

Sources of Information on the Rubber, Plastics and Allied Industries

E. R. YESCOMBE. Pergamon: Oxford, 1968. 6 in. × 9½ in. xi+253 pp. 78s

IN RECENT years the literature relating to plastics and rubbers has undergone an explosive growth and in this monograph an attempt is made to provide a detailed, up-to-date, annotated guide to this literature and to the many organizations that originate polymer information. The opening chapters (1-8) of the book include a discussion of national, international and government sources of information together with published sources of information such as commercial, statistical and economic information, patents, trade marks and trade names. The next five chapters provide a guide to the literature of polymer science and include polymer chemistry, physics and rheology; natural and synthetic materials; raw materials, compounding and processing aids; plant, processing and treatment. The remaining chapters survey the subjects of standards, specification, technical data, quality control, safety, fire hazard, toxicity and industrial health. The concluding section of the book deals with classification, coding and information retrieval together with a general guide to education and training. The book is a most valuable guide to the plastics literature and contains a wealth of information.

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Characterization of Macromolecular Structure

Publication 1573, National Academy of Sciences: Washington, D.C., 1968.

6 in. × 9 in. ix+410 pp. \$15.00

THIS book contains the proceedings of a conference organized by the Committee on Macromolecular Chemistry, Division of Chemistry and Chemical Technology, National Research Council, and held at Warrenton, Virginia in April 1967. 27 contributions, divided into six sections, range from lengthy review articles to brief notes given by workers active in their respective fields. The choice of several techniques of biochemical interest for part of the meeting rather than the characterization of polymeric microstructure will disappoint some polymer chemists. The solution properties of stereoregular polymers are mentioned very briefly, pages 81, 165 and 166, whereas the various uses of the ultracentrifuge span 74 pages.

Many papers deal with molecular weight characterization techniques as follows: ebulliometry, osmometry, light scattering, small angle X-ray scattering, sedimentation equilibrium, vapour phase osmometry, and viscometry. The remaining papers discuss polyelectrolytes, polymer solubility, phase separation in polymer solutions, solution behaviour of block and graft copolymers, gel permeation chromatography, column chromatography, analysis of fractionation data, membrane separations, sedimentation transport, detection and measurement of branching, and characterization of polymer networks. Thus, apart from the contribution on networks, the conference is concerned with the polymer molecule in dilute solution.

The major part of section 1 is devoted to membrane osmometry using Hi-Speed Osmometers. The discussion of the experimental problems of osmometry and a comparison of three commercial instruments should interest the experimental polymer chemist. The contribution of J. C. MOORE is an excellent review of the development of gel permeation chromatography. The newest molecular weight technique for synthetic polymers is small angle X-ray scattering. KIRSTE who has employed this technique successfully for the determination of weight average molecular weight reviews its use for work on solution properties.

This collection of papers will be of interest to workers who are concerned with polymer characterization. All the contributions present the current state of knowledge and several references are given to work published at the beginning of 1968.

J. V. DAWKINS