

REVIEWS

Pharmaceutical Handbook, 19th ed. Edited by AINLEY WADE. The Pharmaceutical Press, 1 Lambeth High St., London SE1 7JN, England. 1980. 783 pp. 18 × 20 cm. Price \$35.00. (Available from Rittenhouse Book Distributors, 251 S. 24th St., Philadelphia, PA 19103.)

Developed as a companion to *Martindale: The Extra Pharmacopoeia*, the *Pharmaceutical Handbook* contains a wealth of information of use to students, practicing pharmacists, and practitioners of allied professions. The 19th edition is the most recent volume in a series that originated in 1906.

The *Handbook* has been thoroughly revised and updated since its previous edition in 1970. The 117-page section on the preparation and supply of medicines has been rewritten. A new checklist of potential incompatibilities of additives to intravenous preparations has been included, and the table of drug interactions has been extended.

The other major sections of the book cover diverse topics such as computers and their applications in pharmacy, sterilization methods and tests, disinfectants and antiseptics, physiological values for body fluids, drug absorption, poisoning, microbiology, immunology, nomenclature of organic compounds, and weights and measures.

The 24-page section of miscellaneous data includes geometrical formulas, mathematical notations, signs, and symbols, calculus equations, the Russian and Greek alphabets, a table for the determination of body surface area from height and weight, and a periodic table. A glossary of proprietary names and equivalent approved names lists trade names for single-entity preparations available in the United Kingdom along with their approved names.

A 136-page glossary gives concise definitions of medical and pharmaceutical terms along with definitions of radiological terms, terms used in foreign prescriptions, and units and measures. The book concludes with a 38-page index.

The *Handbook* is a convenient reference source that contains valuable information which otherwise could be found only by consulting many other sources.

Staff Review

Substituent Constants for Correlation Analysis in Chemistry and Biology. By CORWIN HANSCH and ALBERT LEO. Wiley, 605 Third Ave., New York, NY 10016. 1979. 339 pp. 21 × 28 cm. Price \$24.95.

This book is organized into two sections: a descriptive section that lightly covers the fundamentals of chemical structure-physical parameter theory and estimation (65 pages) and a set of tables, in the form of computer printouts, that contain fragment constants and partition coefficients which were extracted from the literature. The tables are provided as separate appendixes. The first appendix contains about 100 pages and is entitled Electronic, Steric, and Hydrophobic (π) Constants. The second appendix contains about 160 pages and is entitled Partition Coefficients. The last appendix contains four pages and is entitled Hydrophobic Fragment Constants.

The expressed purpose of this book (the authors refer to it as a monograph) is "to provide a comprehensive listing of parameters of proven value for the correlation of structure with chemical or biologic reactivity." The tables provided seem to represent the most complete source of information yet organized for such use, and the book therefore admirably accomplishes its stated goal. The tables are not the easiest to decipher, given their computerized structure, but they nevertheless are a rich source of well-referenced information on the influences of structure on physical and chemical events. Partitioning data listed are for diverse solvent systems.

The opening, narrative section of the book has very brief discussions of electronic, steric, and hydrophobic parameters; molar refractivity and parachor; and cluster analysis. These discussions are provided at the advanced undergraduate level. They provide a minimal preparation for

the use of the extensive tabulations that follow. To an extent, this aspect of the book is disappointing since the discussions are largely phenomenological and fail to deal with physicochemical events, such as hydrophobicity, in terms of present understanding of their fundamental molecular origins.

While limitations and/or uncertainties in parameter estimations are presented fairly, severe mechanistic shortcomings of quantitative structure-activity relationship approaches are skirted completely. The idea of the prospective use of quantitative structure-activity relationships is sold; the fact that applications have been largely retrospective goes unmentioned.

On balance, the book contains much useful information in tables and material in short chapters which should be part of the coursework of medicinal chemistry and pharmaceuticals programs. It makes a valuable library addition but should be considered for personal collections only by those emphasizing quantitative structure-activity relationships in their teaching or research.

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Toxic Plants. Edited by A. DOUGLAS KINGHORN. Columbia University Press, 562 W. 113th St., New York, NY 10025. 1979. 195 pp. 15 × 23.5 cm. Price \$20.00.

This book is the result of a symposium on toxic plants held at the University of Miami in 1977 as part of the annual Society for Economic Botany meeting. It features contributions by eight major authors on various aspects of plant poisoning. It is an up-to-date treatment providing chemical, biochemical, and toxicological information on a wide range of poisonous plants.

The problem of poisonous plants is described in general in the first chapter. Problems related to phytotoxicology are discussed such as plants with known toxic constituents that are not always poisonous, the uneven quality of the existing literature, the need for accurate identification to access information, the question of labeling poisonous ornamental plants, and the difficulty of improving the present body of information.

The remaining chapters cover and update several specific and important areas of interest in poison plants such as toxic mushrooms (amatoxins, phallotoxins, phallolysin, antamanide, ibotenic acid, muscimol, psilocybin, muscarine, gyromitrin, and coprine); toxins and teratogens of the Solanaceae and Liliaceae (nonalkaloidal toxins, tropane alkaloids, pyridine/piperidine alkaloids, and steroidal alkaloids); pokeweed and other lymphocyte mitogens (lectins, mitogens, Abrus lectin, abrin, and Hura and Robinia lectins); a literature review and clinical management of household ornamental plants potentially toxic to humans; cocarcinogenic irritant Euphorbiaceae (phorbol esters, ingenol esters, daphnane esters, and diterpene esters); the poisonous Anacardiaceae (botany, phenolic compounds, and immunological studies); and contact hypersensitivity and photodermatitis evoked by Compositae (sesquiterpene lactones and acetylenic compounds).

Overall, the chapters provide recent data, data of significance to human poisonings, and much insight into the complexity of poisoning by natural products. Chemical structures are provided for many classical poisons as well as for some recently characterized molecules. Finally, clinical management is provided where available on a number of poisonous plants.

This book will be of interest to numerous specialists such as botanists, chemists, pharmacognosists, and horticulturalists as well as those in the medical and health professions. The topics discussed are a welcome addition to the relatively sparse literature in the field.

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