BOOK REVIEWS

Book review editor: R L Maynard

If you wish to order, or require further information regarding the titles reviewed here, please write or telephone the BMJ Bookshop, PO Box 295, London WX1H 9TE. Tel: 0171 383 6244. Fax: 0171 383 6662. Books are supplied post free in the UK and for British Forces Posted Overseas addresses. Overseas customers should add 15% for postage and packing. Payment can be made by cheque in sterling drawn on a UK bank, or by credit card (MasterCard, VISA, or American Express) stating card number, expiry date, and your full name. (The price and availability are occasionally subject to revision by the Publishers.)

Biological Exposure Values for Occupational Toxicants and Carcinogens. Volume 2. (Pp 190; price £60.) 1995. Federal Republic of Germany: VCH-DFG. ISBN 3-527-27034-5.

This is the second volume in a series of critical data evaluations for BAT and EKA values. The first volume was reviewed here a year or two ago and in this second volume, a further 22 compounds are dealt with and recommendations for BAT values made. The compounds considered include, as a group, acetylcholinesterase inhibitors, aniline, ethylene oxide, hydrazine, tetraethyl lead, vinyl chloride, and xylenes. The reviews are short but adequate and the reasoning leading to BAT values is well explained.

The book has a significant drawback however. This relates to the dates on which the compounds were reviewed. Most were considered in the period 1990-4 but some accounts are very much more dated: acetylcholinesterase inhibitors (1985), hexachlorobenzene (1984), nitrobenzene (1986), xylene (1984). No updating of the references to the literature on these compounds and groups of compounds is provided.

Used with care, this is still a valuable collection of short toxicological reviews. Readers are advised to look at the tables of dates of completion of the reviews before deciding on whether they also need to look elsewhere. With these reservations, this remains a useful source for any occupational medicine or toxicology library.

R L MAYNARD

Occupational Hygiene. Edited by J M HARRINGTON, K GARDINER. (Pp 442; price £65.00.) Oxford: Blackwell Science. ISBN 0-632037342.

Occupational hygiene has been defined as the application of scientific, technological, and managerial principles to protect the health of workers, and those outside the workplace, by preventing or reducing risks due to chemical, physical, and biological agents. Occupational hygienists are concerned with a broad range of problem solving activities from monitoring the risks arising from exposure to hazardous substances, to advising about the suitability of

protective clothing for those entering stressful thermal environments. Although the underlying principles of occupational hygiene are more or less universal the practice is dictated by national legislation, management culture, and local custom. In recent years there has been an increasing divergence between occupational hygiene practised in the United Kingdom and North America. It is therefore timely that there should be a major revision of this, the only United Kingdom inspired occupational hygiene textbook.

According to the editors the book is primarily aimed at students following a degree course in occupational hygiene, although it should be a useful resource for other occupational health professionals interested in this subject. There are 25 contributors all of whom are either national or international experts in their chosen topic. The book is organised into 24 chapters covering either underpinning knowledge required by an occupational hygienist or core areas of occupational hygiene. Most chapters contain suggestions for further reading and all have cited key references.

There are excellent chapters on sampling of gases and vapours, by Robert Brown from the Health and Safety Executive, and sampling aerosols, by David Mark of AEA Technology. The nature and properties of aerosols and gases are summarised in a very straightforward way, with the amount of mathematics limited as far as possible. The section on control of chemical hazards has been expanded with a new chapter on control philosophy and a completely rewritten chapter on personal protective equipment.

Physical hazards form the topic of six separate chapters. These include a brief description of effects of extremes of temperature, atmospheric pressure, and sound. Subsequent chapters provide more detailed accounts of the monitoring and control of noise, vibration, the thermal environment, and radiation exposure. Where necessary these sections expand on the effects of these agents on workers' health. Biological hazards are only briefly discussed.

A new chapter on the structure and function of the skin is appropriate as greater emphasis is now being placed on preventing occupational skin diseases and reducing dermal uptake of chemicals. However, this section would have benefited from less jargon and it should have contained some discussion of recent developments in monitoring dermal exposure. Other new material on retrospective exposure assessment, ergonomics, auditing, and biological monitoring reflects the need for occupational hygienists to become involved in an ever increasing range of problems.

There are still some notable omissions from this text book. For example, although the medical aspects of inhaled materials are dealt with there is nothing on toxicology. Neither is there any discussion of the risks to the population surrounding industrial sites. Perhaps more importantly there is nothing about risk assessment techniques—for example, in relation to the United Kingdom Control of Substances Hazardous to Health Regulations—which have occupied so much of the occupational hygienist's time in recent years.

Overall this book provides a good insight into the principles of occupational hygiene. It should fairly quickly become the textbook for students of occupational hygiene in the United Kingdom and it would be valuable

reading for physicians new to occupational health. It is excellent value for money.

JOHN W CHERRIE

Handbook of Air Toxics—Sampling, Analysis, and Properties. By LAWRENCE H KEITH, MARY M WALKER (Pp 614; price £69) 1995. Boca Raton, FL: Lewis. ISBN 1-56670-114-7.

A short browse through this book left me in some doubt as to the target audience. I eventually found in the preface a statement that the book is a printed version of an electronic database "intended to help regulators and the regulated community meet the challenges of sampling and analysis, emission reductions, and health and safety issues related to human exposure". Little the wiser, I looked again at the book and still remain in some doubt as to the potential readership. The book is in three main sections. Firstly, a short introduction deals with methods of sampling ambient air. This is followed by a more substantial chapter dealing with analytical procedures for air toxics. Surprisingly, most of these methods seem to apply to samples collected from stack gases rather than from the methods described in the first chapter relating to outside ambient air. A few do refer to ambient air, and a few to drinking water, solid waste, and soils. As the methods are only summarised rather briefly, the reader would have to refer to the cited USA EPA method for sufficient detail for practical use. The third and far the most major section of the book gives information on the physical properties and hazards of about 250 specific chemical compounds or groups of substances. The hazard data relates to fire, explosion, and human health, although the human health refers generally to relatively massive exposures rather than typical environmental levels. Unfortunately there is no means of gauging potential toxicity other than through the United States Hazardous Air Pollutant Weighting Factors, a fairly crude measure. The data is drawn from some 723 references which are listed in the book. A number of databases have come available recently for those seeking information on toxic chemicals. Although this is one of the least expensive, it is also one of the least detailed and least comprehensive, and is unlikely to satisfy the needs of many public or environmental health professionals.

ROY M HARRISON

Biological effects of low level exposures dose response relationships. Edited by EDWARD J CALABRESE. (Pp 302; price £69.00.) 1994. Boca Raton: Lewis. ISBN: 1-56670-093-0.

Just for the British—a guide to U and non-U curves, and for all of us an intriguingly infuriating introduction to "hormesis", the idea that small doses of harmful substances or irradiation may enhance health, even when large doses undoubtedly damage it.

The book is derived from talks given at a conference in 1993 on the Biological Effects of Low Level Exposure (BELLE) under the aegis of a selected group of philosophers, epidemiologists, radiation physicists, and classic and cellular toxicologists. The papers, mostly well referenced and usually clear in their goal and presentation, are based on the notion, which may be about 100 or 30 years old, depending on who is