

pastes, \$667 million; other cosmetic and toilet preparations, \$2,586.1 million; and toilet preparations by firms with fewer than five employees, \$303.7 million.

Including items produced by firms who are not primarily personal care product manufacturers, total value of shipments was \$6,464.1 million, compared to \$4,247.1 million in 1972, an increase of about 52%. During the same period, the consumer price index was rising about 44%.

Costs of other materials besides fats and oils used by the industry, according to the census, were as follows: synthetic organic chemicals, \$181.9 million; perfume oil mixtures and blends, \$143.3 million; natural essential oils, \$55.9 million; synthetic organic perfume materials, \$34.4 million; bulk surface active agents other than sulfonated oils and fats, \$33.5 million; refined petroleum products, \$23.2 million; industrial gases, \$5.6 million; container materials (plastics, glass, paper and metal), \$752.9 million; all other materials and supplies, \$444.9 million. ●

## Surfactants: \$1.4 billion industry

The 1977 Census of Manufactures' recently released preliminary statistics show U.S. industry produced \$1.4 billion worth of surface active agents that year. That represents about a 137% increase over the \$580 million worth produced in 1972, the last time the census was taken.

Most of the production, about \$1.09 billion, was in bulk surface active agents. That does not include surfactants produced, purchased or sold as ingredients in formulated products. Textile and leather surface active agents accounted for about \$172 million, while the rest were in miscellaneous categories. Production quantity data was not provided. The industry used approximately 130 million pounds of glycerine, vegetable oil, and grease and inedible tallow with a total value of approximately \$31 million in 1977, according to the census report.

In a report on the polishes and sanitation goods industry, the census reported about 15.4 million pounds of glycerine, vegetable oil, grease and inedible tallow were used by that industry, with a total value of approximately \$5 million. ●



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**ANTIFOAMS.** R.D. Kulkarni, E.D. Goddard and M.R. Rosen. *J. Soc. Cosmet. Chem.* 30(2), 105-25 (1979). Review of antifoams including their classification, preparation and testing. Emphasis is given to silicone-based compositions whose introduction in this field some three decades ago led to major changes in antifoaming technology. Fundamental mechanisms involved in the antifoaming process are outlined and a description given of some of the mechanisms of foam stabilization. A new experimental antifoam, of "transient character" is described and its possible applications are outlined.

**SOLUBILIZATION PROPERTIES OF NONIONIC SURFACTANT-POLYMERIC ACID COMPLEXES.** S. Saito, *Colloid Polym. Sci.* 257(3), 266-72 (1979). The complex of a polyoxyethylene-type nonionic surfactant and a polymeric acid (polyacrylic and polymethacrylic acids) in aqueous solution has a different solubilization power from that of the micelles of the surfactant solution

alone. The binding of the surfactant to a polyacid becomes abruptly conspicuous above a certain surfactant concentration, which is lower than the CMC of the surfactant.

**THE BEHAVIOR OF CHROMIUM SOAPS IN NON-AQUEOUS SOLVENTS.** J.A. Wood and C.P. Rycroft. *Colloid Polym. Sci.* 257(3), 316-9 (1979). Spectroscopic evidence agrees with vapour pressure osmometry data and indicates that chromium tri-myristate, tri-palmitate and tri-stearate form aggregates of constant size above a distinct concentration of monomeric species.

**KINETIC STUDIES ON THE FOAM SEPARATION OF THORIUM(IV) WITH SODIUM LAURYL SULFATE.** K. Shakir and S. Samy. *Colloid Polym. Sci.* 257(4), 420-6 (1979). The effects of pH, gas flow rate and collector concentration on the rate of thorium removal by foaming with sodium laurylsulfate have been investigated. The obtained data indicate that only aged hydrated thorium oxide is removed by a flotation mechanism.

**THE INFLUENCE OF TECHNICAL SURFACTANTS ON THE MASS- AND ENERGY-TRANSPORT DURING WATER EVAPORATION.** E. Wolf et al. *Tenside Deterg.* 16(2), 57-64 (1979). The results of 200 series of measurements are reported in this paper. As shown by many pure and technical surfactants, in the case of water evaporation nearly all surfactants effect a prevention of the transition from liquid to gaseous phase. If the surfactant is not able to form a condensed monolayer, the prevention of the transition is relatively little. In this case the prevention is prevalently caused by prevention of convection in the nearness of the interphase.

**COMPREHENSIVE EVALUATION OF SOIL CONDITIONING WITH SPECIAL RESPECT TO PLANT CULTIVATION BY USE OF CATIONIC SURFACTANTS.** O.K. Dobozy et al. *Tenside Deterg.* 16(2), 65-70 (1979). The effectivity of soil-conditioning in view of plant cultivation was investigated and established with some selected cationic Evagro surfactants.

**COMPARATIVE FLOTATION ACTIVITY OF SOME LOCAL PETROLEUM SULFONATES.** T.R. Boulos et al. *Tenside Deterg.* 16(2), 71-4 (1979). The fractional distillation products of Morgan petroleum oily fraction 320 to 470 C boiling range, exhibit different physicochemical characteristics, depending on the average composition of the different hydrocarbons and on their molecular weights. The surface activity of three individual sulfonates, prepared by a hard sulfonation method, was compared and correlated with the average composition of the oily fractions. The flotation activity of the different sulfonates, in the case of nonmetallic minerals, varies with the surface activity of the sulfonate as well as with the nature of the mineral itself.

**THE REACTION OF FATTY ACIDS AND THEIR DERIVATIVES WITH ETHYLENE OXIDE, IV. AN INVESTIGATION OF THE INITIAL STAGE OF THE REACTION OF STEARIC ACID AND ETHYLENE OXIDE.** M. Bares, et al. *Tenside Deterg.* 16(2), 74-5 (1979). The reaction of stearic acid with ethylene oxide in the initial stage was investigated directly in the reaction mixture using <sup>1</sup>H-NMR. The formation of a transition complex in the initial stage of the reaction is quite probable.

**STEADY-STATE FOAM FRACTIONATION OF ETHOXYLATED NONYL-PHENOL.** E. Juciel and K. Makomaski. *Tenside Deterg.* 16(2), 76-8 (1979). Experiments were carried out using a foam fractionation column and aqueous solutions of ethoxylated nonylphenol (Alfenol-9). Air was used as inert gas. The effect of surfactant concentration, air flow rates and reflux of the top product on stripping and enrichment factors was studied.

**ELECTROMETRIC STUDY OF ALKALINE EARTH METAL-SOAP SOLUTIONS.** V.P. Mehta et al. *Tenside Deterg.* 16(2), 79-80 (1979). The behavior of aqueous solutions of calcium and magnesium soaps was investigated by an electrometric method using silver/silver soap electrodes. The CMC values of soap solutions decrease with the increase of the number of carbon atoms in the soap anion. The magnesium soaps exhibit higher CMC values than the corresponding calcium soaps. The presence of urea increases the CMC values irrespective of the nature of the soap.

**SOME RESULTS ON THE GREYING OF WHITE FABRICS AFTER LAUNDERING AT 60 C, USING THE "EASY CARE" PROGRAM.** H. Milster and U. Sommer. *Tenside Deterg.* 16(2), 81 (1979). Report on tests on the soil carrying capacity of carboxymethyl cellulose and carboxymethyl starch during laundering at 60 C using the "easy-care" program. Addition of a soil carrier combination of 0.5% each of the above additives resulted in a decrease in greyness under the prescribed laundering conditions in all the textile fabrics examined, except nylon. ●