

New Books

J. F. Gerecht, Book Review Editor

Compilation of Odor and Taste Threshold Values Data, No. 505, W.H. Stahl (American Society for Testing and Materials, Philadelphia, Pa., 1973. 250 p., \$25.00).

The purpose of this book is to tabulate the threshold values of odor and taste substances, which are of great importance to all those who deal with either the basic or applied aspects of this field. The author and the E-18 Committee of ASTM did an outstanding job in gathering the widely scattered information in the literature and in obtaining many unpublished data from authorities in the studies of odor and taste. The author also succeeded in organizing the complex information into comprehensive, but easy to use, tables.

The main body of the book is Table 2, which presents the odor or taste threshold values of the substances published in journals up to August 1972. Included in the table are the name, WLN formula, media, purity, and mol wt of the substance, and the reference of the entry. There are two other tables in the book. One is the alphabetical listing of the substances (Table 1) and the other the WLN permutation of the threshold chemicals (Table 3). These two tables should enable the reader to locate the compound in the main threshold values table easily.

In the threshold values table, one chemical compound may have more than one entry if the odor and taste properties of that chemical have been published in more than one place. In addition, the reliability of the many values listed cannot be ascertained. Any researcher in the

flavor field knows that experimental procedures and precautions taken may well affect the value obtained.

It might be of interest to the members of our Society that this book coded the *Journal of the American Oil Chemists' Society* as JAOCA instead of the commonly used JAOCS.

This reviewer highly recommends this book as a valuable reference for all those who work in the field of odor and taste.

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Biological Methods for the Assessment of Water Quality, John Cairns, Jr., and K.L. Dickson, Editors (American Society for Testing and Materials, Philadelphia, Pa., 1973, 256 p., \$16.25).


This book, by authors with exceptional credentials, contains papers presented in the Symposium on Biological Methods for the Assessment of Water Quality at the 75th Annual Meeting of ASTM. The material presented is technically sound and probably represents some of the best available information.

A survey of the 17 titles in the "Table of Contents" quickly reveals the breadth of the book's subject matter. There are philosophical and procedural papers dealing with the many facets of assessing the effects of water quality on bacteria, algae, invertebrates, and fishes. In addition, there are numerous papers presenting new methodology on biological monitoring of effluents, treatability of organic waste, and conduction of field studies using artificial substrate samplers and mobile bioassay laboratories. Other diverse topics include mixing zone concepts, a review of the national program for monitoring aquatic environments, fish flesh tainting and histological procedures. Many of the techniques and ideas expressed in these papers currently are being practiced, while others are just in their infancy. This reflects the rapid development that now is taking place in all aspects of assessing the quality of our waters.

Perhaps a few more topics that could have been included or emphasized more would have been laboratory aquatic ecosystem simulation bioassays, biodegradation methodology, and industrial waste effluent toxicity testing.

The purpose of the book, as indicated by the editors, is to inform environmental management groups of the scope of considerations involved in making biological assessments of water quality, designing biological monitoring programs, and assessing the biological effects of potential pollutants. It is also one of the first attempts to present in a single publication the diversity of professions and methodologies that can interface with the task of solving environmental problems. The book also is designed to give nonbiologists an overview of the state-of-the-art of current practices, an objective that the book fulfills quite well. The book is not intended to be a collection of standard procedures in the classical sense of ASTM publications. However, it was the purpose of the Symposium to act as a springboard from which ASTM would develop the committee structure necessary to develop standardized procedures for water quality assessment. Therefore, we can all look forward to seeing many of these proposed water quality assessment techniques formalized as standard procedures in the near

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future.

I would recommend the book to persons in industry who have the responsibility for testing the environmental safety of industrial plant effluents and products that are ultimately discharged into surface waters. It also should appeal to students planning careers in the environmental sciences. An additional benefit of the book is that most authors have cited current and useful literature. The editors did not include an index to the subject matter. In general, the book helps to fill a much needed void in our technical literature and should be included in the library of those persons who want to be familiar with current practices of biological methods of assessing water quality.

RICHARD A. KIMERLE
Monsanto Company

Lubricant Additives, M.W. Ranney (Noyes Data Corporation, Park Ridge, N.J., 1973, 335 p., \$36.00).

This book is rather unique in that it represents an anthology based upon U.S. patents that were issued during a 2-1/2 year period beginning in 1970 and which relate to the preparation and use of lubricant additives.

The subject material in this book is organized primarily by additive function or performance type. Further subdivisions under the performance type are by chemical type. As an example, the first chapter is devoted to ashless dispersants and detergents and opens with a one page summary of developments in this area prior to 1970. The balance and majority of the chapter consists of individualized summaries of related patents classified as succinic acid-based products, modified olefins, or other soluble dispersants. Each summary includes, insofar as possible, a material description, preparative method, and test results. Subsequent chapters are similar in format and describe patents related to ash forming dispersants and detergents, viscosity index improvers and pour point depressants, load carrying additives, and oxidation and corrosion inhibitors. The latter two areas include patents related to both mineral and synthetic base types.

A final chapter on the subject of "Specialty Lubricants" includes metal working, polyglycols, cavitation in phosphate ester fluids, two-cycle lubricants, conveyor and refrigeration lubricants, and rust preventing penetrating oils.

Indexing consists of a combined "Table of Contents and Subject Index" in the front of the book. The final pages include a company index, inventor index, and U.S. patent number index.

This book provides a great deal of detailed patent information generated over a limited time period. Therefore, much can be gained relative to effective material types and preparative methods, as well as test methods. However, little is contributed to the understanding of the mode or mechanism of performance of the various additives. Its greatest value will be to those individuals who currently are involved in lubricant research, who wish a review of the prescribed patent period, or who may use the contents for mental reflection as a source of new ideas or approaches. The individual seeking a more fundamental understanding of lubricant additives will find better choices for his library. However, this book could be used effectively as an interesting companion to a more fundamental book, providing a wealth of practical examples.

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Drug Analysis of Chromatography and Microscopy, Egon Stahl (Ann Arbor Science, 238 p., \$22.50 hardbound, \$17.50 softcover). A translation of *Chromatographische and Mikroskopische Analyse von Drogen*, Gustav Fischer Verlag, Stuttgart 1970.

This is essentially an atlas of illustrations of microscopic

features and thin layer chromatograms of natural products which are of pharmacologic interest. As the subtitle states it is "A Practical Supplement to the Pharmacopoeias."

There are brief introductory chapters on the techniques of thin layer chromatography and microscopy, as well as a description of a method that combines the use of sublimation with thin layer chromatography. The discussions are succinct and lucid and should be of special value to the initiate.

Although the author describes quantitative assay procedures, the reader will, no doubt, prefer the standard references, such as the pharmacopoeias for this purpose. The strong point of the book is the excellent collection of chromatograms which will be of assistance to those involved in the qualitative examination of products within the scope of the text.

There are only a few chapters which may appeal to the professional interests of the readers of this *Journal*. Seven pages on "Natural Drugs Based on Fatty Oils" includes 13 chromatograms of a number of fats, oils, and waxes, e.g. beeswax, wool fat, cod liver oil, olive, peanut, and linseed oils. The sections on "Resins Balsams and Essential Oils" and on "Natural Drugs with Terpene and Phenylpropane Derivatives as well as Spices" are somewhat longer. Those seeking a simple rapid technique for the detection of adulterants should find some useful material here.

The hardcover edition, which was sent this reviewer, is well bound and printed with clear illustrations, and the author has taken care to reproduce authentically the colors of the chromatograms. The cost does not seem excessive for a specialized work which, most probably, is destined for the library of an organization rather than that of an individual.

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