

LSDA use urged in India

B. P. Godrej, managing director for Godrej Soaps Ltd. in Bombay, India, has urged the use of lime soap dispersing agents in soaps made in India to improve their performance in hard water. The following is an abridgement of a talk he gave last December at a seminar of the Oil Technologists Association of India (Western Zone).

Most laundry (bar) soap in India is produced by small-scale manufacturers. In the past year, small-scale manufacturers produced approximately 680,000 tons out of a total laundry soap production of 800,000 tons. Total soap production in India is about one million tons a year. This soap has all the desirable qualities except hard water resistance and solubility in cold water.

It is accepted that about half of the aggregate of laundry and toilet soap made in India is wasted in hard water. What is not as well known is that the other half does not function satisfactorily in hard water. Lime soap dispersing agents (LSDA) could not only prevent the precipitation of lime soap curds in the washing and rinsing cycles, but also improve detergency. To improve product efficiency, a suitable LSDA should be used in both laundry and toilet soap. As small scale laundry detergent bars are not in the β -phase, their solubility in hard water leaves much to be desired. Alpha olefin sulfonate (AOS) made from the inedible portion of rice bran oil and acid oils could fill the bill admirably under Indian conditions. The annually recurring net national saving would come to at least 3.8 billion rupees a year, based on present production.

There are no good arguments against the soap-plus-LSDA system. Linear alkyl benzene sulfonates (LAS) cannot be used for this purpose. Under Indian conditions they are known to act as foam suppressants in the system, and foam is very desirable in India. Apart from that, LAS is a poor lime soap dispersing agent.

When used alone for making laundry detergent bars, AOS is superior to LAS in hard water resistance and detergency, kindness to hands and economy (because a high percentage of sodium tripolyphosphate [STPP] is not required). Moreover, AOS can be used synergistically with LAB containing about 30% C_{14} . LAS by itself can withstand hard water with a maximum of 100 ppm $CaCO_3$. While a large percentage of added STPP renders LAS satisfactory in hard water, such addition raises the cost considerably. On the other hand, if sodium carbonate is used with LAS as a builder, as some small-scale detergent manufacturers do, greying of textiles results after multiple washes in water of 300 ppm $CaCO_3$. It also causes greater wear on textiles.

There is one successful product in the Indian market which contains AOS alone as the active detergent, and there are two other successful products, one bar and the other powder, which contain AOS plus LAS. The synergism enables the manufacturer to offer better quality at a lower price. Another low-priced high quality detergent powder and a detergent bar, both based on AOS alone as detergent active, soon may be launched in the Indian market. The

detergent bar would be entirely soluble in water. Being of lower density, it would be more acceptable than LAS detergent bars in the market. Thus, AOS bids fair to be the third generation workhorse of the detergent industry in India.

In addition, AOS has specialty uses. AOS of selected chain length performs very well in sea water, which has a hardness of nearly 7000 ppm $CaCO_3$. The masses could wash their saris and dhotis in sea water along the entire Indian coastline.

Fatty alcohol sulfate, fatty alcohol ethoxy sulfate and fatty alcohol ethoxylate are based mainly on coconut oil, an edible oil par excellence. Of course, these products can be based on the acid oils of coconut and palm kernel oils. Coconut oil commands a premium price over vegetable oils. The hard water resistance, detergency and foaming property of fatty alcohol sulfate are lower than those of AOS. Apart from that, fatty alcohol sulfate is not so mild to the hands as AOS. Fatty alcohol ethoxy sulfate is meant for liquid preparations only. Fatty alcohol ethoxylate is non-ionic and, therefore, its foaming is so low that it need not be considered in India. It should be noted that fatty alcohol sulfate accounts for only one-third of the fatty alcohol group of detergents.

Lonza completes R & D plant



New Lonza applications laboratory

Lonza Inc., manufacturer of fine and specialty chemicals, has completed its \$2 million research and development facility in Fair Lawn, New Jersey. The new laboratories, a modernization and expansion of an R&D and pilot plant set up in 1971, will be devoted to basic research and development in biocides, polyols for candy and confections, surfactants for special applications and new industrial products, company officials said. The new facilities consist of 15,000 square feet of laboratory and office space, compared with the previous 6,000 square feet. The R&D laboratory will have a staff of approximately 40. In addition, Lonza maintains quality control and applications laboratories in Long Beach, California, to serve the West Coast market.

Call for papers

A call for papers has been issued for the 6th International Symposium on Surfactants in Solutions to be held Aug. 18-22, 1986, in New Delhi, India, under sponsorship of the Indian Society of Surface Science and Technology.

Regular lecture presentations and poster sessions will be scheduled. Persons interested in contributing a paper or who wish further information should contact: Dr. K. L. Mittal, General Chairman, 6th International Symposium on Surfactants, 6 David Court, Poughkeepsie, NY 12603.

The list of tentative topics includes:

Surface association: recent theoretical and experimental developments; thermodynamics and kinetics of micellization; surfactant liquid crystals; phase diagrams and phase structure; solubilization; micellar catalysis; microemulsions; biological amphiphile systems; adsorption of surfactants; applications of surfactants, and biodegradation and health aspects of surfactants.

News briefs

Unichema International has appointed **Karen M. Kaplan** sales representative for the USA in a move by the company to expand sales and marketing coverage of its oleochemicals business in the U.S. Kaplan formerly worked for Olin Chemicals in a sales capacity in the northeast.

Novo Laboratories in Wilton, Connecticut, has promoted **Carol L. Wolf** to market research analyst. She previously was an assistant chemist at Novo.

Correction

An article in the September 1984 *JAOCs* on the new continuous hydrogenation unit at Emery Industries in Cincinnati, Ohio, should have listed Rust Engineering, exclusive U.S. licensee for Lurgi, as the providers of technology and design. The article and a January 1985 errata incorrectly listed another firm as having been involved with the design and engineering. *JAOCs* apologizes for the error and any misunderstandings it may have created.

Comprehensive New Volume—AOCS Monograph 10

Dietary Fats and Health

Edited by E. G. Perkins & W. J. Visek

This new AOCS monograph is the proceedings of a conference held in Chicago in December 1981. Containing 60 chapters by leading scientists in biochemistry and nutrition, the book presents the latest scientific information in fat chemistry and technology related to nutrition. Specifically, it covers the general role of fats in nutrition, metabolism of isomeric fats, and the role of vitamins A, D, E and K in health and disease. Included are controversial topics such as the role of lipids in heart disease and cancer, and the effects of diet on high density lipoproteins and the techniques of lipoprotein fractionation. The book also contains information devoted to emerging research on dietary fats and nutrition in such areas as multiple sclerosis and the immune response. Numerous illustrations and references are found throughout.

Subjects include:

Chemistry and Technology of Fats
New Methodology in Fat Analysis
Nutritional Effects of Fats, and Metabolism

Essential fatty acids
Pre- and post-natal development
Isomeric fats

Vitamins A,D,K,
Immune response
Heart Disease

Epidemiology
Diet

Lipoproteins
structure
effects of diet on
fractionation
lipoprotein lipase
diet and cholesterol
relation to cancer

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