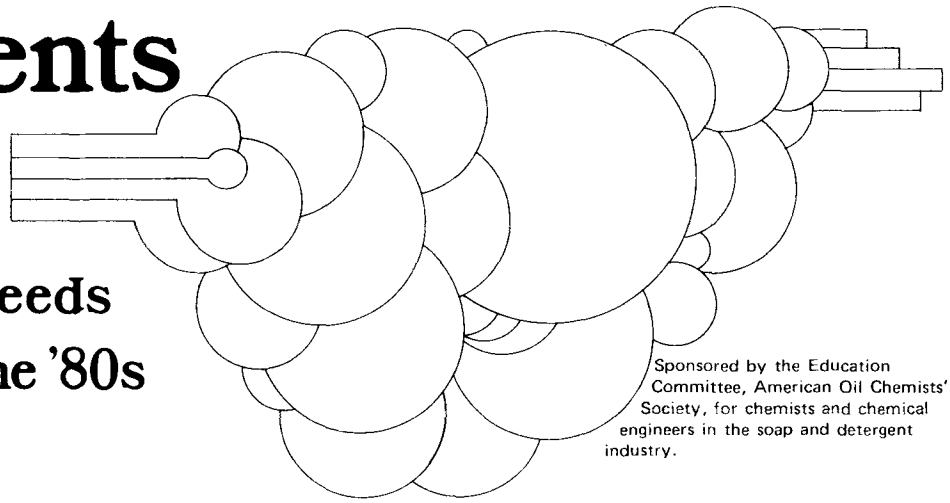
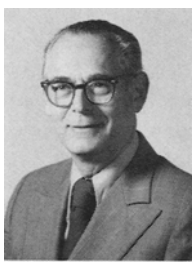
Detergents eight-0

meeting the needs of the '80s



Sponsored by the Education Committee, American Oil Chemists' Society, for chemists and chemical engineers in the soap and detergent industry.

September 14-17, 1980
Hershey Resort & Country Club
Hershey, Pennsylvania



IRVING R. SCHMOLKA
Program Chairman

Registration is now open for the AOCS Short Course on Soaps and Detergents, "Detergents Eight-O" to be held Sept. 9-14, 1980, in Hershey, Pennsylvania.

Fees include technical sessions, room and board during the course, and a copy of the proceedings to be published after the course concludes.

There will be four technical program sessions, including a fifth session to provide registrants with the opportunity to question speakers and session chairman. Abstracts for the confirmed portions of the program follow:

Stupel

Brenner

Session 1—Chairman: Dr. Helmut Stupel, Shell Chemical Co., Houston, Texas.

"The Impact of Government on the Detergent Industry in the 1980s"
Theodore E. Brenner, president, The Soap and Detergent Association.

Broad regulatory authority has been granted to a number of relatively new federal agencies as the result of federal legislative actions during the 1970s. In many instances, the direction and intensity of these initiatives have not yet come into focus. It is apparent that industry must develop a continuing dialog with such as agencies as the Environmental Protection Agency, the Consumer Product Safety Commission and the Departments of Energy and Transportation to assure that industry's views are properly understood. In addition, continuing liaison is required with older agencies, such as the Food and Drug Administration and the Federal Trade Commission. This paper will review recent regulations issued under the Toxic Substances Control Act and the Resources Conservation and Recovery Act as they apply to the detergent industry. Current and future activities of the CPSC, FDA and FTC also will be discussed. Recent experiences in the growing role of state governments also will be described, followed by a discussion of potential future developments at the state level.

Carr

"Biodegradation of Nonionic Ethoxylates"
John B. Carr, supervisor-applications, Chemical Research and Applications Department, Shell Chemical Co. Westhollow Research Center, Houston, Texas.

The biodegradation of alcohol ethoxylates (AE) and alkylphenol ethoxylates (APE) is reviewed. Biodegradation test methods, ranging from laboratory tests to full-scale waste treatment plant studies are described for AE and APE. A comparison is made between primary and ultimate

biodegradability criteria and the limitations of the varying analytical methods used in these determinations is discussed. The most recently published data suggest sewage bacteria degrade AE by a mechanism which is different than that by which APE degrades. The use of radiolabeled surfactants to elicit more detailed information about the biodegradation mechanisms of AE is described. The role of biodegradation on the impact of surfactants released to the environment is assessed.

Gilbert

"Safety of Detergent Products"
Allan H. Gilbert, director of scientific research, Lever Brothers research and development, Edgewater, New Jersey.

When detergents were essentially soap, it was easy to assume they were perfection innocuous in use. Even later, when synthetic actives and phosphate builders appeared, it was unnecessary to carry out extensive testing to confirm their safety. However, now one has to be able to say with certainty that a detergent product is not only safe to use, but also is safe to manufacture and to release into the environment. A battery of lengthy, expensive tests have had to be developed to cover every likelihood as far as possible. The kinds of tests used will be discussed briefly and examples given of the lengths to which manufacturers go to ensure the safety of their products.

Bindo

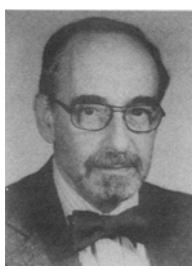
"Surfactant Raw Material Outlook
for the Eighties"
J.S. Bindo, director, business planning, Conoco Chemical, Houston, Texas.

In a period of rapidly rising energy costs, detergent firms, just like other petrochemical consumers, must be concerned with availability and price of petrochemical feedstocks. Should formulations be changed to take advantage of relative price changes of different feedstocks? Will petrochemical firms take a back seat to consumer energy desire in periods of supply disruptions? This paper will review the status and future prospects for crude oil and natural gas liquids. It also will review the routes to the three major surfactant feedstocks, ethylene, benzene and *n*-paraffins. The paper also will look at the supply/demand outlook for these feedstocks and try to assess the surfactant industries' ability to compete with other end uses of those feedstocks. Finally, the paper will discuss the impact that supply/demand and cost factors will have on the availability and price of surfactant feedstocks.

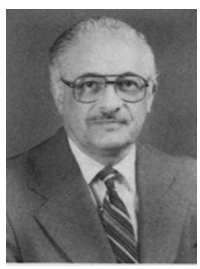
Wendt

"Disposal of Detergent Manufacturing Waste"
R.H. Wendt, technical staff chemist, packaged soap and detergent division, Procter & Gamble Co., Cincinnati, Ohio.

Recent state and federal regulatory activities directly affect the procedures and responsibilities for handling and disposal of manufacturing waste. This paper will consider these regulations and their impact on industrial handling of solid wastes, aqueous discharges, and air emissions in the detergent industry. Emphasis will be on the handling of regular or normal wastes generated from daily operations; however, impacts on specialized procedures for handling accidental spills and trace environmental contaminents also will be considered.



Cahn



Neiditch

Session 2—What Do We Have To Work With?
Chairman: Dr. Arno Cahn, Lever Brothers Co., Edgewater, New Jersey.

"Minor Additives in Heavy Duty Detergents"
Oscar W. Neiditch, principal scientist, Household Products Division, Lever Brothers Co., Edgewater, New Jersey.

A number of heavy-duty detergent additives, collectively referred to as "minor additives," are actually ingredients

which are individually present in minor amounts but which can contribute significantly to the performance and marketability of these detergent products. In this presentation, the additives which will be discussed include fluorescent whitening agents (FWAs), soil antiredeposition agents and perfumes. These additives' functions will be reviewed briefly and an update of recent developments in use of these additives will be presented.

Schweiker

"Detergent Builders"
George C. Schweiker, director, research and development, The PQ Corporation, Lafayette Hill, Pennsylvania.

A highlight summary of the chemistry, commercial manufacturing processes, relative effectiveness, economic comparisons and present use status of the various detergent builders of industrial significance to the soap and detergent industry are presented and reviewed. Builders discussed include the inorganic phosphate, silicates, carbonates, zeolites, and the organic citrates and other polycarboxylate salts (NTA, CMOS, "Builder M").

Sonntag

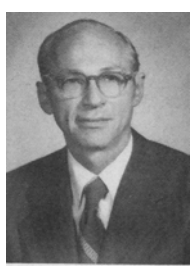
"Current and Future Fat-Based
Raw Materials for Soap Manufacture"
N.O.V. Sonntag, technical director, Southland Corporation Chemical Division, Dallas, Texas.

The traditional use of coconut oil and palm oil for soap manufacture can be expected to continue indefinitely. Coconut oil is used because the sodium soaps are hard and stable toward oxidation and also soluble and free lathering; palm oil is used because it also produces stable soaps of desirable properties. Certain oils of the oleic/linoleic acid group are too unsaturated to yield soaps of the desired degree of hardness and stability, and most of these are too much sought after as edible oils to qualify much as soap raw materials. They may be hydrogenated to form suitable hard soap fats, and a certain quantity of these oils is regularly used in the preparation of soft soaps and in blends with harder fats. The chief animal fat used in soapmaking is tallow. Others fats and oils less frequently used include babassu, palm kernel oil and castor oil. The ratio of tallow/coconut oil used for the manufacture of toilet soaps ranges from 85:15 to 75:25. A correlation of soap properties with the ratio of 95:5 to 75:25 of tallow and coconut oil demonstrates properties such as cracking, swelling and hardness are not as sensitive to the changes in the blend ratios as are erosion characteristics, slushing and lather. Future fat-based raw materials include certain fractionated fatty acids, jojoba oil and a few new and unusual materials.

Starace

"Enzymes"
Charles Starace, Novo Laboratories Inc., Wilton, Connecticut.

During the 1970s, a new generation of higher alkaline active detergent enzymes was developed. These alkaline proteases were characterized by greater activity and stability under conditions of alkalinity between pH 10.5 to near 12, thus favoring phosphate-free detergent formulations. These enzymes were also found to exhibit superior stability in nonbuilt liquid laundry detergent systems. Safety considerations at the plant operation level have resulted in continual improvement in the quality of coated and encapsulated detergent enzyme granulates. During the past decade, detergent enzymes have passed through three generations of physical forms, from the powders to prills to encapsulates. The 1980s offer exciting possibilities for enzymatic laundry products. The trend toward lower wash temperatures caused initially by the popularity of synthetic fabrics is being compounded by a radical reappraisal of household energy consumption patterns. In this new atmosphere of energy conservation, detergent enzymes will offer energy saving options in an assortment of laundry products. Finally, as we start this decade, the spiralling cost of petrochemical feedstocks will cause us to re-think laundry product formulations and here again detergent enzymes offer an important alternative for the future.

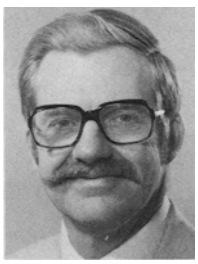


Mausner

"Update on Surfactants"
Marvin L. Mausner, vice president, technical director, Ultra Division Witco Chemical Co.,

Paterson, New Jersey.

The introduction of the alkylbenzene sulfonates in the 1940s led to a rapid growth in the synthetic surfactant industry with a wide range of products. In the mid-seventies this industry reached maturity. Advances since the 1975 conference have led to a better understanding of the role of surface active agents and the theoretical considerations for the ideal or universal surfactant. A brief review of the more important advances will be given. The increasing use of liquid heavy-duty detergents and changing surfactant requirements will be discussed.

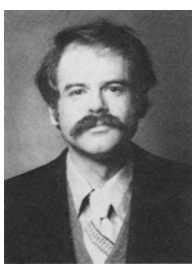


Matson

Session 3—How Do We Make A Technical Product?
Chairman: Ted P. Matson, Continental Oil Co., Ponca City, Oklahoma.

Speakers will cover topics of heavy duty laundry detergents, liquid and solid; light duty detergents, liquid and solid; automatic household dishwasher detergent; hard surface detergents, such as institutional glass, metal, aircraft and cars; miscellaneous products, including bleaches, fabric softeners, pretreatment soaks, toilet bowl blocks and all-purpose cleaners.

Brown



Kessler

Session 4—How Do We Make a Successful Consumer Product?
Chairman: Herman Brown, Finetex, Inc., Elmwood Park, New Jersey.

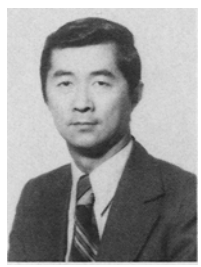
"Synectics"
Alan Kessler, head of consumer testing/consumer behavior function, Lever Brothers Research, Edgewater, New Jersey.

Group problem solving techniques can be useful even if you rarely use them with a group. Knowing the principles involved can help you identify problems earlier and lessen any tendency to put off solving them, and you become more willing to tackle difficult, complex problems. In the corporate environment, these techniques are often used as communication aids between groups in place of more traditional meetings. They can be much more effective for problem interface situations where groups are in conflict or just talk a different language.

Grob

"The Role of the Private Label Manufacturer"
Erwin Grob, vice president in charge of product development and sales, C.P. Baker & Co., Philadelphia, Pennsylvania.

Private label detergents account for a major share of detergent sales in the average supermarket. Topics to be covered include selling of these products to chain stores, manufacture of liquid products, quality requirements and pricing considerations.



Sung

"Bringing a Product From Lab to Shelf to Home"
Steven L. Sung, senior product manager, Corporate New Ventures, Colgate-Polmolive Co. Piscataway, New Jersey.

Once a lab has developed a new product, the work has just begun. Assuming a firm has the know-how and capacity to manufacture the product, the firm must investigate and decide: what to name it, how to package it, how to test it in the real world, how to present it to the trade, how to advertise it, how to promote it, how to react to competitors' actions. All the questions must be answered before the product is allowed to be put on the shelf for consumer purchase and use. A general discussion and case history will be provided.

If the registration form in this issue of JAOCS has been removed, you may obtain additional copies by writing to Detergents Eight-O, AOCS, 508 S. Sixth St., Champaign, IL 61820 USA. □