

## Book Reviews

**Polymers in Aqueous Media: Performance through Association.** Edited by J. Edward Glass, American Chemical Society, Washington, 1989. xiii + 551 pp. ISBN 0 8412 1548 0. Price: US\$119.95.

Polymers in general are a large group of materials with different properties such as, malability, temperative stability and many others, but polyelectrolytes are based on a special classification. Due to their polarity, polyelectrolytes behaviour is very different from other polymers and, therefore, justifies a volume in the *Advanced Chemistry Series*. This series was founded in order to provide an outlet for material discussed at symposia or a collection of publications on particular topics. This book (number 223 in the series) edited by J. Edward Glass is an expansion of *Advances in Chemistry*, number 213, and discusses topics such as cross-linking, structure and synthesis of polyelectrolytes.

The contents is divided into six major sections. 'Water Swellable Polymers', which although topical still manages to give an overview of the very complex topic of gels, their structures and swelling properties, and characterization. The second section contains discussions about 'Polarity Effects and Polymer Stability'. The subsequent three chapters discuss spectroscopic methods for structural analysis of water-swellable polymers and colloidal particles.

There are three sections concerned with associative thickness — 'Model Associative Thickeners', those with commercial potential, and 'Commercially Related Associative Thickeners'. These surfactant modified water-soluble polymers are produced on an ever increasing scale and their uses range from enhanced oil recovery to surface coatings. Some of these materials, e.g. hydrophobe modified hydroxyethyl cellulose, are actually discussed in detail.

This collection of research papers provides an excellent platform for the discussion of polymers in aqueous media. Sections and chapters are compiled in a logical manner, and all contain ample tables and diagrams. The book is primarily aimed at academic and industrial researchers in the area of water-soluble polymers and aqueous gels and it will provide them with a wealth of information and ideas.

**John F. Kennedy**  
**Kornelia Jumel**

**Nitrocelluloses, the Materials and their Application in Propellants, Explosives and Other Industries.** By J. Quinchon and J. Transchant, Ellis Horwood, Chichester, 1989. 164 pp. ISBN 13 621145 3. Price: £39.95.

The chemistry of cellulose has seen tremendous progress during the past 50 years in both industry and laboratory. As a derivative, nitrocelluloses have wide ranging usage; as the highly nitrated form in propellants and explosives and as the less nitrated type, the applications are more diverse e.g. lacquers, printing inks, coatings and as many other high technology materials.

This work on nitrocelluloses is the second volume in a series relating to their applications and chemistry, and it discusses the properties and uses of all ingredients of powders and propellants. The text of this work, particularly that of chapters 1 and 2, bears the mark of skilled authorship as will be clear from the concise presentation of such a highly specialized topic. Good explanations of the items, with specific examples and physical parameters, and at the same time a generous number of general and specific references are given.

The book describes the chemistry and properties of nitrocelluloses in the early chapters whilst the industrial aspects such as stabilizers, binding agents, plasticizers and gelatinizers, etc., for the products of nitrocelluloses come in the later chapters. The properties and functions of these ingredients could, however, have been further elaborated. At any rate, this is a unique contribution of two eminent nitrocellulose experts for the specialists, and those who are working to become specialists, in explosives and propellant technology.

**John F. Kennedy**  
**Muhammad A. Hossain**