

NEW BOOKS

HANDBOOK OF ULTRAVIOLET METHODS, by Robert G. White (Plenum Press, New York, 365 p, 1965, \$17.50).

This volume contains a compendium 1632 methods abstracted from 265 technical periodicals published during the past 25 years. A wide variety of inorganic and organic compounds are covered, including organic and agricultural chemicals, pesticides, pharmaceuticals, foods, clinical chemicals and other biochemicals, petroleum products, soaps and detergents, cosmetics, fats, antioxidants, food colors, and other classes of compounds.

The book is compound-oriented, dealing with individual substances which are listed alphabetically in the index and cross-referenced to generic names to assist analysts with limited knowledge of organic chemical nomenclature. Individual abstracts are arranged alphabetically by senior author, and involve for the most part spectrophotometric analyses in the 180-380 m μ range. Fluorescence measurements are not included.

Individual coverage varies greatly, and the abstracts vary from one or two lines in length to ten lines or more. The author indicates that many abstracts are detailed enough to permit use of the method without consulting the original article, but inexperienced analysts would do well to make such consultation.

A total of 91 abstracts are listed in the index under Fats and Oils, referring to antioxidants, fatty acids, fats, hydroperoxides, oxidative changes and volatiles. Twenty-two abstracts refer to spectral properties of various types of olive oils (virgin, refined, rectified, etc.) as well as spectral quality criteria for olive oils. Spectrophotometric determinations of di- and polyunsaturated fatty acids are well covered.

A number of errors were observed as might be expected in a compilation of such wide coverage. For example, abstract 1610 deals with analysis of mixtures of benzocaine and chloramphenicol; however, the concluding sentence refers to determination of chloramphenicol in Chloromycetin (Chloromycetin is a trade name for the antibiotic chloramphenicol), and the error is also cited in the index. The first reference under virgin olive oil is 299, not 229 as listed.

Coverage is particularly good in the areas of biological substances and drugs. Although of limited value to the lipid chemist, this volume will be a useful reference for analysts in industry and regulatory agencies concerned with analysis of a wide variety of materials.

DAVID FIRESTONE

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(Continued on page 333A)

CONVENIENCE ACCURACY ECONOMY WITH POPE KJELDAHL MIXTURES

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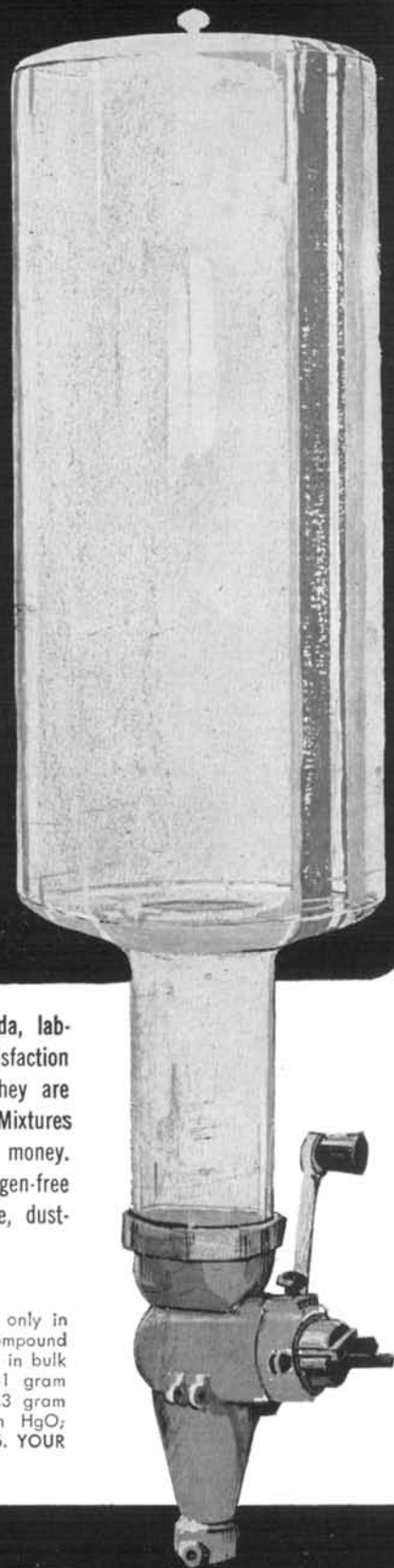
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EMULSIFIERS: PROCESSING AND QUALITY CONTROL

Ira A. MacDonald and H. M. Truax



I. A. MacDonald

I. Characterization and Processing

Emulsifiers are surface-active agents (surfactants) which are added to an emulsion to increase its stability by interfacial action. They are divided into two broad categories, ionic or nonionic, according to the character of their colloidal solutions in water. As an eclectic guide to emulsifiers considered pertinent to the AOCS, greatest emphasis is placed on the description and processing of the non-ionic type and only representative examples of the three classes of ionic surfactants, i.e., anionic, cationic and amphoteric will be considered.

Nonionic types discussed in more detail include: polyol-fatty acid esters of glycol, glycerol, polyglycerol, tetritol and pentitol, hexitol, anhydro hexitols and sugar, as well as the polyethanoxo and polypropanoxy esters and ethers.

II. Controls

Common analytical procedures, i.e. acid number, saponification number, hydroxyl number, etc. and their significance are described.

A combined statistical-chemical control program plays an important role in assuring batch to batch emulsifier uniformity. Consistent emulsifier performance is obtained by mating raw material acceptance plans, in-process control, and final product qualification. All of these elements are required for an effective program. Statistical Q.C. techniques maximize control benefits of chemical analysis. Newer analytical methods such as automated GLC increase the sensitivity of control decisions.

COMMODITY TRADING: MARKETING AND THE USE OF THE FUTURES MARKET

J. M. Goldman



J. M. Goldman

- I. Introduction
- II. Role of Chemist
 - A. Greater acceptability of SBO salad oil in recent years—improvement in quality.
 - B. Moves to convert vegetable protein in acceptable form for human consumption.
- III. Role of Marketing Man—Both Cash and Futures With Emphasis on Futures
 - A. Three variables for cash man.
 - B. Futures offer added areas to express market judgment.
 - C. Aspects coming into play in analysis and price determination of soybean complex.
 - D. Brief summary of current year's prices of soybean complex and crush according to meal demand rather than oil demand and how they were determined.

- IV. Importance of Conversion—Spread Between Soybean Prices and End Products
 - A. U. S. Crushing capacity.
 - B. Processor interest in price relationships.
 - C. Board conversion and "minus" conversion.
 - D. Crushing costs.
 - E. How processors use futures markets to "fix" conversion margins.
 - F. Factors that influence the spread.
- V. Conclusion

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• *New Literature*

CHEMICAL ECONOMIC SERVICES has just published the *Executive Directory of the U. S. Pharmaceutical Industry (1966)*, the first edition of a planned annual reference work. This is the only directory of its kind, listing 465 companies and over 3,000 executives. Also included are boards of directors, subsidiaries and divisions, annual sales (if available) and products. Price, \$21. (Nassau Street and Palmer Square East, Princeton, N. J.)

KAMAN NUCLEAR, Division of Kaman Aircraft Corporation, has available their publication, "Fast Neutron Activation for Nitrogen in Grain Products," by D. E. Wood. This report presents a description of the process including the procedure for the removal of interfering reactions and conditions for optimizing the analysis. (Kaman Nuclear, Colorado Springs, Colorado.)

PARR INSTRUMENT Co. has a new 12-page illustrated bulletin, Spec. 4500 describing their new series 4500 stirrer-type pressure reactors, with self-sealing packing gland and other technical improvements. (211 Fifty-third Street, Moline, Ill.)

ANALABS has released a new 1966 catalog on gas chromatographic supplies and accessories, listing more than 400 stationary phases, as well as types of inert supports and column materials. A new section has been added on calibration standards for pesticides, fatty acids, steroids, hormones and hydrocarbons. (P. O. Box 5215, Hamden, Conn.)

UNION CARBIDE CORPORATION, Chemicals Division, has outlined the processing of Ueane biodegradable detergent alkylates in a new 44-page brochure. Included are details of sulfonation, neutralization and drying methods. (270 Park Avenue, New York, N. Y. 10017.)

• *New Products*

PHOENIX PRECISION INSTRUMENT CORPORATION, subsidiary of CENCO INSTRUMENTS CORPORATION, Chicago, Ill., has introduced an automatic recording, bench model amino acid analyzer. It requires a modest amount of material for analysis, and features highly accurate and reproducible flow settings.

QUICKFIT REEVE ANGEL, Inc., Clifton, N. J., has announced the availability of its new 5-liter Multi-Purpose Extractor, for use in solid/liquid, liquid/liquid upward displacement, and liquid/liquid downward displacement.

DISTILLATION PRODUCTS INDUSTRIES, a division of Eastman Kodak Company, Rochester, N. Y., has a new form of Eastman Chromagram Sheet, 6062, carrying a coating of alumina adsorbent for use in thin-layer chromatography where alumina is the adsorbent of choice.

PHARMACIA FINE CHEMICALS, INC., Piscataway, N. J., has designed new Sephadex laboratory columns as a standard column for gel filtration and ion exchange chromatography with aqueous systems. The column is designed to serve as one basic column system for both descending and ascending chromatography.

CONTINENTAL OIL COMPANY, New York, has developed two new synthetic detergent-range alcohol blends, ALFOL 1218 alcohol and ALFOL 1812 alcohol. Both offer excellent processing and lower costs for compounders of detergents.

PHARMACIA FINE CHEMICALS, INC., Piscataway, N. Y., has added Sephadex LH-20 as the first lipophilic derivative to extend the use of Sephadex gel filtration technique to organic solvents.