

Book Reviews

are conveniently tabulated. A final section in each chapter attempts an outlook on the future. The reference sections given at the end of each chapter vary considerably. Some are superficial, whereas others direct one to German or European literature that might otherwise pass undetected. Some include useful details of the appropriate patent literature.

Chapter 18 is devoted entirely to 'Health and Safety' aspects of additives, both in incorporation and product use.

The final Chapter 'Compound Development and Compounding of Thermoplastics' has a rather misleading title, and is rather disappointing. It is almost exclusively related to PVC compound development and compounding. The special requirements for the compounding of performance polymers, with engineering or exacting technical applications, are not even mentioned.

The detailed Contents section of this book, which is perhaps unusually long at nineteen pages, together with a twelve page index, facilitate the rapid location of a particular aspect of the subject.

With this volume having the nature of a review, its continuing value will be related to how well it is kept up-to-date. This will hopefully be achieved by further translations of subsequent German editions.

Trevor J. Hutley
(Polymer Products Dept,
Du Pont (UK) Ltd)

Water-Soluble Polymers: Developments since 1978

Yale L. Meltzer

Noyes Data Corporation (New Jersey, USA), US \$54,
ISBN 0-815-0834-4

The title of this book is somewhat misleading; it is not a critical assessment of developments since 1978. It consists of synopses of US patents issued since January 1979 through 1980 dealing with applications for water-soluble polymers. The extent of innovation in this field can be gauged from the large number of patents that have been abstracted (306). There are sections that deal with 23 different chemical types of polymers, some synthetic and others natural or their derivatives, such as gelatine, natural gums and cellulose and others. So it can be appreciated that the processes and materials dealt with range very widely. The common theme is that the polymers are water soluble.

The treatment of each polymer type is dealt with in two sections: processing and applications. For example the section on carboxylic products lists two patents under the heading of processing, one dealing with the preparation of phosphorus-containing carboxylic polymers, which are used to inhibit scale formation in aqueous systems, and the other with the manufacture of aqueous metal working fluids containing carboxylic acid group terminated diesters of poly(oxyalkylene diols). In the larger section, 10 applications of carboxylic products are considered, which range from glass-ionomer dental cements to

detergent compositions comprising polyacetal carboxylates.

Thus the usefulness of this volume is to alert the reader to potential applications of specific polymers. It is the sort of book that provides ideas for solutions to existing problems or novel routes to new products. However, there are not any references to basic studies. For instance, there are abstracts of two of the patents on glass-ionomer dental cements, which carry the names of A. D. Wilson and S. Crip, but the many scientific papers by Wilson and his co-workers are not noted. This deficiency is important because just a reading of the patent abstracts would not lead the uninitiated to an appreciation of the very large amount of research already done in this area. Of course it is not possible from a survey of patents to obtain any information on the 'take-up' or utilization of a process or material. The glass-ionomer dental cements are widely used in the UK and further research is continuing to effect better performance.

Unfortunately a detailed discussion of any particular topic from this book is bound to be selective but the general point holds that surveys of patent literature can be useful but require other input information to be used effectively. The author lists '16 reasons why US Patent Office Literature is important to you'. The last two are: 'It is a creative source of ideas for those with imagination', and 'scrutiny of the patent literature has important profit-making potential'.

B. Ellis
(University of Sheffield)