

This article was downloaded by:

On: 25 January 2011

Access details: *Access Details: Free Access*

Publisher *Taylor & Francis*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Journal of Macromolecular Science, Part A

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713597274>

Editorial

George E. Ham

To cite this Article Ham, George E.(1982) 'Editorial', Journal of Macromolecular Science, Part A, 17: 5, iii – v

To link to this Article: DOI: 10.1080/00222338208063267

URL: <http://dx.doi.org/10.1080/00222338208063267>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Editorial

Emulsion Polymers and Emulsion Polymerization, Edited by David R. Bassett and Alvin E. Hamielec. Based on the Symposium co-sponsored by the Divisions of Organic Coatings and Plastics Chemistry and Polymer Chemistry at the 2nd Chemical Congress of the North American Continent (180th ACS National Meeting), Las Vegas, Nevada, August 25-29, 1980.

An invitation to review the above Symposium volume presents me with a dilemma. In the fall of 1979 I was invited by one of the editors to present a tutorial lecture on emulsion copolymerization at the Symposium which, at that time, was scheduled to be held in San Francisco in August 1980. I accepted the invitation and embarked on the preparation of what I regarded as a suitable lecture for the occasion. It was further indicated that the lecture would be included in the Symposium volume to be issued after the Symposium. An abstract of the paper was sent to the editors well in advance of the Symposium.

Due to a strike of hotel workers in San Francisco, it was decided within a few weeks of the deadline that the ACS meeting would be held in Las Vegas rather than in San Francisco. Since there was insufficient time to make new air travel reservations to Las Vegas at an excursion rate, I contacted the editors and inquired whether the additional cost could be covered by the Division. A few days later, after checking on the matter, I was informed that my additional expenses would probably be paid by the organizers of the Symposium. (This was not done.)

Several hundred people attended various parts of the Symposium. On the day my tutorial lecture was scheduled, over a hundred people were present. Following the lecture I received numerous favorable comments, both on content and presentation.

After the lecture, as is customary, I sent the completed paper to the editors, following the rather detailed instructions necessary in order to allow photoreproduction.

A few weeks later I was informed that the "referees" had decided that my paper would not be included in the Symposium volume since it was regarded as of too general content for this purpose. Readers may be interested in reading this paper which recently appeared in *J. Macromol. Sci.-Chem.*, A17(3), 369-376 (1982). I leave it to the reader to decide whether the paper would have been a worthwhile addition to the ACS Symposium volume.

Now come my comments as reviewer of the Symposium volume Emulsion Polymers and Emulsion Polymerization.

Symposium volumes have proliferated in recent years for a variety of reasons. First, it is a means of generating some income to the ACS Division with little additional effort beyond that already expended in preparing the Symposia. In most cases, the individual papers are prepared at no cost to the American Chemical Society. Companies seem to be willing to allocate the time of employees for this purpose, and the individuals who write such papers frequently see this activity as adding to their professional stature. What all of this does for the scientific literature, however, is a different matter.

Until a few years ago it was reasonable to assume that a volume with a given title would cover the full scope of the indicated title. Furthermore, the volume was expected to not only provide details of the subject matter but to present an overview of a general nature in order to prepare the reader for the more specific subject matter. It had also been reasonable to expect that such a volume would have a certain cohesion and would include conclusions relating to the general subject matter, as well as individual chapters dealing, if not exhaustively, with them at least informatively with the particular subject matter being treated.

Anyone exposed over recent years to the avalanche of Symposium volumes presented by professional societies probably no longer expects to be informed in a comprehensive and logical way concerning the various elements of the subject matter. Nevertheless, as a reviewer I feel it my obligation to point out to the scientific public what has been lost in this process. It seems to me highly inappropriate to offer Symposium volumes purporting to cover a certain topic and yet failing to come close to that objective. The above comment is general and does not necessarily represent my conclusion about this particular volume. Nevertheless, I can only assert that this Symposium volume does not succeed in its objective of covering the subject "Emulsion Polymers and Emulsion Polymerization" in a thorough manner with appropriate integrating chapters.

The volume is led off by a Preface which indicates that "tutorial lectures by recognized authorities would be an appropriate way of reviewing the state of the art and also an efficient means of introducing each of the diverse areas of emulsion polymerization in preparation for the contributed papers to follow." Invited lectures are given in Chapters 1 to 6 (of course, my chapter was omitted). Those included a purported treatment of several important aspects of emulsion polymer particles: their nucleation, growth, and stabilization, and

their characterization by light scattering. Others of these chapters discuss the synthesis and study of model polymer colloids, molecular weight distributions, and the design and operation of continuous latex reactors.

A close inspection of Chapters 1 to 6 leads to the following observations. A chapter entitled "Latex Particle Nucleation and Growth" by Robert M. Fitch succeed moderately well in dealing with the nucleation process, although it leaves us in some doubt as to what happens to the latex particles in the stages beyond nucleation and early growth. In the chapter "Latex Particle Stabilization" by R. H. Ottewill the early contributions to particle stabilization are reviewed, including early contributions by Hardy and research in the 1930s by Verwey, Kruyet, and Langmuir, clarifying the picture on the role of the electrical double layer in stabilizing particles.

The early contributions on colloidal particles are then applied to polymer latices in the light of the special nature of the latex particles. The effect of surface groupings, arising out of initiator residues, on particle stabilization, as well as that of the hydrophobic portions resulting from the particular polymer, for example, polystyrene or polytetrafluoroethylene, are discussed. An especially interesting section discussing the coagulation of latices with aluminum salts follows. Other subheadings include heterocoagulation (mixing of latices containing particles of opposite charge leading to coagulation), surface coagulation, and floc structure.

In Chapter 3, John Vanderhoff discusses studies of well-characterized monodisperse polystyrene latexes as model colloids. The preparation and characterization of the model colloids, starting with the emulsion polymerization of styrene using persulfates as initiators, are described.

Other tutorial chapters include one on "Characterization of Latex Particles by Light Scattering" by R. L. Rowell and J. R. Ford, "Molecular Weight Distributions of Emulsion Particles" by D. H. Napper and others, and "On the Optimal Reactor Type and Operation for Continuous Emulsion Polymerization" by M. Nomura and M. Harada.

One may conclude that a more appropriate title for the volume would have been Specialized Topics Related to Emulsion Polymers and Emulsion Polymerization. That the volume will be of help to those actively working in the field is unquestioned. That it would serve to orient and prepare the newcomer to the field is highly questionable.

George E. Ham