

"This legislation has caused real consternation in the industry because the industry can't afford the test requirements," Hartlage said, explaining that the legislation asks for considerable safety testing on active materials, yet the industry does not produce enough volume on some products to compensate for testing costs. The industry is concerned because California is an important market for biocides, he added.

Hypothetically, if a company wanted to make a 20% profit on a compound, and it costs \$3 million to test to meet California's requirements, the company would have to make \$15 million in sales to pay for the testing in one year, or \$7.5 million for two years, Huffman said, explaining that actual sales might be insufficient to justify production.

Barry Friedfeld, a senior consultant with Kline and Co., sees the

possibility for some growth. However, during this period, with the industry living in "a legislative-stroke-of-the-pen" environment, he said, it would be difficult to forecast just how much might occur. Friedfeld added that he did not foresee anything new developing in terms of the biocidal quats unless "it's really new and different."

Biocidal quats grew rapidly from 1979 to 1983 because of concerns over using phenolic biocides, Friedfeld said. "If it were not for changes in U.S. regulatory practices, those changes probably would not have occurred.

"What I see is a displacement. Because of the perceived safety of quats over other compounds, quats are displacing some of the more traditional biocidal materials," Friedfeld said.

Hartlage said the biocidal quats are doing well against the backdrop

of phenolic and metal-containing biocides because they've proven themselves safe and biodegradable.

In the biocidal industry, companies are coming out with products to balance product lines, Friedfeld said. For example, if they make a phenolic, they'll formulate a new product with a quaternary. This is particularly important in many household cleaners and disinfectants, where quats have proven themselves less irritating to human skin than phenolic-based disinfectants, he added.

Even with the vagaries of legislation and consumer attitudes, quaternaries generally hold the advantage over other compounds because, in many cases, there may not be adequate substitutes. "Quats will continue to be purchased on the basis of functionality. The cost of the product is small in relation to the job it does," Friedfeld said.

Research areas for detergents

Joel Houston, chemical industry market analyst, told the AOCS Northeast Section he sees several key areas for research and development advances in the detergent industry.

Houston, of the Colin A. Houston & Associates firm, concluded his talk on "Recent Developments in Detergents" at a section meeting earlier this year by listing potential commercially valuable R&D priorities. Among them were

- bleaches for heavy-duty liquid
- slow-temperature bleaches for powder products
- biodegradable detergent polymers
- relatively inexpensive soil-release agents
- more convenience packaging
- lipase enzymes
- further developments in storage-stable liquid automatic dishwashing products

Houston described recent developments in marketing, external factors affecting the industry, consumer factors, ingredient developments and product evolution.



Joel Houston, left, with Paul Sosis, at the Northeast Section meeting.

Recent marketing developments have included the introduction of liquid Tide and similar products, which have grown to about 30% of the market, Houston said. The gain has come at the expense of powder products, he commented, noting that Wisk, a liquid detergent on the market before liquid Tide, has re-

tained its market share. The introduction of Palmolive's liquid product for automatic dishwashers has spawned the launch of similar products by other companies, he said, with about 18-20% of the market now held by liquids. Liquid products store better than the powders, he said, and do not require

the more expensive foil wrapper to avoid degradation. In some markets, consumers can buy 25-pound boxes of powder products at discounts that make the final cost about 40 cents a pound. Market testing is now being done for powdered detergents containing bleach, he said.

Important external factors recently have included moderating energy costs, increased use of blended (polyester and cotton) fabrics, stable design of home laundry washing machines and a relatively stable regulatory climate. Houston did note that several states are considering legislation affecting disposal of "hazardous household waste" that might apply to chlorine bleach products.

Such demographic trends as both parents working and fewer people per household have increased demand for convenience products. Increased use of liquids, softergents (products with detergents plus softener) and other multifunctional products reflect that increased demand, Houston said. Meanwhile, as price differentials between white label (generic, private label) detergents and name brands have narrowed, the white labels' market share has fallen, he said. Grocers like the multifunctional products, Houston noted, as they result in higher dollar return per cubic foot of display space.

Recent developments concerning ingredients include new soil-release agents, increased use of enzymes in powders and liquids, a realization of the importance of fragrance to customers, low-temperature bleaches (with activator system for perborate product) and a new market for amphoterics in hand cleaners and liquid dishwashing machine products.

In addition to the heavy-duty liquids and softergents, Houston noted, pouch products are now available. A new development in France has been introduction of concentrate laundry aids to which the consumer adds water at home, he said. The product requires less shelf space in the store and is not as bulky for shoppers to carry home, Houston commented. Approximately 30 persons attended the meeting, held April 7 in the new Sheraton Woodbridge Hotel.

China symposium

An international soap and detergent symposium was held March 19-20, 1987, in Guangzhou (Canton), China. Sponsors were the National Renderers Association of Des Plaines, Illinois, USA, and the Ministry of Light Industry of the People's Republic of China.

Approximately 350 persons took part in the symposium. Hua Zhangxi, a chief engineer in the Ministry of Light Industry at Beijing, presided over the technical program, featuring 19 papers. Among the speakers were AOCS members Karl Zilch of Emery Chemicals, Dick Reck of Akzo Chemie America and Warner Linfield, a chemical consultant. Nine papers dealt with soap-lime soap dispersant (LSDA) detergents. This type of material was originally developed by a research team at the U.S. Department of Agriculture's Eastern Regional Research Center in Philadelphia, and currently is a subject of much interest to the Chinese.

Interesting papers were presented by Japanese delegates, who spoke about different aspects of soap-LSDA, which Japanese producers now call "composite soaps." Japanese delegates brought samples of various composite soap products, including laundry detergents, dishwashing liquids and toilet bars. Such products represent 6-8% of the Japanese market.

Linfield presented a summary of USDA research on composite soaps. Reck spoke on fatty nitrogen derivatives, while Zilch spoke on "Utilization of Fatty Acid By-Products from the Refining of Fats and Oils." Lee Matheson of Vista Chemical Co. discussed the use of fatty alcohol ethoxylates and alcohol ether sulfates. S. Sato from the Kobe plant of Miyoshi Oil and Fats discussed enzymatic fat splitting as practiced in his plant.

An interesting presentation was given by Li Tian-Dong from the Taiyuan Research Institute of the People's Republic of China on "Study of Reaction Kinetics of Fatty Acid Methyl Esters," probably the first modern paper on that subject. In addition, there were a

number of presentations by equipment manufacturers on soapmaking, sulfonation and other types of equipment used in the industry.

Pan Arab meeting

The 2nd Pan Arab Conference on Soaps and Detergents is slated for Dec. 6-10, 1987, in Abu-Dhabi, United Arab Emirates (U.A.E.). Organizers are the Arab Federation for Food Industries, the General Federation of the Chambers of Commerce of Industry of U.A.E., the Chamber of Commerce and Industry of Abu-Dhabi and the Arab Company for Detergent Chemicals.

Goals include following up on recommendations offered in the first conference in 1977 and the symposium held in 1984 in Baghdad; reviewing different countries' experiences in soap and detergent manufacturing; examining the materials used in the industry and their possible production in the Arab world; and reviewing new manufacturing technologies. The conference also will look at standards of identity and quality control in the industry, new developments in the Arab region, economic and manpower considerations, new trends in packaging soap and detergent products, and the possibilities of Pan Arab cooperation in the soap and detergent industry.

An exhibit of products and technologies will be held in conjunction with the conference.

Arabic will be the official language. Organizers also will provide translation into other languages during meeting sessions. The organizing committee has said it will aid in securing entry visas for participants.

For more information, contact Salih Rashid Al-Dhahiri, General Director, Abu-Dhabi Chamber of Commerce and Industry, PO Box 662, Abu-Dhabi, U.A.E.

Alkyl benzene

The government of the Philippines' Task Force on Detergent Feedstocks has proposed an immediate regulation on alkyl benzene, an ingredient

in soapmaking, and a total ban within two years.

Trade sources said the proposal will lead to the domestic use of biodegradable coconut fatty alcohol instead, boosting the country's domestic use of coconut oil an additional 100,000 tons annually, according to a report in *The Cocomunity* newsletter.

Shell project

Construction of a linear higher olefins unit at Shell Chemical Co.'s Geismar, Louisiana, plant is slated to begin this summer.

Shell in April announced it had awarded Becon Construction Co. Inc. the primary engineering and construction contract, with Becon contracting with Bechtel Inc. for required engineering and procurement.

The new olefins unit will have an annual capacity of 535 million pounds of linear alpha olefins in addition to internal olefin capacity. The added capacity will push the total annual linear higher olefin capacity at Geismar to more than 1.3 billion pounds.

The project is expected to be finished by early 1989.

Barker honored

AOCS member Graham Barker, who recently retired as manager for market development, cosmetics and toiletries for Witco Chemical Corp.'s organics division, has received the highest tribute given by the Society of Cosmetic Chemists.

Barker, who was given the Maison G. de Navarre Medal Award, was praised by the Society of Cosmetic Chemists for his contributions to the advancement of cosmetic science, particularly for work in surfactants and emulsions and for his many publications and patents in these areas; for his role as an educator and his willingness to share his expertise with cosmetic scientists; and for his service to the cosmetics industry.

News briefs

Leonard J. La Magna has been appointed purchasing director of chemicals and materials for **USI Chemicals Co.**, Cincinnati, Ohio. Also, **Robert E. Wright** has been appointed director of specialty products sales, **Peter F. Maguire** has been appointed director of international sales, **Kenneth J. Auer** has been named business manager for color/compounding and **H.V. James** has been named director of marketing services and distribution.

Cyclo Corp. has appointed **Gerald G. McNew Jr.** to the newly created position of national marketing manager.

Katherine L. Callahan has been named business development manager of the surfactants and polyethylene glycol business department in **Union Carbide's** industrial chemical division.

The **PQ Corp.** has appointed **Frederick R. Kettinger** distributor manager/senior sales representative in its specialty chemicals division. Kettinger will be responsible for direct sales in the southeastern U.S.

The **Humko Chemical Division of Witco Corp.** has installed computer-controlled bagging lines at its Memphis, Tennessee, plant to allow automatic packaging of more than 200 different oleochemical products. Also, the division has named **Paul Webb** sales representative for oleochemicals on the Gulf Coast. **Witco Corp.**, meanwhile, has appointed **Herbert-Verkamp-Calvert Chemical Co.** as distributor for its surfactants, metallic stearates, waxes, catalysts and aqueous urethane dispersions in Ohio, Kentucky and Indiana.

Ferro Corp. has appointed **Terry G. MacKriel** managing director of **Ferro (Holland) B.V.** and **Trevor Mayer** managing director of **Ferro (Great Britain) Ltd.**

Kurt F. Neulinger, executive vice-president of **Croda Inc.**, New York, has retired after 41 years with the company.

Capital City Products has appointed **Van Waters & Rogers**, San Mateo, California, as its distributor in the Midwest. The company will supply Capital City's line of quaternary fabric softener actives for household and institutional products. Van Waters & Rogers has offices in Chicago, Cleveland, Indianapolis and St. Paul.

Colgate-Palmolive has entered into a joint venture in Papua, New Guinea, to manufacture and sell bar soaps. The new company, **Colgate-Palmolive Pty. Ltd.**, is co-owned by **Melanesian Soap Products**, a local manufacturer. The project may lead to future manufacturing of additional products, such as toothpaste and detergents, Colgate-Palmolive said.

Akzo NV has agreed in principle to acquire **Rhone-Poulenc's** household products division, including its **Buhler-Fontaine** subsidiary and the **Rhodic** subsidiary's household products business. The acquisition will include insecticides and cleaning and polishing agents, which will be incorporated into **Akzo Consumenten Producten's** product lines. Purchase price is estimated at over 180 million French francs.

Henkel Corp., the U.S. subsidiary of **Henkel KGaA** of West Germany, has completed the acquisition of **Parker Chemical Col**, Madison Heights, Michigan, from **Ford Motor Co.** Parker manufactures and markets products for the automotive, metal forming, coil coating and metal packaging industries as well as lubricants and adhesives. Meanwhile, **Henkel KGaA** has acquired two **BP subsidiaries** in Sweden and Denmark, **Kaalunds Febriker** of **Kokkedal**, Denmark, and its subsidiary, **Thor's Kemiska Fabriker** of **Helsingborg**, Sweden.