

## BOOK REVIEWS

POLYVINYLPYRROLIDON, by Walter Reppe, Verlag Chemie, G.M.B.H., Weinheim, Germany, 1954. 72 pages. Price DM 9.80.

Polyvinylpyrrolidone (PVP) originated in Germany where it gained considerable prominence during the second World War, as a blood plasma substitute or extender. In combination with a solution of several inorganic salts, isotonic with blood, it was introduced by the Farbenfabriken Bayer in Leverkusen under the designation of "Periston" about ten years ago. Enormous quantities of it were used by the German army.

Since information as to the usefulness of PVP and as to its production methods became available outside of Germany following the seizure of patents and the publication of pertinent laboratory and manufacturing data, the author's monograph is intended, among other things, to stress the German origin of a subsequent contribution to this development.

The booklet gives detailed information concerning the several steps in the synthesis of PVP on a manufacturing scale. Other chapters furnish a wealth of physical, chemical, and analytical data. Considerable space is devoted, of course, to the pharmacological and clinical studies on PVP while comparatively little is said concerning its application in cosmetics. Incidentally, mention is made of Shelansky's work on the PVP-iodine complex in which iodine appears to be substantially detoxified.

The extensive bibliography with

its 283 literature references appears to cover the several aspects of the subject with noteworthy thoroughness.—E. G. KLARMANN, Lehn & Fink Products Corp.

HANDBOOK OF COSMETIC MATERIALS, by Leon Greenberg and David Lester, with a chapter by H. W. Haggard. Interscience Publishers, Inc., New York 1, N. Y., 1954. 455 pages, 6 × 9 inches, no illustrations or index. Price \$12.50.

The authors claim to have gone over some 4000 articles or books of which they quote a bibliography of 2734 entries. The literature does include some references to 1950, with few references in 1949 and 1950; most of them are prior to 1940. This is the culmination of extensive studies on the dermatological properties of cosmetic materials at Yale University, sponsored by the T. G. A.

In so vast a reference list one would expect to see mentioned all the accepted literature of the cosmetic industry. Of the cosmetic books mentioned, one finds Cerbe-laude, Chilson, Goodman, Harry, Poucher, Wall, and some Winter. "The Chemistry and Manufacture of Cosmetics," by deNavarre, and Winter's classic encyclopedic "handbook" are missed. On the essential oils, Gildemeister and Hoffman and Parry are given but not Cola, Finnmore, or Guenther (at least four volumes of Guenther's "The Essential Oils" appeared before the end of 1950). The fine work of Patterson and Hall on essential oils presented before a Toilet Goods Association

Scientific Section, is not mentioned.

The authors state in their foreword that they have not considered *all* the cosmetic materials, limiting themselves to approximately 1000 ingredients. It is unfortunate they did not divide the book into two parts, one on essential oils and perfume materials, then putting all cosmetic ingredients together in another section.

Many questionable listings are present. To name a few—lycopodium, calcium chloride, maleic anhydride, mercurochrome, ferric ferrocyanide, oxalic acid, turpentine, potassium and sodium iodate, and oil of tansy (and some other medicinal essential oils).

In general, the proofreading is good. However, the word Xerol is spelled Zerol at least two times (pages 141 and 334), and sulforates for sulfonates (reference 80).

There is some inconsistency in the entries. Thus cetyl alcohol is listed under "alcohols," but stearyl alcohol is under "stearyl" alcohol; tragacanth is described under "gums," but acacia is under "acacia." The melting point given for cetyl and stearyl alcohols and stearic acid is for the c.p. material, though the commercial grade is the one used and mentioned. The latter have different melting points.

Eosine is badly handled; ammonium, sodium, and calcium thioglycolates are not given though the acid is described. It is unfortunate that Behrman's work on thioglycolates is not mentioned. The toxicity of 2-methyl 2,4-pentanediol is known but not given. The generalities under "soap, powdered" do no credit to the authors. The pH of water suspensions of talc are not correctly reported. They are usually over pH 8 unless the talc is acid washed. One suggests the authors find another word for "cosmetician" on page 164. The instability of

aluminum citrate solutions is not mentioned under its properties. The authors will be interested in knowing that there is an aluminum phosphate that *is* water soluble. The title "estrogenic hormone" is badly handled. No mention is made of estrogens derived from vegetable sources. The monobenzoate is *not* commonly used in cosmetics. How does one obtain glycerin from tristearin during the manufacture of either cold or vanishing cream?

The literature is freely quoted, both good and badly executed literature. What is the point in quoting bad literature—just to have a lot of references?

Without an index, one has to look for a listing under several possible headings. Too often the item sought is not listed at all.—M. G. DENAVARRE.

ORGANIC ANALYSIS, Vol. I, edited by J. Mitchell, I. M. Kolthoff, E. S. Proskauer, and A. Weissberger. Interscience Publishers, Inc., New York 1, N. Y., 1953. 473 pages, 6 × 9 inches. Illustrated and indexed. Price \$8.50.

Between the advisory and editorial boards of this book, one could hardly find another name important in organic analytical circles. Yet the various chapters are written by almost a dozen other experts.

This book is aimed at the gap in university level training in chemical analysis.

Except for a minor inconsistency in using both terms glycerol and glycerine, (pages 43–44) the editors have maintained a uniformity in style between the several contributions.

Numerous perfumery and cosmetic materials are included in the analytical methods. The book looks very useful to analysts.—M. G. DENAVARRE.

SOAP MANUFACTURE, Vol. I, by J. Davidsohn, E. J. Better, and A. Davidsohn. Interscience Publishers, Inc., New York 1, N. Y., 1953. 525 pages, 6 × 9 inches, illustrated and indexed. Price \$12.50.

The authors names are not new to soap circles. The work is consistent with their previous writings. Some may consider portions of the book as too rudimentary. Other parts suggest an incomplete familiarity with the U. S. soap industry at which the book seems to be slanted.

The writers' forte appears to be in their ability to translate into lay language, the complex phenomena that take place in soap production. Sometimes scientific exactness is lost in putting a thesis into comparatively easy reading—a certain liberty must be allowed in such cases.

One questions the statement that ethyl (and amyl) salicylate is alkali resistant on page 407. Also the suggested use of ethyl alcohol in superfatting, must mean cetyl or stearyl alcohol. The superfat is not always added to the fat charge before adding the lye. The formula on page 483 for golden shampoo, though quoted from another author has doubtful hair tinting value.

While glycerin is spelled "glycerine" through the book, several places on pages 320–321 it is spelled as "glycerol." This is a minor inconsistency.

This reviewer feels that the last part (D) of the book dealing with special soap products is the weakest. However, the other parts of the book more than offset it.

In general the discussion of raw materials is good. Many useful diagrams and tables supplement the text. The book seems a bit high priced until one realizes its limited market. Hence this reviewer looks forward to the completion of Volume II.—M. G. DENAVARRE.

COMPREHENSIVE INORGANIC CHEMISTRY, Vol. I, edited by M. Cannon Sneed, J. Lewis Maynard, and Robert C. Brasted. D. Van Nostrand Co., Inc., New York 3, N. Y., 1953. 232 pages, 6 × 9 inches, illustrated and indexed. Price \$5.00.

First of eleven volumes on inorganic compounds. The editors are stressing extensiveness of coverage in lieu of fullness of treatment.

This volume is divided into three sections, one being written by each, W. N. Lipscomb, P. R. O'Connor, and G. T. Seabord, respectively. The entire volume covers various phases of atomic and nuclear chemistry with 61 pages devoted to the Actinide series, an arbitrary classification.

One can question O'Connor's listing of the six fundamental particles in which the photon is not included.

The editors' preface gives a somewhat confused intent. This reviewer finds the first volume to be well done and more coherent than expected. It is doubtful if the series are intended to, or can, be of the same stature as Gmelin's well-known treatise. But there is a need for a new approach to many old inorganic discussions, particularly in the light of the status of inorganic chemistry since the explosion of the first atomic bomb.

The volumes appear to be fairly priced. This makes it more interesting to start the complete set.—M. G. DENAVARRE.

COMPREHENSIVE INORGANIC CHEMISTRY, Vol. II, edited by M. Cannon Sneed, J. Lewis Maynard, and Robert C. Brasted. D. van Nostrand Co., Inc., New York 3, N. Y., 1954. 248 pages, 6 × 9 inches, illustrated and indexed. Price \$5.00.

This second of the 11-volume series begins to follow the pace for the entire set. It was written by

James W. Laist, covering copper, silver, and gold.

The preface repeats the practical nature of these volumes, with wide rather than thorough coverage. An examination of the subject matter confirms this. No errors were noted in a casual checking of the test.—M. G. DENAVARRE.

CONDENSED PYRIDAZINE AND PYRAZINE RINGS, by J. C. E. Simpson. Interscience Publishers, Inc., New York 1, N. Y. 1953. 394 pages, 6 × 9 inches indexed. Price \$12.50.

This is the fifth volume of a series devoted to a comprehensive discussion of heterocyclics. The present volume deals systematically with the chemistry of the book's subject matter together with related systems.

Material on the cinnolines and phthalazines appears to be exceptionally inclusive while that on the quinoxalines is more recent. The chapters are all arranged on the basis of methods of preparation, properties, and reactions. Tables are used to good advantage, though some seem to be complicated with too many footnotes.

Some eight pages of appendices list ultraviolet absorption data, basicities and antibacterial properties of the class of compounds being considered.—M. G. deN.

SUCCESSFUL COMMERCIAL CHEMICAL DEVELOPMENT, H. M. Corley, Editor-in-Chief. John Wiley & Sons, Inc., New York 16, N. Y. 1954. 374 pages, 6 × 9 inches, indexed. Price \$7.75.

The application of science to the commercial development of a chemical is very comprehensively covered in a new book, "Successful Com-

mercial Chemical Development." This book is the first and only documentation of the important principles that govern each essential step in the selection and development of promising new chemicals. As such, it is an important contribution to business literature and should be useful to everyone with a responsible position in the chemical industry.

Every chapter represents the thoughts of many individuals who are committee members of the very young (seven-year-old) Commercial Chemical Development Association. A collaborative effort of this scope is an extremely difficult undertaking and it is to the credit of the editor that he has molded information from numerous sources into a well-organized manuscript. The list of contributors reads almost like a "Who's Who of Chemical Industry" and represents nearly every segment of the industry.

The book is well designed and beautifully printed. It contains excellent tabular presentation of material and numerous references to the literature.

One caution about a book of this sort is that it presents the procedures and techniques used by the larger companies which are not always possible for smaller organizations. Smaller companies may find it helpful to know how things are done by the industrial giants, but they frequently have to find their own short cuts.

While the various chapters, from "The Origin and Handling of New Product Ideas" to "Product Labeling, Packaging and Shipping Consideration," present a complete picture of the chemical development industry, perhaps the most useful chapter is the one on "Definitions." In this industry where growth has been so rapid, terms are used with-

out an accepted understanding by all. If the book serves no other purpose than to bring about a uniform usage and precise understanding of such terms as "Basic Research," "Applied Research," "Technical Research," "Use Research," "Product Research," etc., it will have provided a very important contribution to the whole industry.—E. G. McDONOUGH, Evans Research and Development Corp.

**WAX ENCYCLOPEDIA** (Wachs Enzyklopädie), by L. Ivanovszky. Verlag für chemische Industrie H. Ziolkowsky, K. G., Augsburg 2, Germany. 1954. 232 pages, linen bound, size 5 × 6<sup>3</sup>/<sub>4</sub> inches, illustrated and indexed. Price DM 11.

The book is divided into three general parts, (1) an introduction to the field of waxes, (2) chemical physics, and (3) the science of retention.

The first part consisting of about thirty pages gives basic information on waxes and their uses. The second portion as its title implies discusses structures, phase-rule, specific systems, and so forth. Part three reviews the relationship in wax/solvent systems.

The author is no newcomer in this field. Some of his theories are not generally accepted, which does not necessarily make them useless. Some experimental data are given to support the theories. These do not seem adequate, however.

This work is based on the author's publications of this subject appearing in *Seifen, Ole, Fette, Wachs*, which is largely a theoretical physical chemistry of waxes. This is a poorly understood field. The book under review does contribute much to the knowledge in the wax industry.

It is a condensed survey, the first of two volumes. Some of the work pin points problems in the cosmetic industry and if proved, may help in understanding the role of waxes in cosmetics.—M. G. DEN.

**A FORMULARY FOR EXTERNAL THERAPY OF THE SKIN**, by C. N. Frazier and I. H. Blank. Charles C Thomas, Springfield, Ill. 1954. 118 pages, indexed. Price \$3.25.

This is a brief text concerned with external therapy of the diseased skin; it does not deal with the treatment of cutaneous symptoms of other diseases. It was prepared originally to fill the requirements of the Massachusetts General Hospital. In spite of its brevity, it is not limited to a simple listing of formulas and of the purposes which they are intended to serve. Instead, it contains short but informative chapters on several relevant topics such as the objectives and principles of external therapy, the cleansing of the skin and the different types of cleansing agents, the composition of ointment vehicles including a discussion of emulsions, and others. Specific medication is described under headings such as "Antipruritics," "Antiinfectives" (including antibacterial, antifungal and antiparasitic agents), "Anti-eczematous and Anti-seborrheic Agents" and "Antiperspirants." The formulary is highly eclectic in that usually only one formula of a lotion, ointment or powder is given for a particular purpose. At the end of every chapter, there is a list of references.

The book does not, nor does it intend to, supply a complete coverage of the several subjects dealt with. Essentially, it represents the authors' ideas as to the scope of an

armamentarium of preparations for ideas.—EMIL G. KLARMANN, Lehn & external skin therapy, with a well- Fink Products Corp., New York, conceived rationalization of these N. Y.