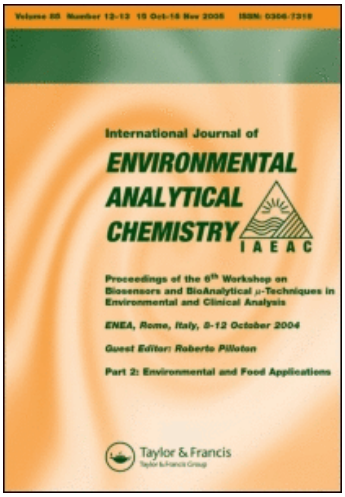
This article was downloaded by:
On: *18 January 2011*
Access details: *Access Details: Free Access*
Publisher *Taylor & Francis*
Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



International Journal of Environmental Analytical Chemistry
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713640455

Book Reviews

To cite this Article (1990) 'Book Reviews', International Journal of Environmental Analytical Chemistry, 39: 3, 289 — 299
To link to this Article: DOI: 10.1080/03067319008032072
URL: http://dx.doi.org/10.1080/03067319008032072

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www.informaworld.com/terms-and-conditions-of-access.pdf

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Intern. J. Environ. Anal. Chem., Vol. 39, pp. 289–299
Reprints available directly from the publisher
Photocopying permitted by license only

© 1990 Gordon and Breach, Science Publishers, Inc.
Printed in The United Kingdom

BOOK REVIEWS

ANALYSIS OF SURFACE WATERS by H. Hellmann. Ellis Horwood Ltd. Pub. (John Wiley and Sons), Chichester, PO191EB–England, 1987, 275 pages (including 188 figures, 47 tables and a subject index of 5 pages), ISBN 0-7458-0213-3. £45.00.

The book provides information regarding the level of pollution to which are exposed some major German rivers and mainly the Rhine. The purpose of the book, however, is said not only to lie in these facets of water analysis, but to highlight certain problems related with the gathering of the analytical information, as well as the validation of the results obtained and the assessment of the nature and magnitude of the changes that are currently occurring in surface water systems.

The book contains 18 chapters structured in three sections:

- General principles
- Analysis
- Further evaluation

In Part I, the first chapter brings information on the hydrological factors affecting surface water analysis. Likewise, the water transport of solid loadings, their anthropogenic effects, as well as the influence of water temperature and light are also overviewed.

Part II contains chapters devoted to the principal classes of contaminants frequently found in the aquatic environment (most of them being of priority concern). Among these, trace metals hydrocarbons, PAH, organohalogen compounds (PCBs, DDT, etc.), detergents and other substances (Phenols, PCDDs and PCDFs) are carefully discussed. The importance of the sampling is also stressed as it corresponds to the most crucial step in environmental analysis. Each chapter ends with recent references, allowing the reader to get further information on the issue of interest. Most of the literature cited, however, is written in German.

The data interpretation is of great importance in water quality assessment. The third part deals with the further evaluation of the set of analytical data previously acquired. Modern concepts such as the calculation of the substances of interest and, finally, the calculation of the material balances for the different reservoirs are introduced.

The book can thus be recommended to hydrologists, environmental chemists, engineers and to analysts engaged in water quality monitoring and surveillance

Downloaded At: 16:12 18 January 2011

programs. The intended readers are also those who have responsibility on identifying, predicting and assessing the impacts of the contaminants on the quality of surface waters.

J.I. GÓMEZ-BELINCHON
CID (CSIC)
Barcelona, Spain.

ECOPHYSIOLOGY OF METALS IN TERRESTRIAL INVERTEBRATES, by Stephen P. Hopkin (University of Reading, UK), 306 pages (including 65 figures, 41 tables, 60 pages of references, a species index of 3 pages, and a very good subject index of 17 pages), hard cover, format 229 x 150 mm, ISBN 1-85166-312-6, Elsevier Applied Science Publishers Ltd. (Essex, UK), London and New York (1989), £55.

Downloaded At: 16:12 18 January 2011

It was an excellent idea, that the author has written a review of importance of metals in the ecology and physiology of multicellular terrestrial invertebrates, similar to overviews existing for microorganisms, plants and mammals. In fact the regulation of metal uptake in terrestrial invertebrates is as essential to their survival as water balance, efficient digestion of food and excretion of nitrogenous waste. To-day we know only that iron, zinc, copper, molybdenum, cobalt, selenium, and iodine are essential for normal growth and reproduction in higher vertebrates. The author discusses especially the ecophysiology of molluscs, earthworms, crustacea, insects, milli- and centipedes, spiders, mites, and scorpions, but only briefly of microorganisms, except where they form a symbiotic relationship in the gut of a terrestrial invertebrate.

The author tried to consider the regulation of metals alongside the many other physiological and behavioral processes which invertebrates have had to evolve during their colonisation of the land. The underlying reasons for the different ways in which major taxonomic groups, species or even individual animals deal with metals, cannot be understood without such an approach. It must be considered that at the ecosystem level, the soil/litter microcosm is the main "sink" of metal pollutants. It is not yet clear why closely related species fed on the same diet accumulate the same metals to different concentrations in their tissues. At the species level, it is also still not known whether any terrestrial invertebrate (with the exception of Drosophila) has evolved genetic tolerance to metals in the diet, despite the fact that the phenomenon has been demonstrated clearly in plants.

In the first five chapters after the introduction

—Essentiality and Toxicity of Metals

—Sources of Metals in Terrestrial Ecosystems

—Analysis of Metals in Biological Materials

—Metal Pollution and Terrestrial Ecosystems

—Factors Controlling Uptake, Storage and Excretion of Metals by Terrestrial Invertebrates

the necessary background information is presented, also to explain possible errors in experimental design, sampling and interpretation. Within the short summaries there is however no space to go into critical details. Most of the information results from observations made in (industrially) contaminated sites in England, Wales and Sweden. The most important three chapters before the concluding remarks deal with

—Metals in Terrestrial Invertebrates at the Species, Organism and Organ levels

—Invertebrates as Indicators and Monitors of Metal Pollution in Terrestrial Ecosystems

—Metals in Terrestrial Invertebrates at the Cellular Level.

The many specific examples from the field are of great significance.

E. MERIAN

Downloaded At: 16:12 18 January 2011

AGENT ORANGE AND ITS ASSOCIATED DIOXIN: ASSESSMENT OF CONTROVERSY, by Alvin L. Young, Washington, D.C., USA and Giuseppe M. Reggiani, Zürich, Switzerland, 334 pages (including 14 figures, 51 tables, references added to the chapters, and an index of 8 pages), hard cover, format 246 × 171 mm, ISBN 0-444-80980-5, Elsevier Science Publishers B.V., Amsterdam, New York, and Oxford (1988), US$131.50, Dfl. 250.

The important and critical book is structured besides an introduction and conclusions (including implications for the future) into nine chapters discussing the general aspects and four chapters dealing with concrete case studies of episodes. Emphasis is however laid by the American and Australian contributors on the consequences of military use of herbicides in Vietnam, on the Seveso accident 1976 in Italy, and on the disposal of residues 1971/72 and consequences in Missouri, USA. One finds little or no information on other significant subjects, such as the disposal into Love Canal (Niagara) and soil migration, TCDF, incineration, fires, or effluents from cellulose bleaching. One misses also a critical overview on analytical and environmental chemistry, for instance by experts from Dow, Germany, Sweden, or Switzerland.

But the information on the discussed topics is very valuable. Important details, distinguishing between significant observations (including the scientific background) and uncertain exaggerated stories, are presented. The book thus analyses carefully health science programs and epidemiological studies, and their contribution to conclusions of quality of life issues. As is well known, the perception and the level of acceptance of the risks have changed continuously during the past 25 years and are still a matter of dispute. But the answers which are available have

provided to other forces of society the means to move and make some very important decisions. One learns also how to handle complex accidents and their consequences. Although we are not aware of any acute effect on the health of populations exposed to halogenated dioxins, what we know is that they are a part of the group of chemicals which we are absorbing one way or the other in our bodies and that a protracted, chronic exposure to quantities which are certainly minimal may effect our physiological functions and our organs, and of which practically nothing is known. The described dioxin case is certainly a good model how to deal with other accidents which may happen in the future. It is possible to draw many practical and scientific lessons.

E. MERIAN

ECOTOXICOLOGY: PROBLEMS AND APPROACHES, by Siman A. Levin, Mark A. Harwell, and John R. Kelly, Cornell University, Ithaca, N.Y. 14853, and Kenneth D. Kimball, Gorham, New Hamshire 03581, USA, 547 pages (including 91 figures, 67 tables, references added to the contributions, and an index of 7 pages), hard cover, format 242 × 161 mm, ISBN 3-540-96762-1, Springer-Verlag, Berlin, Heidelberg, New York, Paris, Tokyo, Hong Kong (1989), DM 90.

Downloaded At: 16:12 18 January 2011

Ecotoxicology is the science that seeks to predict the impacts of chemicals upon ecosystems. The latter are constantly changing due to natural processes, and it is tried to distinguish the effects of anthropogenic activities against this background of fluctuations in the natural world. The continued development of methods and the expanded recognition of issues are stressed. Of course ecotoxicology will continue to evolve. The editors thus hope that the volume will stimulate further development of tools and experiences. The 18 interesting chapters are structured into four parts:

I. Ecotoxicology: Problems and Approaches
II. Responses of Ecosystems to Chemical Stress, e.g. with an overview on effects of heavy metals in a polluted aquatic ecosystem, one on determining the ecological effects of oil pollution, and one on the effects of chemicals on the structure of terrestrial ecosystems
III. Methods and Models (looking also at bioaccumulation and biomonitoring)
IV. Ecotoxicological Decision Making (also in the presence of uncertainty).

The book is practically oriented to information from the USA only, but it gives nevertheless a good overview on the analysis and synthesis of underlying principles, if the reader is concerned with the study and management of inorganic and organic environmental pollutants. Of especial value to students, scientists, and professionals are the well selected literature references.

E. MERIAN

POLLUTION OF THE NORTH SEA: AN ASSESSMENT, by Wim Salomons, NL-9750 RA Haren, Brian L. Bayne, Plymouth PL 13DH, UK, Egert Klaas Duursma, NL 1790 AB Den Burg, and Ulrich Förstner, D-2100 Hamburg 90, 687 pages (including 238 figures, 98 tables, references added to the contributions, and a good subject index of 11 pages), hard cover, format 248 x 172 mm, ISBN 3-540-19288-3, Springer-Verlag, Berlin, Heidelberg, New York (1988), DM 198.

Scientists—especially from the Netherlands, the United Kingdom, and the Federal Republic of Germany (but also a few from Norway, Belgium and France)—contributed to this most modern review on the North Sea system, and on the fate, distribution and effects of pollutants in the North Sea. The 40 well-written and updated chapters are structured into four parts:

I. The North Sea System: Physics, Chemistry, Biology (differentiating between the role of sediments, salt marshes, estuaries, fjords, and the water-air interface, as well as the ecosystem as a whole and fishery resources)

II. Input and Behavior of Pollutants (discussing for instance the distribution and behavior of heavy metals; a special contribution by M. Kernsten, D-2100 Hamburg 90)

III. Impacts on Selected Areas and by Human Activities

IV. Biological Effects and Monitoring (differentiating between the mesocosms, invertebrates, molluscs, fish, birds, and marine mammals, whereby A. R. D. Stebbing and J. R. W. Harris (Plymouth PL1 3DH, U.K.) discuss especially biological monitoring.

The co-authors stress that the introduction into the North Sea of heavy metals started to increase in the 19th century, of organic pollutants before the Second World War, and that they accumulate in the bottom sediments or that they contribute to the global input of pollutants to the world's oceans. A reduction of the inputs is required and an acceleration of the pace of scientific research are needed. There is a remarkable consensus amongst the scientific community as to the vulnerability of the North Sea, and the study of it is thus presented as a multidisciplinary problem. The book presents up-to-date scientific data and analysis on the status of the North Sea. The results will stimulate the public, the scientists, and those responsible for managing the North Sea system.

E. MERIAN

DEVELOPMENTS IN COASTAL AND ESTUARINE POLLUTION, edited by W. R. Parker, Blackdown Consultants Ltd., Taunton, Somerset TA1 1HX, UK, 299 pages (including 206 figures, 72 tables, references added to the contributions, and an index of 5 pages), paper board, format 250 x 176 mm, Special Issue of Water Science and Technology (Volume 20, Numbers 6/7), Pergamon Press, Oxford, UK (1988), US$112.

Downloaded At: 16:12 18 January 2011

The Proceedings of the 2nd Specialised Conference in Fukuoka, Japan, October 1987 review new developments in relevant areas of coastal and estuarine research. Eighty-five experts (39% from Japan, 19% from the USA, 12% from the UK, and 30% fom nine other European, Asiatic and American countries) have written 32 contributions. The issue is structured after an introductory overview on water pollution control administration in Japan into four parts:

I. Ecotoxicology and Biological Impacts
II. Physical and Physico-chemical Processes
III. Water Quality Management and Monitoring Methodology
IV. Modelling and Control.

Environmental analytical chemistry was especially applied by K. Higashi and K. Hagiwara, Japan (Identification of Oil Spilled at Sea by High Performance Gel Permeation Chromatography Pattern Recognition), Y. Hattori *et al.*, Japan (Degradation of Tributyl Tin and Dibutyl Tin Compounds in Environmental Waters), W. Salomons *et al.*, The Netherlands (Natural Tracers to determine the Origin of Sediments and Suspended Matter from the Elbe Estuary), and K. Otsubo and K. Muraoka, Japan (Field Observation and Simulation of Sediment Resuspension in a Shallow Lake).

E. MERIAN

Downloaded At: 16:12 18 January 2011

BIOLOGICAL SURVEYS OF ESTUARIES AND COASTS, by J. M. Baker, Shrewsbury, UK and W. J. Wolff, Den Burg, Texel, The Netherlands, 449 pages (including 72 figures, 25 tables, references added to each chapter, a good index (metals are however not included) of 10 pages), cloth, format 234 × 160 mm, ISBN 0-521-32407-6, Cambridge University Press, Cambridge (UK) London New York (1987), US$69.50.

Sixteen scientists form the UK and 2 from the Netherlands contributed to 15 chapters: Planning Biological Surveys/Remote Sensing/Salt Marshes/Flora and Macrofauna of Intertidal Sediments/Macrofauna of Subtidal Sediments using Remote Sensing/Processing Sediment Macrofauna Samples/Meiofauna/Intertidal Rock/Subtidal Rock and Shallow Sediments using Diving/Bacteria and Fungi/Plankton/Fish/Birds/Identification/Safety. In this third of a series handbooks sponsored by the Estuarine and Brackish-Water Sciences Association the main habitats and groups of organisms are dealt with (excluding specifically tropical features such as mangroves and coral reefs). The volume is certainly valuable for anyone with responsibility for planning environmental surveys in the coastal zone (environmental impact assessment and surveillance, management of amenity, and identification of sites for conservation priority). However the authors don't make use of environmental and analytical chemistry.

E. MERIAN

METHODS OF ASSESSING AND REDUCING INJURY FROM CHEMICAL ACCIDENTS, SCOPE 40, edited by Philippe Bourdeau, C.E.C., Brussels, Belgium, and Gareth Green, The Johns Hopkins University, Baltimore, Maryland, USA, 303 pages (including 17 figures, 35 tables, references, conclusions and/or recommendations added to most chapters, and an index of 13 pages), hard cover, format 236 × 156 mm, SGOMSEC 6, ISBN 0-471-92278-1, John Wiley & Sons, Chichester, New York, Brisbane, Toronto, Singapore (1989), £51.

The book is a result of a Workshop held in New Delhi, India, from 27 January to 2 February 1987 under the Chairmanship of Dr. Krishna Murti of the Indian National Committee on Bhopal Gas Leakage. The study was carried out by the Scientific Group of Methodologists for the Safety Evaluation of Chemicals (SGOMSEC) under the Chairmanship of Prof. Dr. Norton Nelson, Institute of Environmental Medicine, New York. Emphasis is directed to future chemical accidents wherever they may occur (oil spills are not covered, nor are radiation accidents). All the major accidents until 1986 are discussed summarily. The volume is structured into two parts: a joint report and contributed chapters. There are five chapters in the Joint Report:

Chapter 1 deals with the scope and context of the chemical accident,
Chapter 2 covers the assessment, extent, engineering aspects and restriction of spread,
Chapter 3 covers health assessment and medical response,
Chapter 4 deals with adverse ecological effects including the utility of using ecological effects as a way of defining the spread of the chemical agents (the crucial problems in estimating exposure and dose for non-human targets (missing databases on environmental fates, particularly of chemical intermediates) are also discussed shortly), and
Chapter 5 deals with disaster emergency planning which needs to be in place before an accident occurs.

E. MERIAN

INTRODUCTION TO HAZARDOUS WASTE INCINERATION, by Prof. Louis Theodore and Prof. Joseph Reynolds, Manhattan College, Riverdale, New York, USA, 463 pages (including 57 figures, 49 tables, examples, equations, references, and an index of 5 pages), linen, format 240 × 170 mm, ISBN 0-471-84976-6, Wiley-Interscience, John Wiley & Sons, Inc., New York, Chichester, Brisbane, Toronto, Singapore (1987), £45.

The text-reference book, to which also graduate students contributed, is intended for practicing engineers and engineering students. In fact the environmental engineer must develop a proficiency and an improved understanding of the incineration of hazardous wastes in order to cope with problems of hazardous wastes. The engineer thus finds practical and mathematical advice, but chemical

Downloaded At: 16:12 18 January 2011

processes taking place during incineration and leading to less or more hazardous transformation products are not discussed enough. For instance regarding dioxins it is only mentioned that waste oil containing them should not be used for dust suppression or road treatment, but not how they are produced during incineration (and how this process may be got under control). And also the information regarding trace metals is not adequate. It is just mentioned that they may cause concern, and in chemical waste treatment the authors discuss shortly reduction of metals, while they probably think of the reduction of certain metal compounds. One misses also indications to the analytical chemistry of incineration products, and to their handling. Much engineering information on waste handling are discussed in context with American legislation. The text-book is divided into four parts:

I. The Hazardous Waste problem (the general subject is examined, including other options for controlling hazardous wastes, and standards and regulations)

II. Incineration Principles (including basic concepts, stoichiometric calculations, and thermochemical considerations)

III. Equipment (the incinerator, quenchers, the waste heat boiler, and air pollution control equipments are discussed; also some of the ancillary equipment)

IV. Facility Design (containing three chapters devoted to design principles, economic considerations, and design of a hazardous waste incineration facility).

E. MERIAN

Downloaded At: 16:12 18 January 2011

CHEMISTRY AND BIOLOGY OF SOLID WASTE, DREDGED MATERIAL AND MINE TAILINGS, edited by Wim Salomons and Ulrich Förstner, Institute for Soil Fertility, NL-9750RA Haren and Technical University, D-2100 Hamburg 90, 305 pages (including 83 figures, 59 tables, references (up to 1986) added to each contribution, and a useful subject index of 41/2 pages with good references to speciation, mobility, bioassays, and crop uptake by metal compounds), hard cover, format 248 × 172 mm, ISBN 3-540-18231-4, Springer-Verlag, Berlin, Heidelberg, New York, London, Paris, Tokyo, Hong Kong (1988), DM 139.

The excellent overview has been composed mainly by experts from the Netherlands, the Federal Republic of Germany, Canada and Australia (including Papua New Guinea), but also from France, Japan, Switzerland and the United States of America. The 12 chapters are structured into two parts:

I. Chemical and Biological Principles, and

II. Biological and Geochemical Aspects.

Previously a commodity, dredged material and mine tailings (once deposited on

land) must now be treated as hazardous waste, that is to say must be safe-guarded, protected by a plant cover, and wash-out must be prevented. The valuable book will certainly help environmentalists, managers and companies to deal with the present environmental situation. In the first part the principles and assessment are scientifically studied and discussed, while the second part turns to the practical applications, such as prediction, restoration and management. A. C. M. Borg, F-45060 Orléans discusses for instance sorption, speciation and mobilization of metals in aquatic and terrestrial systems. T. Asami, Ibaraki, Japan informs on soil pollution by metals from mining and smelting activities. M. Kersten, D-2100 Hamburg 90 handles geochemistry of priority pollutants in anoxic sludges, such as cadmium, arsenic, methyl mercury, and chlorinated organics. U. Förstner and M. Kersten, D-2100 Hamburg 90 assess metal mobility in dredged material and mine waste by pore water chemistry and solid speciation. B. M. Chapman *et al.*, Ryde NSW, 2112 Australia study heavy metal transport in streams by field release experiments.

E. MERIAN

Downloaded At: 16:12 18 January 2011

THE LANDFILL (REACTOR AND FINAL STORAGE), Lecture Notes in Earth Sciences Nr. 20, edited by Prof. Dr. Peter Baccini, EAWAG, CH-8600 Dübendorf, 439 pages (including 98 figures, 31 tables, references added to the chapters, a list of participants in a workshop, but unfortunately no index), soft cover, format 242 × 165 mm, ISBN 3-540-50694-2, Springer-Verlag, Berlin, Heidelberg, New York, London, Paris, Tokyo (1989), DM 78.

The highly recommended book is the result of a workshop (sponsored by various Swiss enterprises and public authorities), which has taken place in March 1989. Four working groups (each besides the lecturers and the discussion participants with a trouble maker and a rapporteur) have covered the topics

A1. Biological and Chemical Processes in Landfills,
A2. Material Transport and Properties of Reactor Envelopes,
B1. Scientific and Technical Criteria for the Final Storage Quality, and
B2. Methodology for the Evaluation of the Final Storage Quality.

The new concept to consider landfills as chemical and biological reactors is of fundamental importance for environmental engineers and scientists. In fact the "holistic" concept asks consequently for quality standards of solid residuals "compatible with short and long-term geogenic processes". The important book answers the four questions:

How do we qualify a landfill?
How should the waste for a final storage look like?
What can the above mentioned properties be measured (at least a dozen tests are required, tailor made for each waste type)?
How can the required properties be achieved?

E. MERIAN

PRINCIPLES OF HAZARDOUS MATERIALS MANAGEMENT, by Roger D. Griffin, Professional Engineer in Chemical Engineering in California and member of the UCLA Advisory Board, 207 pages (including 29 figures, 19 tables, a few literature references added to the chapters, two appendices of 30 pages on Federal and California Regulatory Approaches, a glossary of abbreviations of 4 pages, and an index of 41/2 pages), linen, format 236 × 158 mm, ISBN 0-87371-145-9, Lewis Publishers, Inc., Chelsea, Michigan 48118, USA (1988), £35.70.

The book contains after an introduction eight chapters covering the principles of toxicology, risk assessment, air pollution and air toxics, groundwater, transportation of hazardous materials, waste characterization and analytical methods (the overview on sampling, field analytical techniques and lab methods is cut to 9 pages), Management, and waste treatment and disposal. Many data on regulation of chemical substances and quality standards are however given. The textbook is structured somewhat accidentally (groundwater is discussed, surface and drinking water scarcely), but is an introduction resp. a guideline to the topic.

E. MERIAN

Downloaded At: 16:12 18 January 2011

ATMOSPHERIC TRACE SUBSTANCES (in German), edited by Ruprecht Jaenike, Institute for Meteorology, University of Mayence, Federal Republic of Germany, 443 pages (including 207 figures, 32 tables, references added to the 18 contributions, two documentary appendices on cooperators and colored pictures, but unfortunately no index), hard cover, format 245 × 176 mm, ISBN 3-527-27703-x, VCH-Verlagsgesellschaft, D-6940 Weinheim (1987), DM 128.

In the well presented book selected results of a special research project of the German Research Foundation DFG are presented, executed by scientists of two universities and at of the Max-Planck-Institute. After 14 years of activities the editor concludes that the topic is much more extensive than thought, when the project started. The book is thus rather incomplete from the view of present knowledge—also because quite a few pollutants were not considered when the scientific program was planned. Nethertheless one finds interesting informations on the behavior of gases and aerosols in the atmosphere, including cycling (e.g. of SO_2 and mercury), physico-chemistry (including photo-chemistry and climatology, models, and analytical techniques (also to study radicals and aerosols). Various measuring networks are discussed in detail. Two chapters by Franz Slemr *et al.* and Lohar Schütz deal with total atmospheric mercury, dimethyl-, and monomethyl mercury, mercury chloride, and with the composition of mineral dust. Dieter Hofmann *et al.* have contributed a chapter on the use of PIXE proton induced spectral analysis in aerosol physics.

E. MERIAN

EXISTING CHEMICALS OF ENVIRONMENTAL RELEVANCE (CRITERIA AND LIST OF CHEMICALS), by the GDCh-Advisory Committee on Existing Chemicals (BUA, Chairman: Prof. Dr. E. Bayer, University of D-7400 Tübingen), 218 pages (including 2 figures, 6 tables, 6 appendices (including references), no index), paper board, format 210 × 147 mm, ISBN 3-527-27878-8, VCH-Verlagsgesellschaft, D-6940 Weinheim (1989), DM 98, £32.95.

The title is somewhat misleading, since rather a system to select the most relevant (about 60 from 512) out of about 4500 chemicals is described. But the structure of the booklet (no index) makes it difficult to understand the somewhat arbitrary process, which is described in one section, while the explanations are scattered over other sections without any cross references. It is not very helpful that pesticides, inorganic chemicals, natural substances, not marketed chemicals (such as DDT), and unstable chemicals are not included in the tables. It is said that the reason is that they are regulated, or that comprehensive data collections exist, without indicating them. Further, chemicals which are not at the same time of industrial importance and the presence of them in the environment are not yet confirmed, are excluded. One misses also information related to decomposition products of environmental chemicals (abiotic or biological composition should certainly be considered). Additionally the scoring system unfortunately works in a way that ecotoxic compounds are automatically excluded, if not yet enough data is available. This is to some extent in contrast to the needs, since of the well known pollutants the risks are considered, whereas problems may occur with substances not yet adequately studied. The authors have placed these chemicals on a "waiting list". The list of limited usefulness of 512 substances, present besides the name and the formula, the scores for the eight selection criteria. Their formal application result in a preliminary further selection of sixty chemicals, which are said to be priority chemicals in decision making. They belong predominantly to the categories of organochlorine compounds and substituted and condensed aromatic compounds.

ERNEST MERIAN

Downloaded At: 16:12 18 January 2011