

U.S., industry topics highlight SDA meeting

(JAOCS Assistant News Editor Sara Arndt, attending the Soap and Detergent Association's 58th annual meeting held Jan. 31-Feb. 3, prepared the following report.)

The annual meeting and industry convention of the Soap and Detergent Association in Boca Raton, Florida, was highlighted by outstanding speakers in both the general and technical program sessions. General presentations concentrated on the issues of defense spending, U.S./Soviet relations and the budget deficit.

Featured at the opening breakfast, Sen. Fritz Hollings (D-S.C.) was critical of President Reagan's proposals to cut back on Social Security which is, he said, already a losing proposition for young people in America. He spoke of the appeal of Reagan's "frontier mentality" and his relative freedom of government afforded by the public mandate as compared to the "net" thrown over Jimmy Carter and the "Georgia crowd." His speech reflected a Democratic vow to freeze defense spending.

Sen. Richard G. Lugar (R-Indiana) emphasized that the two issues of the U.S. Budget and U.S./Soviet relations cannot be separated. He said that America's spending on defense has allowed its scientists to research strategic defense (the Star Wars program) which has brought the Soviets back to negotiations in Europe. He commented on what he termed an incongruous U.S. attitude on aid to El Salvador and Nicaragua, which is critical of sending help in any form, but unanimously fears the threat of a Communist government so close to the United States.

Lugar's comments echoed those of Arnaud de Borchgrave, former *Newsweek* chief foreign correspondent and senior editor, who gave a powerful presentation of his views on today's international scene, derived from years of studying Soviet behavior in international relations. He pointed to what he termed undeniable links in Soviet-inspired and supported terrorist activities in Europe, the Middle East and South America, to which no American president has found an answer, and described the Soviets as disinformation specialists, confusing naive American politicians and misleading the American media. He urged the audience to support U.S. aid to Latin America.

Jack Nelson, Pulitzer Prize-winning investigative reporter, forecast that Reagan will run into political trouble unless he compromises on defense spending. Nelson sees the Reagan government as obstructionist toward the media, making it difficult for the press to stay informed of the workings of government.

In the most entertaining speech of the meeting, William C. Freund, senior vice president and chief economist for the New York Stock Exchange, gave a picture of the U.S. economy which showed restrained optimism in the face of budget deficits, coupled with a strong belief in the need to stimulate productivity growth. Freund said the drop in inflation since 1979, combined with a soaring economy, represents the strongest recovery in the post-war period and America's best chance for sustained growth and stability since the 1960s. Although declining productivity growth is the economy's major ailment, he said, the U.S. can be

optimistic because inflation is lower, the power of OPEC is broken and the baby boomers—now older, more skilled and more productive—form a large sector of the U.S. population. He told audiences that genetic engineering will be to the 80s what computers were to the 70s.

In the technical sessions, Steven L. Rock of the PQ Corporation predicted an optimistic future for zeolites in U.S. detergent products, even though recent consumption figures have not matched 1982's peak usage of 300 million pounds. He believes that the use of zeolites will continue to rise. Rock said that Procter and Gamble's positive position toward the use of zeolites as a cost-effective replacement for phosphates had led to escalated use of zeolites by Colgate and other companies since 1983. Procter and Gamble studies, he said, have found Zeolite A non-toxic either to human health or to the environment, in the concentrations used in laundry detergents. For this reason, the main usage for zeolites is as a primary builder in non-phosphate detergents which, Rock believes, will be a continuing trend since phosphate bans are not likely to be repealed. Even with phosphate detergents, he says zeolite is in a "growth mode" due to its higher energy component compared with phosphates.

Judith E. Zweig, from Shell Development Company, used video cassette recordings to show dynamic studies of nonionic surfactant systems using videomicroscopy. The tests—conducted by Shell to investigate detergency in cool water washing—showed the inherent versatility in the structure of nonionic surfactants which allows control of the solubility of surfactant systems. Video films showed the diffusion-controlled dynamic contacting events at the oil/aqueous surfactant interface, and that a "window" exists for significant enhancement of detergency above the cloud point temperature and below the phase coalescence temperature. The program at Shell, Zweig said, concentrates on cool or warm washes to remove oily stains from cotton/polyester mixtures—a fabric which has proved the most resistant to detergents in cold water. Zweig said the continuing emphasis on energy conservation in the U.S. has increased cold, or warm, water laundering to 75% of the national washload. By the 1990s, she claimed, only 10% of the American laundry will be hot-water loads.

A view of the state of the oleochemical industry was presented by Charles Leonard, of the Humko Division of Witco Chemical. He highlighted the instability of sources for raw materials for chemical feedstocks and the U.S. effort to develop new specialty oils for use in the manufacture of fatty acids. The selection and breeding of specialty oilseeds includes programs for low glucosinolate rapeseed, and the development of high oleic sunflowerseed oil. He said that commercial fruition for the cuphea program is far away and will take "many years of patient nursing" if it ever comes to pass. Leonard pointed out that the oleochemical industry requires much diverse equipment, involving a high investment in industry and not a great enough return. This has caused several fatty acid manufacturers to give up and sell out in recent years. However, Leonard says he is optimistic about the longer-run prospects for the oleochem-

ical business due to several "pluses." The industry at Humko, according to him, encompasses specialty markets with a fast growth, and, for oleochemicals in general, there is a foreseeable gradual economic shift to natural renewable feedstocks. Oleochemicals are environmentally harmless and, to organic chemists, have a marvelously 'manipulatable molecule.' Leonard sees the recent interest of the Lubrizol Corporation in specialty oils (from high-oleic sunflowers) as a hopeful sign. He said that as an "old timer" in the business, he believes Lubrizol's entry may give rise to improved, and perhaps cheaper, feedstocks and improve markets. It definitely would maintain healthy competition, he said.

Eric Jungermann, of Jungermann Associates, Phoenix, told attendees that in the 1980s bar soaps have successfully warded off another threat in the form of liquid soaps, and remain one of the few cleaning products still primarily based on natural fats and oils. "Substitutability and interchangeability have become the name of the game," Jungermann said, referring to the use, in soap manufacture, of alternative oils such as palm oil for tallow and palm kernel oil for coconut oil. He also mentioned the development of the cuphea program, which could have considerable impact on the soap business.

In a breakdown of the estimated 1984 brand shares of the major soap categories, Jungermann showed that deodorant soaps are still in first place though they have slipped from a 48.4% share in 1982 to 46.1%. The toilet-complexion category is at 29.2% and floating soaps are at

17.9%. In recent years, there has been an interesting move toward superfatted bases made from tallow:coconut oil mixtures, which provide a richer and denser lather and greater foam volume, he said. However, Jungermann said, it is interesting to note that consumers have expressed no preference for this kind of soap. He mentioned the somewhat disappointing progress of syndet bars (made up of synthetic detergents and fillers) and combars (combinations of soap and detergent). Within a few years, they gained a 15-20% market share, but had one serious drawback: they did not feel like soap and left a different feel on the skin. This may explain why, 25 years after their introduction, these hard water bars still have not penetrated the market beyond the original 20% share in spite of their cosmetic elegance and excellent hard water performance. Their estimated 1984 brand share is 20.1%. According to Jungermann, there has been considerable improvement in packaging used for bar soaps, achieved by materials with low perfume diffusion rates and improved sealing techniques. Liquid soaps, he said, have "beat a full retreat" since 1982, when their brand share dropped to 5.3%.

Elected SDA chairman for 1985 was A. Courtenay Shepard, corporate vice president and general manager of Colgate-U.S. John W. Johnstone, executive vice president and a director of Olin Corporation, became vice chairman of SDA. Theodore E. Brenner was reelected president and secretary, and Robert C. Singer was returned as vice president and assistant secretary.

Henkel plants dedicated

The prime minister of Malaysia participated in the ceremonial official opening of Henkel Oleochemicals (M) Sdn. Bhd. facility in Kuala Langat, Malaysia, in late 1984.

Approximately 500 persons, including many overseas registrants from the AOCS/PORIM World Conference on Processing of Palm, Palm Kernel and Coconut Oils, attended. The US \$12 million facility has an annual capacity of 25,000 metric tons of methyl esters, fatty acids and glycerine.

The new plant is a joint venture of Malaysian and German firms. Before the official opening and speech by the prime minister, Dr. Mahathir Bin Mohamad, there were talks by Abdul Hamid B. Abdulla, chairman of Henkel Oleochemicals and managing director of Jomalina Sdn Bhd; Tunku Mansur B. Tunku Yaacob, chairman of Jomalina and director of Harrison's Malaysian Plantations Bhd., and Dr. Bruno Werdelmann, director and advisory board member of Henkel KGaA in West Germany.

Production from the new plant is exported, mainly to Europe, the United States and Japan. The oleochemicals are then processed into final products such as detergent, cosmetics, toiletries, soaps, pharmaceuticals, surface coatings, surfactants, plasticizers and lubricants.

The prime minister, in his remarks, noted that Malaysia is seeking more advanced technology and the joint venture is aiding in technology transfer. "As a progressive and high technology processing of chemicals from palm kernel this factory will surely bring about expansion in an industry



based on local raw materials," he said.

Henkel Oleochemicals (M) Sdn. Bhd. chairman Abdul Hamid B. Abdulla briefly discussed the history of the project, noting that construction began toward the end of 1982 and was completed 19 months later in early 1984. While the facility's rated capacity is 25,000 metric tons a year, he said it is hoped the capacity can be increased in the future. Mohd. Kassim bin Salleh became managing director in January, succeeding D. Wiese, who continues as a company director.

Jomalina chairman Tunku Mansur noted it was the



The Prime Minister on a tour of Henkel Oleochemicals (M) Sdn Bhd accompanied by the Board of Directors.

beginning of that firm's diversification of activities from processing of palm oil for edible purposes into production of products for technical uses. "There are several other projects being evaluated by Jomalina at present, and should their viability be established, they will further enhance the utilization of oil palm-based materials," he said.

Dr. Werdelmann noted that Henkel became interested in the project because of political stability and encouragement of foreign investment by Malaysia. The Henkel group, he noted, has 85 production companies in 44 countries with more than 100 plants. "The annual production of the Henkel Group amounts to about 700,000 tons of fatty alcohols, fatty acids, glycerol, fatty acid methyl esters and various other derivatives of natural fats and oils," he said.

Henkel has worked at developing methyl esters as detergent surfactants to replace ABS, LAS and AOS. The methyl ester surfactants from vegetable oils and fats are equal to and in some respects surpass petrochemical products, according to Henkel.

Hartlage on Stepan board



Stepan Company has announced that James A. Hartlage, vice president for technology and a member of AOCS, has been elected to Stepan's board of directors. He fills the vacancy created by the Oct. 1, 1984 death of Alfred C. Stepan Jr., founder, chairman and chief executive officer. Hartlage also is on the board of directors of the Soap and Detergent Association. Stepan is a leading producer of basic

and intermediate chemicals used in household, industrial, personal care, agricultural and energy-related products.

Stepan also has appointed Henry Mork to the position of vice president for plant operations for the manufacturing and engineering department, and M. Mirghaban to vice president for millsdale operations.

Charles W. Given has been appointed vice president for marketing, industrial chemicals department, by Stepan.

News briefs

Unichema Chemicals Inc. has announced plans to increase the sales and marketing of Unichema Oleochemicals in the Western Hemisphere. In addition to current activities in the United States and Canada, Unichema Chemicals will now cover Latin America, territory previously serviced from offices based in Europe.

Unichema manufacturing facilities in West Germany, the Netherlands, the United Kingdom, Malaysia and Australia annually produce more than 400,000 tons of fatty acids, fatty acid derivatives, glycerine and nickel catalyst.

CasChem has announced the appointment of Jerry J. Farro as executive vice president and chief operating officer. Farro joined CasChem, from the W.R. Grace and Company in May 1984 and has been serving as vice president of marketing and sales.

William Woods has been appointed to head CasChem's cosmetic applications laboratory.

Worth Chemical Corporation has been appointed by Glyco Inc. as a distributor of its products in the Carolinas, Virginia and eastern Tennessee. For its products in Georgia, Alabama and northern Florida, Glyco has appointed Baychem Inc. as distributor. Glyco Inc. is a manufacturer of specialty chemicals with corporate headquarters in Norwalk, Connecticut.

Industry growth documented

The number of U.S. soap and detergent companies, number of employees and value of products all increased between 1977 and 1982, according to the preliminary results from the 1982 Department of Commerce Census of Manufactures. The preliminary reports were published in 1984.

The number of companies in the industry rose to 642 from 554; the number of employees rose to 35,400 from 32,100, and the value of product shipments reached \$9.2 million compared to \$5.6 million in 1977. Product shipment figures are given in current dollars. When allowance is made for inflation, the value remained at about the same level.

The data on materials consumed by the industry are shown in Table I.

Leading states in terms of employment for the industry were New Jersey, with 3,900 employees, including 2,300 production workers; California, 2,600, including 2,400 production workers; Ohio, 3,500, including 2,300 production

TABLE I

Materials Consumed by Kind

Material	1982		1977	
	Quantity	Delivered cost (million dollars)	Quantity	Delivered cost (million dollars)
Materials, containers and supplies		3,707.9		2,519.9
	(million lbs)		(million lbs)	
Bulk surface active intermediates (active wt)	223.0	111.3		
Bulk surface active agents, excluding surface active intermediates, other than sulfonated oils and assistants:				
Primarily for detergent purposes (active wt)	489.5	207.4	516.6	155.7
Other emulsifiers, wetting agents, penetrants, etc. (active wt)	108.7	39.1	74.9	23.8
Glycerin (100%)	42.4	27.4	26.9 ^b	10.0
Vegetable oil	^c	55.3	343.7	93.3
Perfume oil mixtures and blends	37.4	67.3		108.3
Essential oils, natural	^d	^d		
Fatty acids	228.1	63.8		
Grease and inedible tallow	274.0	52.3	760.6	136.9
Optical bleach (optical brightener)		16.0		26.3
	(1,000 tons)		(1,000 tons)	
Potassium pyrophosphate (TKPP) (100% K ₄ P ₂ O ₇)	^c	10.6	37.4	14.7
Chlorine (100% Cl)	58.0	15.8	18.8 ^a	8.3
Sodium sulfate (100%)	709.2	59.7	686.1	45.7
Sodium carbonate (soda ash) (58% Na ₂ O)	737.4	70.6	468.2	31.6
Sodium hydroxide (caustic soda) (100% NaOH)	580.5	85.6	521.7	53.7
Sodium tripolyphosphate (STPP) (100% Na ₅ P ₃ O ₁₀)	823.6	337.6	592.6	218.1
Sodium aluminosilicates (zeolites) (100% active)	^d	^d		
Citric acid and sodium citrate (100% anhyd)	^d	^d		
Trisodium phosphate (TSP) (Na ₃ PO ₄)	118.0	36.0	84.6	19.6
Sodium silicates:				
Water glass type (100%)	^c	37.1	112.1	10.6
Other, including meta silicate, orthosilicate and sesquisilicate (100%)	189.2	31.9	432.8	44.6
Sulfur compounds, including sulfur trioxide (SO ₃), sulfuric acid and oleum (100% H ₂ SO ₄)	795.9	46.1		
Labels, coupons, instructions and other printed materials		60.7		15.6
Containers:				
Paperboard containers, boxed and corrugated paperboard		257.3		188.4
Metal		78.1		60.4
Plastics		283.5		146.4
All other materials and components, parts, containers and supplies		1,054.6		904.8
Materials, containers and supplies, n.s.k.		401.7		194.3

^a10% to 19% estimated.^cMore than 30% estimated, figure not published.^b20% to 29% estimated.^dData withheld to avoid disclosing statistics for individual companies.

TABLE II

Value of Shipments by All Producers, Selected Products and Product Classes

	Value of product shipments (millions of dollars)			Value of product shipments (millions of dollars)	
	1982	1977		1982	1977
Total	7,889.7	4,999.5	Household detergents	4,311.5	2,817.2
Nonhousehold soaps and detergents	1,564.1	1,005.8	Machine dishwashing compounds		
Soap—chips, flakes, granulated, powdered, sprayed	102.3	44.5	Dry	302.1	176.5
Machine dishwashing compounds			Liquid	11.5	10.1
Liquid	63.0	40.1	Aerosol general purpose, hard surface cleaners	52.1	10.5
Dry	92.7	80.9	Synthetic organic detergents		
Nonhousehold synthetic organic detergents			Dry, light duty	119.5	129.8
Dry, anionic	103.4	64.2	heavy duty, phosphate based	1,503.0	1,009.2
cationic and amphoteric	21.8	7.1	heavy duty, phosphate free	367.8	303.8
Nonionic or other base	125.3	60.1	Liquids (excluding shampoos)		
Household soaps	1,252.7	707.0	light duty	828.2	422.0
Bars	956.3	614.5	heavy duty	565.1	309.6
Liquid	78.1	(a)	Glycerin	153.7	101.0

Figures do not total because all categories are not shown; for full listings see 1982 Census of Manufactures Preliminary Report MC82-I-28D-1(P) for Industry Category 2841, Soap and Other Detergents.

workers, and Illinois, 2,600, including 1,800 production workers.

Products showing significant increases, in terms of constant dollars, in product shipments included household dishwasher powders, aerosol hard surface cleaners, light- and heavy-duty liquid detergents, liquid soaps and soap powder. Nonhousehold products showing significant gains included soap chips; dry alkaline detergents; cationic, amphoteric and nonionic detergents, and certain industrial nonhalogenated liquid cleaners (Table II).

The preliminary report shows quantity of synthetic organic detergent shipments declining from 3,569 million pounds in 1977 to 3,400 million pounds in 1982. Volume of liquid product shipments rose from 1977 to 1982, but the preliminary report did not include quantity of heavy duty liquid detergents shipped. The volume of light duty detergents shipped was 126.7 million gallons in 1977 and 176.6 million gallons in 1982. Volume of heavy duty liquid detergents shipped in 1977 was 91.4 million gallons.

Laundry equipment report

Production of household laundry equipment declined in the United States between 1977 and 1982, probably reflecting the maturity of the market as well as an economic downturn in the early 1980's that saw reduced housing construction in the United States.

According to the Census of Manufactures Report on Household Laundry Equipment (MC82-I-36B-3(P), about 3.9 million automatic electric washers and 2.6 million dryers were produced in 1982; comparable figures for 1977 were 4.7 million and 3.5 million.

Surfactant symposium scheduled

The AOCS Northeast Section will hold an all-day symposium entitled Surfactants Update on Tuesday, March 12, at the Forsgate Country Club, Jamesburg, New Jersey. The symposium will feature six speakers and a panel discussion. Speakers and topics will be Arno Cahn, "Surfactants Chemistry"; Graham Barker, "Emulsion Technology"; Tamara Padron, "Liquid Laundry Products"; James Kaeser, "Light Duty Liquid Products"; Ralph Webber, "Detergent Builders," and Ron Ruppert, "Evaluations." For more information, contact Andrew Menasian at Humko, Newark, New Jersey, telephone 201-344-3216.

Rubin to head IFSCC

The XIII Congress of the International Federation of Societies of Cosmetic Chemists was held Oct. 16-19, 1984, in Buenos Aires, Argentina. Henry F. Maso, of Amerchol Corporation, became the immediate past president and Jaime Rubin of Laboratorio Bonru Perel, Buenos Aires, Argentina, was elected president. Dr. Rubin is the first IFSCC president from a Latin American society. Winthrop E. Lange, of the Purdue Frederick Company, was re-elected honorary secretary. He is a past president of the IFSCC.

The award for the most meritorious paper at the conference went to L. Aubert, P. Anthoine, J. de Rigal and J.L. Leveque of Biotherme, Monaco and L'Oreal, France, for "An In Vivo Assessment of the Biomechanical Properties of Human Skin Modifications under the Influence of Cosmetic Products."

Short Course

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Short Course