



R. Thomas

MISCELLA REFINING

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The miscella refining process is most economically done at the crushing mills.

It has other advantages such as:

- 1) Production of lighter colored oil, light enough that some salad oil processors do not need to bleach.
- 2) Lower operating cost, with smaller investments, less power and labor.
- 3) Greater yields of refined oil.
- 4) More effective removal of F.F.A. and low refining loss.

It is not unusual to operate at these levels with miscella refining:

F.F.A	0.02
Color	4.2
Bleach	0.95
Moisture	0.06
Soap PPM	0.15

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

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.