

Panel discusses detergency testing

Experts from the surfactants and detergents industry, under the leadership of chairperson Ted Matson from Vista Chemical Corp., discussed the equipment and methods used in detergency testing during a panel discussion at the 1988 AOCs annual meeting in Phoenix, Arizona, in May.

Results from the radiotracer detergency test method parallel those obtained when using the reflectance method in evaluating detergent performance, but the radiotracer method is more precise, according to Nelson Prieto of Shell Development Co. The test, which uses radiolabeled soils, can measure absolute soil removal, soil redeposition and enzyme efficacy. However, even though the test is sensitive, has analytical selectivity and is practical for large-scale tests, it is limited by the need for radiochemical technology, commercial availability and purity of labels, and initial cost investment, Prieto added.

Both Paul Riccobono from Colgate-Palmolive Co. and Jay Brummer from FMC Corp. explained the benefits of bundle testing when comparing the performance of different detergents. The detergent industry acknowledges that the bundle test is closest to typical consumer response in determining visual preference for laundered products, but the six- to eight-week process is time-consuming, Riccobono said. Colgate-Palmolive has developed a mathematical model to predict the outcome of a bundle test in a shorter time period. The visual preference ratio should provide product development staff with information on visual acceptability in "real world" conditions within days rather than weeks, Riccobono said.

William S. Gilman, manager of special projects for the United States Testing Co. Inc., covered the use of the Terg-o-tometer, the instrument employed most frequently in the U.S. in laundry testing. The Launder-o-meter, more commonly used in Europe, was covered by J.L. Berna from Petresa, a Spanish company.

Papers on in-home testing, institutional laundry detergency test-

ing and detergency testing in industrial laundries were given by Kenneth Mills of Lever Brothers, and Linda Marquardt and John Birckbichler of Ecolab Inc., respectively. George Feighner from Scientific Services spoke about soiled test cloths.

JAOCs plans to publish these talks and a summary of the accompanying discussion session in its January 1989 issue.

The detergency testing panel discussion was one of six sessions at the annual meeting devoted to surfactants and detergents topics.

In another surfactants and de-

tergents session, Richard J. Holland of BASF's Laundry Applications Laboratory and E.J. Parker of BASF's Cleaning Applications Group reported on a new type of soil anti-redeposition chemical developed by BASF.

The two reported that BASF is testing an experimental modified nonionic polymer. They said tests show that when compared with typically used cellulose, this polymer has superior performance in preventing the redeposition of removed soil from a variety of fabrics during laundering. They added that the substance also works ef-



SDA Award

Daniel Donovan (left) of Ecolab Inc., St. Paul, Minnesota, accepts The Soap and Detergent Association (SDA) Award for best Surfactants and Detergents paper published in *JAOCs* during 1987 from Arno Cahn (right) of the AOCs Surfactants and Detergents Section. Donovan accepted the award on behalf of recipients J.A. McDonnell and A. Liu of Ecolab's R&D division. The award was presented at the 1988 AOCs annual meeting in Phoenix, Arizona, in May for McDonnell and Liu's paper, "An Improved Method for Evaluating Detergent Builders for Water Hardness Control," published in the May 1987 issue of *JAOCs*.

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fectively on both cotton and polyester fabrics as well as on blends of these fabrics.

Ballestra Group

Ballestra of Italy, a major designer and supplier of chemical plants for the detergent industry with over 600 plants supplied worldwide, has reorganized following a number of acquisitions.

Gruppo Ballestra SpA, a financial company, has been established in Milan to act as a holding company to provide financial and administrative services to various operating companies. According to the company, Gruppo Ballestra now controls Ballestra SpA, Garbato Srl and Costruzioni Meccaniche Bernardini (CMB) SpA.

Ballestra designs and supplies sulphonation, powder and liquid detergent plants and associated facilities as well as turnkey detergent plants; Garbato designs and supplies a wide range of plants for inorganic chemical production, chiefly raw materials for detergents, tannery products, the animal food industry, pesticides and water treatment. CMB operates in the field of vegetable oil refineries, solvent extraction, fatty acids and glycerine plants, with experience handling a wide variety of oilseeds.

Gruppo also holds interest in a number of companies that provide services associated with the engineering and supply of chemical plants. These include CIR Srl, which specializes in the skid-mounting of complete process units and erection of chemical plants; Logosystem SpA, which operates in the field of process plant and industrial plant automation and computer control; and trading companies operating mainly in the field of surfactant and detergent intermediates, raw materials and finished products.

The companies included in the Ballestra Group employ 500 persons, have supplied plants in over 100 countries and have budgeted an aggregate turnover of \$80 million for 1988.

M. Ballestra and D. Triberti serve as president and vice presi-

dent, respectively, of Gruppo Ballestra SpA and Ballestra SpA. M. Galateri has been named managing director of both companies and also will act as president of CMB. G. Ballestra serves as president of Garbato as well as a board member of Gruppo Ballestra SpA, Ballestra SpA and CMB.

Indonesian plant

Lurgi Frankfurt has been awarded a contract by P.T. Aribhawana Utama for complete engineering and delivery of fatty alcohol plant equipment for a facility in Indonesia. Lurgi will provide the equipment in consortium with its Spanish partners—Centunion, Tecnicas Reunidas and Lurgi Espanola, all in Madrid.

The facility will be installed at Belawan, North Sumatra, Indonesia. It is scheduled to start production of fatty acids, fatty alcohols and glycerine from palm kernel oil by mid-1990.

The plant will have a designed capacity of 30,000 metric tons annually.

Other new plants

The Nigeria National Petrochemical Corp. in Kaduna, Nigeria, has started up a hydrodealkylation unit, according to UOP Inc., a unit of Allied-Signal.

The unit is designed to produce 18,000 metric tons (MT) of benzene a year. It will supply benzene feedstock to a complex now under construction for the production of biodegradable linear alkylbenzene detergent intermediates.

Meanwhile, the Colombian subsidiaries of Dow Chemical Co. and Hoechst AG are undertaking a joint effort for the production of nonylphenol and nonylphenol ethoxylates and propoxylates in Colombia.

Nonylphenol capacity will be 2,000 MT a year, with start-up projected for early 1990. According to Dow, Hoechst Colombiana SA

new manufacturing facility it is installing at Dow Quimica de Colombia SA's polyol plant site in Cartagena, Colombia. The combination will allow Dow to supply raw material ethylene oxide and propylene oxide to the nonylphenol plant Hoechst is building.

The ethoxylates and propoxylates will be marketed by Hoechst in fields such as textiles, agrochemicals, detergents, cosmetics, and construction and oilfield chemicals.

Quantum builds

Quantum Chemical Corp.'s USI Division in early 1989 will begin construction of a centralized research and development center in Cincinnati, Ohio.

The new R&D center will be adjacent to Quantum's USI Division headquarters and will consolidate the division's R&D operations now conducted at its Rolling Meadows, Illinois, and Cincinnati laboratory facilities.

The \$32-million complex, scheduled for occupancy in July 1991, will include a two-story conference, library and administration building; a five-story building for basic, analytical and catalyst research; and a three-story building for applied research. The three interconnecting buildings will have nearly a quarter-of-a-million square feet of space.

The R&D center will initially be occupied by 270 research staff members.

Meanwhile, Quantum Chemical Corp.'s Emery Division has selected Badger Engineers to provide engineering and procurement services for the expansion and modernization of its solvent separation facilities at Cincinnati, Ohio. The project, which will increase Emery's separation capacity, is scheduled to be completed by the end of 1988.

Quantum also has announced the appointment of Robert T. Betz as president of Quantum's Emery Division. Douglas L. Allen, an executive vice president of Quantum, will coordinate Quantum's USI expansion program and the construction of the new research facilities at the Emery/USI complex.

Vista R&D center

Vista Chemical Co. planned to break ground during June for construction of a 129,000-square-foot research and development center near Four Points, west of Austin, Texas.

The main research facility will be a two-story, brick building housing offices, laboratories and conference rooms. Other buildings on the site will provide materials storage, site utilities, high-pressure test cells and enclosed process development laboratories for larger-scale research.

When construction is completed in late 1989, Vista will employ 100-125 people at the facility.

In other Vista news, James W. Rogers has been named director of administrative systems for the company's marketing department and manager of the company's distributor program. Meanwhile, George W. Landau, president of the Americas Society, has been elected to a three-year term on Vista's board of directors.

Alpha-olefins

World consumption of alpha-olefins, a large and fast-growing chemical group, is expected to more than double from 0.8 million metric tons (MT) a year in 1986 to nearly 1.7 million MT by the year 2000, according to Colin A. Houston & Associates.

The consulting firm based in Mamaroneck, New York, noted that current and anticipated increases in world demand are being met by major capacity expansion in the U.S. and West Europe. Shell and Chevron, for example, will add over 425,000 MT of capacity by 1990. Ethyl, meanwhile, is expected to increase capacity by more than 50%. Also, Japanese capacity will more than double when Idemitsu enters the market with a new plant due on stream in early 1989.

The major end uses by volume for alpha-olefins are poly-olefin comonomers, detergents, plasticizer alcohols, petroleum additives and synthetic lubricants.

In its study, *Alpha-Olefins—World Markets, 1986-2000*, the firm noted that alpha-olefin use exploded with the development of linear low density polyethylene in the 1970s and predicted exceptional growth will continue over the next decade. The 1,400-page, two-volume study evaluates the supply and demand for alpha-olefins in the Far East, North and Latin America, West Europe and other regions.

For instance, the study predicts surfactant demand for alpha-olefins to grow steadily on an overall basis, but surfactant usage will vary from region to region. "Alpha-olefin consumption in detergent alcohols will be much stronger in North America than in Latin America, West Europe or the Far East, where natural alcohol production is forecast to dominate," Colin Houston said, adding, "During the 1990s, new markets for alpha-olefin sulfonate will open up in Latin America and the East Bloc."

In the People's Republic of China, synthetic detergent production increased from 390,000 MT to over one million MT between 1980 and 1985. During the same period, production of washing machines increased from 300,000 to more than six million. The study predicts that corresponding growth in linear alkylbenzene sulfonate (LAB) consumption will continue, necessitating at least three new 50,000 MT LAB plants in China by the year 2000.

Europe market

Ownership of many of the leading fatty acid and fatty acid derivative producers in Western Europe has changed since 1976, according to Hull & Co. of Greenwich, Connecticut, in its latest study looking at fatty acid and derivative markets in Western Europe.

According to Hull, new sources of fatty acids from the Far East, the U.S. and Africa have made inroads into markets traditionally held by coconut oil, tallow and tall oil-based fatty acids since 1976. Also, economics of key production processes have changed, the availability of natural and synthetic raw

materials has shifted, and the market size in many end-use applications has increased or decreased.

The study, carried out between September 1986 and December 1987, complements a Hull report published in August 1986 covering the North American fatty acid market.

Japan update

Japanese production of soaps and detergents in 1987 increased over 1986, according to the Ministry of International Trade and Industries.

Soap production totaled 196,000 tons (2% above 1986), body detergents totaled 12,500 tons (up 44%), synthetic detergents totaled 1,028,000 tons (up 5%), softening agents totaled 313,000 tons (up 14%), bleaching agents totaled 113,000 tons (up 5%), acid and alkaline detergent totaled 30,400 tons (same as 1986), and cleanser production totaled 53,400 tons (up 13%).

Profit seminar

The Midwest Chapter of the Society of Cosmetic Chemists will present its annual scientific seminar, "From Prototype to Profit," on Sept. 7, 1988, at the Woodfield Hilton and Towers in Arlington Heights, Illinois.

Presentations will include overviews of market research techniques and evaluation methods; talks addressing stereotypes and conflicts between the R&D lab, marketing and sales, and manufacturing; case studies of successful and unsuccessful products; and talks on nurturing creativity and innovation in the laboratory.

For further information, call Marsha Hardin at 312-534-0456.

News briefs

Kao Corp. of Japan has signed an agreement to buy Andrew Jergens Co., a major U.S. toiletry producer, with headquarters in Cincinnati, Ohio. Kao has agreed to acquire all