

importance was missed. The material was well written and well photographed. It is an excellent training aid.

GARY F. BENNETT

International Directory of Emergency Response Centres, OECD Environment Monograph No. 43, UNEP-1F/PAC Technical Report Series No. 8, United Nations Environment Programme, 1991, 77 pp., Free.

Listed are all the agencies, both governmental and private. This provides assistance and/or information for chemical spill response. Beginning with Brazil and ending with the United States, data are given for:

- telephone number
- telefax/telex
- address
- type of institution
- length of service
- name of contact
- fee
- information provided
- other services

GARY F. BENNETT

Environmental Chemistry, by Nigel J. Bunce, Wuerz Publishing Ltd, 895 McMillan Ave., Winnipeg MB R3M 0T2, Canada, 1991, ISBN 0-920063-46-2 (pbk), 340 pp. \$33.00; plus answer guide, ISBN 0-920063-38-1, 343 pp., \$US17.00 (shipping rate \$5 per order).

This is an unusually well organized and written book, nicely illustrated with photographs and diagrams, by Professor Bunce of the Chemistry Department of the University of Guelph. Intended as a introductory textbook for chemistry and biology students, it assumes the reader has studied chemistry and biology, as well as being reasonably fluent in mathematics.

The present status of studies in environmental chemistry are discussed in detail, with updated references and opinions which reflect a understanding not always seen in books of this nature. Starting with the earth's atmosphere, the text progresses on to stratospheric ozone, tropospheric chemistry, indoor air quality and remedial measures to improve it, natural waters, acid rain, drinking water, sewage and waste disposal, chlorinated organic compounds, and environmental metals. Each chapter and section includes questions (that are answered in the answer guide) and 500 references to current literature, as well as presenting background history where appropriate.

The cover photograph of the thirteenth century statue in Salisbury Cathedral, England, and the blue haze scene which illustrates the role of terpene aerosol pollution in the Great Smoky Mountains of Tennessee should convince even the cynical that such problems are real and significant. The book should have wide appeal, especially in schools and colleges which are supplementing chemistry, biology and mathematics courses with "real world" issues. It deserves wide circulation.

HOWARD H. FAWCETT

Fate of Pesticides and Chemicals in the Environment, by J.L. Schnoor (Ed.), John Wiley and Sons, New York, NY 10158, 1992, ISBN 0-471-50232-4, 430 pp. plus index, \$140.

This book is the product of an international symposium held in Iowa City in November 1987, as a result of a bilateral scientific agreement between the USA and the former USSR. Over 60 authors from academic institutions, industry and government agencies, both research and regulatory, are represented.

A substantial book, it has many equations and mathematical treatments of the various transformation processes undergone by chemicals in the environment. The introductory chapters emphasize the magnitude of the effect civilization, with its chemical pollutants and pesticides, has had on the environment. Pesticides and other chemicals may be changed via photolysis, oxidation, hydrolysis, volatilization, absorption, desorption and bioaccumulation. Several chapters consider the problem of the Great Lakes and the major pollutants, such as dioxins, PCBs, hexachlorobenzene, polycyclic aromatic hydrocarbons and heavy metals found in the lakes, and give equations and data for mass balance calculations.

Even fog acts as a medium aiding in the dissipation of pesticides into the environment. Transformation of xenobiotics is often mediated by free radicals in natural waters and sunlight-induced oxidation and reduction reactions. Several chapters deal with the transformation of halogenated aliphatics in natural systems, the bioremediation of sites contaminated by such compounds, and the potential for use of this technique in treating waste sites. Other chapters discuss computer systems for modeling pesticide runoff and the transformation processes, with extensive mathematical treatment of all the steps. The final chapter delves into the future of pesticide management and strategies.

Overall, this appears to be a useful and essential book for anyone involved or interested in pesticide management.

ELIZABETH K. WEISBURGER