

Kirk-Othmer Concise Encyclopedia of Chemical Technology, by Martin Grayson (Executive Editor), Wiley-Interscience, New York, NY, 1985, 1318 pages, \$99.95.

To condense the knowledge regarding chemical engineering and processes into 28 volumes is a monumental undertaking; then, to condense the 28 volumes into one is an even more challenging task. In nearly two million words, this volume highlights the material in the fifteen million words of the larger work, and provides both SI and common units, carefully selected key references for each article, and hundreds of tables, charts, figures and graphs.

Each article, usually of less than two pages, is written by one or more persons with specific knowledge and expertise in the area of concern. For example, the article on Pilot Plants and Microplants is co-authored by three engineers from Exxon Research and Engineering. Plant Safety is surveyed in one and a half pages by a DuPont expert. Articles on specific compounds, such as vinyl chloride monomer and polymers, are contributed by engineers from Goodrich. The four-page chapter on Information Retrieval is especially valuable as a compendium of the many data bases and sources currently available, and reflects both the U.S.A. and Europe.

After many substances, a health and safety paragraph is given. These are not always clear; in fact, they may give little feeling for the relative danger potential of the compound. As a constructive suggestion to the editors, in view of the widespread feeling of uneasiness after Bhopal, in future editions a consistent and plainly worded warning should be included after each chemical, where this knowledge is available.

This one-volume key to the chemical technology information is clearly a reference work which will be widely used and valued for years.

H.H. FAWCETT

Health & Safety in the Chemical Laboratory: Where Do We Go From Here?, Special Publication No. 51, The Royal Society of Chemistry, Burlington House, London W1V 0BN, U.K., 1984, 198 pages, paperback, ISBN 0 85186 945 9, price £16.50 or \$30.00.

This book is a gem, in that it clearly outlines the difficulties which face anyone who is courageous enough to seriously tackle health and safety problems in chemical laboratories. From experience, we have learned that chem labs and their occupants are a unique challenge. The objectives of developing professional behavior, self-analysis, and willing cooperation with "health and safety procedures", especially in academe, is covered from a multi-national viewpoint, since this book is the Proceedings of a Symposium organized by the professional Affairs Board of the RSoC, under the aegis of

the Working Party on Professional Affairs of the Federation of European Chemical Societies, University of Lancaster, 12–13 April 1983.

Following the opening chapters, which deal with statistics of accidents and morbidity experiences, and the approaches which have been made in various countries (the U.K., West Germany, France, the Netherlands, the U.S.A.), the book proceeds to real substance in the excellent chapter on Hazards of Handling Chemicals (by L. Bretherick), Hazards of Apparatus, Equipment, and Services (by I. Szentpeteri), an especially important discussion of Handling People (by E. Thompson), a critical review of What Standards Should We Use (by T. Rose), and the Protection of Workers Against Chemicals (which closely parallels the "Hazard Communication" or Right-to-Know regulation of OSHA in the U.S.A.).

The book concludes with a summary of the short-term and long-term needs for cooperation of professional societies and organizations to achieve what is a badly needed internationally recognized policy of health and safety programs for chemical laboratories. This reviewer enthusiastically endows this concept, and highly recommends the book.

H.H. FAWCETT

The Plutonium Business and the Spread of the Bomb, by Walter C. Patterson for the Nuclear Control Institute, Sierra Club Books, San Francisco, CA, 1985, 272 pages, cloth cover, \$16.95.

In the questions which have been raised pro and con over nuclear power development, perhaps the most troublesome is whether, or to what extent, civilian power and weapons technology are interchangeable. In particular, to what extent is plutonium, which is a product of the fission of enriched uranium with neutrons in a power reactor, controlled so it will not eventually become a common weapon component of many nations about which we know relatively little politically?

There is no doubt that the author, a Canadian living in England, has done a very thorough research effort in tracing the progress and mishaps of atomic energy. Specific dates and places abound. Whether or not his conclusions, that spent fuel should not be processed, and that breeder reactors should not be built and operated, are correct is open to question. There is no doubt in this reviewer's mind, based on long observations starting with "hands-on" work with plutonium in 1944, that there should be a place for breeder reactors in our national energy future, but opponents have successfully blocked it. (The Clinch River breeder reactor site is now being considered for storage of spent fuel elements.) The U.S. position is in contrast to other countries, of which France is a notable example, which are developing breeder reactors and hence will be in a position of economic advantage in the