

mammalian toxicity tests. These include long term, developmental and reproductive toxicity, mutagenicity, safety factors, and thresholds or non-thresholds.

The chapter on databases for impact assessment is definitely for regulatory use, with sections on data requirements for premanufacture testing, lists of Canadian Government databases, and a repetition of factors considered in the evaluation of a chemical. Various models for risk assessment are discussed in another chapter, which relies heavily on the 1983 book *Risk in the Federal Government* and U.S. government reports.

In a summary chapter, the relative costs of treatment technologies to remove inorganic contaminants from water, the cardinal rules of risk communication, risk reduction and risk benefit are all mentioned for the regulatory decision-makers.

This book would serve as an overview for those entering a regulatory agency such as the U.S. EPA. However, the descriptions of most tests are not sufficient to be of value unless many other references are consulted. A disconcerting fact was that most of the tables, illustrations, charts, etc., are from other authors, although with proper credit to these authors. Furthermore, the authors are not current in several respects. They mention the Bioassay Program of the National Cancer Institute when that effort was transferred to the National Toxicology Program in 1978; 5 million chemicals are said to be in the Chemical Abstracts Registry when there are over 11 million; while there is no mention of newer risk models using pharmacokinetics or the multistage models of Moolgavkar and his associates.

The book would have been improved by having a stricter edit. There is much repetition in various chapters, many misspelled words, and numerous instances of poor or erroneous grammatical usage.

ELIZABETH K. WEISBURGER AND HOWARD H. FAWCETT

Improving Safety in the Chemical Laboratory, A practical guide, 2nd edn., edited by Jay A. Young, Wiley/Interscience, New York, NY, 1991, ISBN 0-471-53036, 406 pp., \$75.00.

To raise the quality of a first edition in 4 years, to what may well become a classic, is a real achievement. Professor Young, the editor, has assembled 18 highly qualified authors for the 22 chapters (some classified as appendices) and, in addition to the expected treatment of the OSHA Chemical Laboratory Standard (Occupational Exposures to Hazardous Chemicals in Laboratories, effective 31 January 1991), has presented outlines on general laboratory safety, as well as highlights of the Canadian and U.K. regulations. Since the U.S. regulations cut across agency lines, it necessitates viewpoints from OSHA, EPA, NIOSH, Nuclear Regulatory Commission and others.

The selection of authors to the volume reflects many different viewpoints, supplemented by detailed references. Photographs could have been more frequent, and the hazards of liquid hydrogen (which this reviewer believes to be highly dangerous) could have been better presented. Much attention is given to laboratory hoods; as well as monitoring procedures and devices for checking the laboratory air. Fire prevention and control, including fire toxicity, receive reasonable but not extensive treatment. In general, the volume is excellent and deserves serious reference on a frequent basis if the dream of hazard-free laboratories is to be approached. It is highly recommended.

HOWARD H. FAWCETT

Firefighter's Hazardous Materials Reference Book, by Daniel J. Davis and Grant T. Christianson, Van Nostrand Reinhold, New York, NY, 1991, ISBN 0-442-00377-3, 910 pp. \$119.95 (plus tax and shipping)

The title suggests a vitally needed subject, but this volume does not, in the opinion of this reviewer, adequately cover the subject. Each chemical or material is given a page in the main section, totalling 874 listings. A few of these are duplicated under slightly different names, such as, for example, carbon bisulfide (page 170) and carbon disulfide (page 172) with slightly different recommendations. The large number of "n/as" are difficult to understand, since most of the desired data are available in other publications and well-known chemical references. The few literature citations cited are woefully inadequate. The DOT number index is useful to the extent one can rely on DOT for completeness and accuracy. In the Synonym Index (pages 893-910) a well-intended but misleading modification of a chemical name to facilitate the listing for simplicity, as for example, "ethyl acetate" into "acetic acid, ethyl ester", has resulted in ten notations in front of ten different acetates. This could be very confusing, especially when it is as common as "acetic acid" acetates, and all are well recognized by their correct chemical names.

This reviewer suggests that the volume be thoroughly re-edited and all data checked to avoid most of the n/a's. To the average firefighter, this volume could be misleading, especially when consulted in a "real world" emergency.

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