

REVIEWS

Handbook of Aerosol Technology, 2nd Ed. By P. A. SANDERS. Van Nostrand Reinhold Co., 135 W. 50th St., New York, NY 10020. 1979. 526 pp. 15 × 25 cm. Price \$27.50

This book is an updated version of "Principles of Aerosol Technology," which was published in 1970. It has become available at a time when the aerosol industry has completed the changeover from the predominant use of fluorocarbons as the propellant to other alternative propellant systems. The "Handbook of Aerosol Technology" is the first book that considers the development of aerosols in the light of the restrictions placed on the use of fluorocarbons as propellants.

The text is divided into three major sections: homogeneous systems and their properties; emulsions, foams, and suspensions; and miscellaneous. While Dr. Sanders is the major author, five chapters were written by several of his former associates from the Freon Products Division of Du Pont, and much of the new experimental data presented was developed at Du Pont.

Chapters 3 and 4 will be particularly valuable to the experienced aerosol chemist in that the use of the fluorocarbon and hydrocarbon propellants for aerosol products is discussed in light of the restricted use of fluorocarbon propellants. The chapters include all of the necessary physico-chemical data of value to those formulating aerosol products. While the author includes much information about the fluorocarbon propellants, these propellants can be used only for inhalation-type aerosol products that are covered by a New Drug Application and for an extremely limited number of vaginal foams.

The chapters on containers and valves have been updated and supply the reader with the required knowledge of these components. The chapter on filling methods is adequate but should have included greater details about the filling of products utilizing hydrocarbon propellants. Since the hydrocarbon propellants are flammable, they must be handled differently from the fluorocarbons. A thorough discussion of vapor pressure, spray characteristics, solvency, viscosity, and density is presented. Much of the data in these chapters deal with fluorocarbons and are of limited value based on present regulations. However, data are given for other fluorocarbons such as fluorocarbon 22, which may be approved for use in the future.

The chapter on stability is especially well written and includes the various test methods used to determine the stability of aerosols. Since aerosols now utilize a hydrocarbon propellant, the chapter concerned with flammability is essential. Dr. Sanders also indicates the various regulations involved.

Section II deals with emulsions, foams, and suspensions. The basic aspect of emulsion technology is covered, and much research data of tremendous value to the formulating chemist are supplied. Both aqueous and nonaqueous foams and other systems are discussed, which should interest developers of pharmaceutical aerosol dosage forms. This section alone is worth more than the cost of the book. The material presented is of value to anyone interested in surface chemistry and emulsions, not only to those interested in aerosols.

Section III concerns fluorocarbons in the atmosphere and technical programs in the atmospheric sciences. These chapters are of limited value but present the concerns of various organizations as to the use of fluorocarbons as propellants. However, the final chapters dealing with the sampling and analysis of aerosol products and the toxicity of fluorocarbon propellants are related to the development of these products and are of interest.

This book is recommended for use by both the experienced and the newcomer and should be part of the required library of all laboratories.

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Alicyclic Chemistry, Vol. 6. (A Specialist Periodical Report). Edited by M. A. McKERVEY *et al.* The Chemical Society. 1978. 357 pp. 13 × 22 cm. Price \$56.00. (Available from Special Issues Sales, American Chemical Society, 1155 16th St., N.W., Washington, DC 20036.)

This sixth volume of an annual series is devoted to a summary of the literature of 1976 describing the chemistry of alicyclic compounds. Each chapter is devoted to a different alicyclic system, beginning in Chapter 1 with three-membered rings and progressing through four-, five-, and six-membered ring systems in subsequent chapters. The last two chapters in the book deal with surveys of literature describing the chemistry of medium- and large-ring compounds and bridged carbocyclic compounds.

Each chapter contains summaries of the literature dealing with structural studies of the various alicyclic systems including both molecular orbital and spectroscopic investigations. The literature of 1976 describing conformational aspects of a variety of alicyclic systems also is summarized in the appropriate chapters. In addition, reports of novel syntheses and chemical reactions of the various alicyclic systems are provided.

Each chapter is well illustrated with structural and chemical formulas. The literature citations are provided conveniently on the same page as the text material. While this book does not have a subject index, a useful author index is included.

Volume 6 of "Alicyclic Chemistry" would be a useful addition to the personal library of chemists and spectroscopists interested in having a concise and thorough review of the literature (of 1976) in this area. Natural products chemists should find this publication useful in terms of an annual review of the chemistry of a variety of alicyclic compounds of natural origin. It is refreshing to note that the current volume of this series sells for the same price as Volume 5.

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Forensic Toxicology: Controlled Substances and Dangerous Drugs. By W. T. LOWRY and J. C. GARRIOTT. Plenum Press, 227 W. 17th St., New York, NY 10011. 1979. xvii + 445 pp. 15 × 23 cm. Price \$37.50.

A retrieval of archival data organized in alphabetical order is the purpose of this new hard-covered book. After eight introductory and explanatory chapters comprising 116 pages, the book covers information in monograph form. For each drug entity, which includes both American and foreign manufacturers, the structural formula is presented along with its synonyms, chemical name, trade name, pharmacological classification, biochemical consideration, toxicity data with blood levels, when available, and even some pharmacognosy data where applicable. In addition, each drug is boldly classified as: (a) noncontrolled, (b) dangerous, or (c) scheduled with the specific schedule.

The title is misleading in that one does not find classical forensic toxicology, but the authors did not intend it to be a forensic toxicology text. Apparently, the authors used the title for lack of a better description. It is a reference book intended for attorneys, toxicologists, or chemists who need legal, chemical, and toxicity information on various drugs.

For pharmacists who know the drug laws, the introductory chapters are of little value. The first seven chapters, covering some 100 pages, include definitions and explanations of pharmaceutical dosage forms (from aerosols to tinctures) and scheduled, legend, excluded, and excepted substances. Chapter 4 deals specifically with the regulation of controlled