

USDOC, the value of industry shipments in 1988 increased 9.8% above 1987 levels to \$5.8 billion (U.S.). The value of imports was static at \$34 million (U.S.).

The USDOC notes that because of institutional and industrial cleaners, the outlook for this industry is favorable. It is expected that industry shipments will grow 6.8% over 1988 levels (measured in constant 1982 dollars). Imports are expected to remain at about \$35 million (U.S.). In 1989, the sales emphasis is anticipated to be on multipurpose cleaners, less abrasive products, and emphasis on convenience and efficiency. Premeasured cleaning chemicals will become more popular for institutional and industrial use because of the efficiency premeasurement offers to application. The USDOC predicts continued growth in excess of five percent a year for the 1989-93 period. Trends in this industry include more environmental regulations, purchase of bulk cleaning chemicals by large customers to reduce the cost of packaging, internationalization of the institutional and industrial market through acquisitions by foreign companies, purchase of cleaning products by small customers from mass merchandisers (discount houses) instead of traditional suppliers, and development of bactericidal grease trap cleaners with enzyme activators.

Surface Active Agents

According to the USDOC, surface active agents (surfactants) are organic chemicals that serve as wetting agents by weakening surface tension. They are used primarily in formulating detergents. New high-priced specialty surfactants such as alkylphenol ethoxylates are replacing older low-priced ones such as alcohol sulfonates on account of their superiority in surface tension, wetting and foam stabilization. The USDOC notes that the value of industry shipments in 1988 was \$3.5 billion (U.S.) representing an increase of 15.5% above the 1987 value. Imports in 1988 grew 39.2% over 1987 levels to approximately \$238 million (U.S.).

The USDOC maintains that approximately 40% of all surfactants are used in making household cleaning products. Industrial surfactants are found in applications such as petroleum additives, oil well drilling, plastics and elastomers, food processing, mining adjuncts, cement, textiles and agricultural chemicals. The USDOC attributes the growth in shipments of surfactants to the increase in sale of heavy duty liquid laundry detergents which require the incorporation of higher levels of surfactants in their formulas than do powders. The USDOC indicates that rinsing aids, composed of nonionic surfactants, applied during the rinse cycles of automatic commercial washers are also popular.