VOLUME 4

Surfactants in Solution

Edited by

K. L. Mittal
IBM Corporate Technical Institutes
Thornwood, New York

and

P. Bothorel
Centre de Recherches Paul Pascal
Domaine Universitaire
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PREFACE

This and its companion Volumes 5 and 6 document the proceedings of the 5th International Symposium on Surfactants in Solution held in Bordeaux, France, July 9-13, 1984. This symposium was the continuation of the series of symposia initiated in 1976 in Albany, New York under the title "Micellization, Solubilization and Microemulsions". The next two symposia were labelled "Solution Chemistry of Surfactants" and "Solution Behavior of Surfactants: Theoretical and Applied Aspects" held in Knoxville, TN in 1978 and Potsdam, N.Y. in 1980, respectively.

In 1982 at the time of the 4th Symposium in this series, it became amply evident that there was a definite need to have more a generic title to describe these biennial events, and after much deliberation it was decided that an appropriate title would be "Surfactants in Solution" as both the aggregation and adsorption aspects of surfactants were addressed. So the 4th Symposium was held in 1982 in Lund, Sweden, under this new rubric, and it was decided to continue these symposia in the future under this appellation. Naturally, the Bordeaux Symposium was dubbed as the 5th International Symposium on Surfactants in Solution, and our logo became SIS which is very apropos and appealing. It was in Bordeaux that the decision was made to hold the 6th SIS Symposium in New Delhi and it is scheduled for August 18-22, 1986 in the capital of India. It is interesting to note how this series of symposia has blossomed from a modest start in Albany when there were a total of 48 papers in the program to what we had in Bordeaux. In Bordeaux, the printed program contained a total of 254 papers (5 Plenary presentations, 9 lectures, 107 oral communications, and 133 poster presentations). By the way, the proceedings of the earlier symposia have been properly documented[1-4].

Returning to the current proceedings, these are designated as Volumes 4, 5 and 6. A comment about the numbering system used here is in order. Now that the generic title for this series of symposia had become "Surfactants in Solution" (vide supra) and the proceedings of the 4th symposium were chronicled in three volumes under this title, so it was deemed apposite that the future proceedings volumes emanating from these symposia be under this generic title. Concomitantly, these proceedings have been billed as Surfactants in Solution Vols. 4, 5 and 6. This way, there is continuity and it should facilitate tracing of proceedings volumes from these symposia.

The current proceedings volumes containing 137 papers by many authors from a large number of countries are arranged in eight parts. Parts I and II constitute Volume 4; Volume 5 is comprised of Parts III-VI; and Parts VII and VIII are the subject of Volume 6. The topics covered include: Aggregation of surfactants; structure, dynamics and characterization of micelles; phase diagrams and phase behavior of surfactants in solution; behavior of reverse micelles; micellar catalysis

and reactions in micelles; biological amphiphiles, bilayers, vesicles and liposomes; adsorption of surfactants and behavior of monolayers; formation and characterization of microemulsions and reactions in microemulsions; adsorption and wetting transition; theories of surface tension; foam chromatography; latices and emulsions; and mineral flotation. By the way, the papers in these proceedings have been rearranged (from the order they were presented) to categorize them in a more logical manner. It must be recorded here that all papers were peer reviewed and most of these were sent back to respective authors for suitable minor/major revisions. As for Discussion, although no formal discussions of papers are included here, but there were lively (both formally and informally) discussions throughout the duration of the symposium.

Just a casual glance at the Table of Contents shows that there is a tremendous amount of research activity in the area of surfactants in solution because of the widespread interest in this wonderful class of materials. Surfactants play an important role in many areas of human endeavor ranging from very mundane (washing clothes) to microelectronics to synthetic blood. Although great strides have been made, but a lot more needs to be fathomed about the behavior of surfactants in solution. As a matter of fact the area of molecular engineering, i.e., designing surfactants with desired chemical moieties is an exciting one to those who are synthetically oriented, and these custom-made surfactants should be a delight for those who are interested in understanding at a molecular level the behavior of these materials once they are in solution. The inter-, trans- and multidisciplinary nature of surfactants in solution is quite patent from these proceedings, as the contributors hail from groves of academia to industrial R&D laboratories to other research organizations and represent a broad range of scientific disciplines.

We certainly hope these proceedings volumes will appeal to the seasoned researchers as a commentary on the current state of research in this field, and as an entree for those who wish to make an excursion in the arena of amphiphilic or amphipathic materials. As a matter of fact, these proceedings and the previous volumes[1-4] (a total of more than 7000 pages) should provide a good reference source as well as a fountain of new research ideas.

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- Societe L'OREAL

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1. K.L. Mittal, Editor, Micellization, Solubilization and Microemulsions, Vols. 1 & 2, Plenum Press, New York, 1977

2. K.L. Mittal, Editor, Solution Chemistry of Surfactants, Vols. 1 & 2, Plenum Press, New York, 1979

3. K.L. Mittal and E.J. Fendler, Editors, Solution Behavior of Surfactants: Theoretical and Applied Aspects, Vols. 1 & 2, Plenum Press, New York, 1982.

4. K.L. Mittal and B. Lindman, Editors, Surfactants in Solution, Vols. 1, 2 & 3, Plenum Press, New York, 1984.

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