SYMPOSIUM: BASIC ASPECTS OF DETERGENCY

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M.E. GINN, Program Chairman

Introduction to the Symposium on Basic Aspects of Detergency

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In the Symposium on Basic Aspects of Detergency the participating research scientists presented papers on key factors relating to the detergency process. Topics are considered timely in view of current interests in exploring detergent compositions which are effective yet have minimal effect on the environment and ecology. Development of such compositions requires a fairly complete understanding of the physics and chemistry of cleaning. The presented papers shed further light on the cleaning process and some of the component operations involved.

The first paper is authored by A.M. Schwartz of the Gillette Co. Research Institute and covers recent advances in the theory of detergency. Dr. Schwartz is well known for his numerous contributions to the science of surface chemistry. Of the many publications and patents authored by Dr. Schwartz, perhaps he is best known for his two comprehensive texts on surface active agents. Dr. Schwartz has awards from the ASTM and the Society of Cosmetic Chemists for his various contributions.

Toshio Nakagawa of the Shionogi & Co. Research Laboratory of Japan presents the second paper and this deals with gel filtration of surfactants. Gel filtration chromatography permits separation of surfactants according to micelle size; and micellar properties are considered important factors in detergency. Dr. Nakagawa has numerous publications dealing with the analysis and physicochemical properties of surfactants, and in 1970 was awarded the prize of the Japan Oil Chemists' Society. This paper is co-authored by Hiroaki Jizomoto.

Stig Friberg of the Swedish Institute for Surface Chemistry discusses the association of surfactants into liquid crystal systems and its influence on solubilization and emulsification phenomena. Liquid crystals have been shown to be important in the detergency process. Dr. Friberg has had a distinguished academic career. In addition to being head of the Swedish Institute for Surface Chemistry, Dr. Friberg has chaired key committees of various Scandinavian technical associations.

The interactions of colloidal particles with complex ions and polymers is reviewed by Egon Matijevic of the Institute of Colloid and Surface Science of Clarkson College of Technology. These interactions are particularly important in various applications such as in emulsion formation, soil removal, and flotation. Dr. Matijevic is presently Director of the Clarkson Institute of Colloid and Surface Science. He has published numerous papers in the field of colloids and dispersions and is Editor of the Series on Surface and Colloid Science, a collective work which has recently been published.

The last paper of the Symposium covers the statistical analysis of detergency tests which involve a natural soil and is authored by J.R. Trowbridge of the Colgate-Palmolive Co. This paper includes some interesting practical results and presents a design for optimizing detergent composition. Dr. Trowbridge has specialized in synthetic organic chemistry primarily in the field of surface active agents. He has developed and published several methods for the treatment of detergency evaluation data.

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