous substances, and the resulting risks to the health and how to reduce these. In Germany, biological monitoring has been included in the hazardous substances ordinance under TRGS 710 ''Biological Monitoring''. In the European Union, biological monitoring was included in guideline 98-24-EG in 1998. Biological monitoring is therefore legally valid in Germany and Europe. Just as important is biological monitoring in environmental medicine.

The recently published 7th volume of the collection ''Analyses of Hazardous Substances in Biological Materials'' is, like the previous issues, an important basis for the correct implementation of biological monitoring. With the support of the DFG Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area, methods are devised by biological monitoring experts from home and abroad which are known above all for their reliability and reproducibility in the research laboratory and daily practice. The whole collection consists at present of 145 methods for 225 inorganic and organic analytical parameters. There are also 13 chapters reviewing important analytical techniques and their use in biological monitoring, which in particular document the progress made in instrumental analysis. In this issue a broad overview is given for high-pressure liquid chromatography and its application in biological materials. Another highlight is a high resolution ICP-MS method for the quantification of 8 metals in urine. In addition, this issue contains a dozen reliable analytical methods. The high standard of development is documented, for example, by a method for detecting haemoglobin adducts of carcinogenic aromatic amines and a procedure for the separate detection of various toxic species of arsenic.

There is a detailed description of the procedure for each analytical method, so that it can be put into practice in the laboratory. The detailed chapter on the analytical reliability of the methods and sources of interference provides a clear characterisation of the performance of the procedure. The discussion of the methods is comprehensive. There is a specific and extensive chapter at the beginning of each method which includes literature references and in particular takes into account the toxicology of the hazardous substance, the current reference ranges in the normal population, and tolerable threshold values for occupational medicine.

The concept for the elaboration of analytically reliable methods of biological monitoring and their presentation has proved its worth in the past and has been optimised in the present collection of methods. This collection is a must for the library of the analyst in research and practice. This applies to both occupational-medical and environmental-medical lab-

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oratories. Also for the occupational-medical and environmental-medical physician this is an important reference book, above all to find out for which hazardous substances biological monitoring can be used.

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