

Book Reviews

DIMETHYL SULFOXIDE, VOL. I: BASIC CONCEPTS OF DMSO, Edited by Stanley W. Jacob, Edward E. Rosenbaum, and Donald C. Wood. Marcel Dekker, Inc., New York, N. Y. 10016, 1970. 477 pages.

This volume represents the first of two which will form a basic source book for all scientific disciplines on the potential properties and uses of DMSO. Until relatively recently, DMSO was a laboratory curiosity used primarily as a tissue preservative. It is startling to note how rapidly the literature concerned with DMSO has grown, and this book represents a superb introduction to this complex subject.

This volume includes 13 chapters from an impressive list of contributors and an additional section summarizing the individual bibliographies. The predominant theme in most chapters dealing with the physiological properties of DMSO is its ability to penetrate membranes and to facilitate membrane transport. DMSO evidently has bacteriostatic properties, but its primary effect on microbiological systems is again its ability to facilitate access of the anti-

microbial moiety to the microorganism. The fact the DMSO even permits penetration of low molecular weight polypeptides through the skin holds great potential for immunization with inactivated bacteria, as through the mucosa.

With regard to the utility of DMSO in dermatology, this reviewer must agree with Dr. Cortese, who indicates that DMSO in itself does not possess remedial properties but that it appears to be a vehicle for the transport of dermatological medications into and through intact skin.

As is the case with most books made up of chapters by various authors, some repetition does occur. The book is surprisingly free of typographical errors, and chapters are well organized. This book is not for leisurely reading but is primarily a reference volume which should prove valuable to those interested in DMSO.

Even the most casual reader will be impressed by the many pharmacological activities which DMSO is reported to exhibit. Evidently, very few human clinical studies utilizing DMSO or combinations of DMSO

with other medications are in progress in the U. S. at the moment. It is unfortunate indeed that FDA regulations make clinical investigations of this most interesting compound with likely potential in health care almost impossible.—M. M. RIEGER—Warner-Lambert

TECHNIQUES OF CHEMISTRY, 3RD ED., VOL. II. ORGANIC SOLVENTS. PHYSICAL PROPERTIES AND METHODS OF PURIFICATION, by John A. Riddick and William B. Bunger, on the basis of the 1st Ed. by Arnold Weissburger and Eric S. Prosskaver and the completely revised 2nd Ed. by John A. Riddick and Emory E. Toops, Jr. Wiley-Interscience, New York, N. Y., 1970. XIII + 1041 pages, indexed. Price \$24.95.

The name of the series has been changed from *Techniques of Organic Chemistry* to *Techniques of Chemistry* to reflect usage of many of the cited methods in all branches of chemical sciences, thus making divisions of techniques for organic and inorganic chemistry increasingly artificial. This book is a revised and expanded edition of the two previous editions published in 1935 and 1955. The format is similar to the 1955 edition. The objectives remain the same—to present reliable physical data, criteria of purity, and methods

of purification for a wide variety of organic solvents for use as a guide in the selection of a solvent for a particular purpose.

Chapter I classifies the 354 (compared to 157 and 254 in the 1st and 2nd editions) solvents described according to functional groups. Chapter II is a discussion of the physical properties reported and their criteria for selection. Chapter III is the tabulation of these physical properties which include boiling and freezing points and constants, vapor pressures, densities, refractive indices, viscosities, surface tensions, heats of vaporization, critical constants, heat capacities, optical activities, acid-base constants, electrical properties, flash points, and spectroscopic data (uv, ir, Raman, nmr).

Chapters IV and V are good discussions of criteria of purity, drying and determination of water, and purification methods. Chapter VI is the bibliography listing 5358 references including several from 1968. The index is well organized and easily utilized.

Correct chemical nomenclature as well as common and commercial names are used. The text is well written, tables are very clear, and typographical errors are very few. This book is a valuable reference for a wide range of technical personnel and laboratories.—PHILLIP E. SOKOL—The Gillette Company