

risks, uncertainties in risk assessment, regulatory aspects of risk assessment, and the social pressures on the fields of toxicology and risk assessment. The book is well-written and easy to read. The system of having all the references and source material in a separate final chapter detracts somewhat from the ease of using this otherwise excellent book.

ELIZABETH K. WEISBURGER

*Air Monitoring for Toxic Exposures — An Integrated Approach*, by Shirley A. Ness, Van Nostrand Reinhold, New York, 1991, ISBN 0-442-20639-9, 534 pages, \$79.95 (available on 15-day exam from Van Nostrand Reinhold, Mail Order Dept., P.O. Box 668, Florence, KY 41022-0668, USA)

This timely volume (see *Wall Street Journal*, 29 March 1993, page 1, Clearing the Air) is a practical approach to performing sampling surveys, explaining in considerable detail both the equipment used and the technique required. The author is senior industrial hygienist of the Amoco Oil Whiting, Indiana refinery and has included discussions of bioaerosol sampling, dermal exposure methods, toxic effects of chemicals and their impact on sampling strategies, new trends in particle size-selective sampling, the use of real-time and direct-reading instruments and data loggers, the EPA and OSHA techniques, and includes sampling strategies for surveys including indoor air, asbestos, confined space, and industrial exposures. Even radon is included in a non-emotional manner. Human emissions, including breath and urine are discussed with the techniques necessary to sample and analyze them properly. A table lists 24 compounds, with their infrared wavelengths which are recommended for breath screening. Soil sampling is discussed, with procedures for surface soil and also sub-surface soil sampling. Tank sampling, as well as sampling drinking water in the plant, are discussed in detail.

This is an excellent presentation, with numerous photos, of the real-world problems encountered in sampling and analysis of injurious toxic exposures. It is highly recommended as an update to present techniques widely used in industry and other industrial hygiene areas.

HOWARD H. FAWCETT

*Laboratory Experiments in Environmental Chemistry*, by M.G. Ondros, Wuerz Publishing, Ltd., 895 McMillan Ave., Winnipeg, NB R3M 0T2 Canada, 1993, ISBN 0-920063-52-7, 128 pp., paperback, \$19.00 (plus postage).

This laboratory manual is intended for students with a basic knowledge of chemistry, with 20 experiments requiring 1.5 to 3 hours each. The author is

professor at the University of Wisconsin, Menomonie, WI and has reduced the experiments so they will inform as well as inspire students. While some of the experiments have been used for years, many are new. The more advanced ones require a high performance liquid chromatograph (HPLC), photodiode array spectrophotometer, a gas chromatograph (GC) with integrator, an atomic absorption spectrophotometer (AA), a bomb calorimeter, several Spectronic 20s, pH meters and analytical balances.

The 20 experiments cover a wide range within environmental chemistry, from analysis of copper and arsenic in treated wood, phosphates in detergents, salts (ionic compounds) in water, measurement of dissolved oxygen, BOD, and rate of oxygen absorption in water, to identification of FD&C dyes by visible spectrophotometry. Detection of fuel components by gas chromatography is especially interesting in teaching the various components of gasoline, and also the detection of polycyclic hydrocarbons in water should be of wide interest.

The book is arranged for instant use, and is a most practical guide.

HOWARD H. FAWCETT

*Construction Hazard and Safety Handbook*, by R.W. King and R. Hudson, Butterworths, London, ISBN 0-408-01347-8, 477 pages, 1985, available only from Ralph King, 42, Reigate Road, Ewell, Surrey, KT17 1PX, UK, price \$35.00 (incl. postage and packing, send cheque with order).

Before any industrial or laboratory operation can be started, some construction or re-building is usually necessary, but frequently overlooked until an undesired and costly mishap occurs. This volume recognizes the necessity of safety in various types of construction, since the records clearly show it is one of the most dangerous activities undertaken by man.

One author (R.H.) has been a practising safety officer in the construction industry for twenty years with experience in all aspects of contracting, while the co-author (R.K.), a chemical engineer, has 25 years of varied industrial experience with large industry, especially in the petrochemical field.

The content of the book concerns 'on-site' safety in building, civil engineering, chemical and process plant construction and offshore engineering, in sufficient detail to cover the hazards of individual trades.

Part I stresses the scope, activities and safety aspects of the construction industry, including the size and hazards of construction, ranging from multi-storey buildings to off-shore platforms. Using the International Labour Organization statistics, data are given to make safe these various occupations, which range from bricklaying and carpentry to roofing, including the high risk occupations, such as steel erection, tubular metal scaffolds, roof work, demolition, excavation, tunneling and other underground work, as well as compressed air atmospheres and water diving, and steeplejacks. Each topic is supplemented with detailed references.