

Book Reviews

Polymers and the Environment

Gerald Scott, Royal Society of Chemistry, Cambridge, 1999, 132 pages, ISBN 0-854-04578-3, £16.95

Environmental policy will become increasingly important in the 21st century. In recent years the development of man-made polymers and their benefits has been overshadowed and obscured by concerns over their disposal and environmental impact. Misunderstandings and misconceptions over biodegradability abound, with natural polymers being perceived to be biodegradable, whereas synthetic polymers are not. There is a need to review the properties and industrial applications of polymers, and to compare their environmental benefits with those of traditional materials in an objective manner.

Polymers and the Environment: reviews the properties and industrial applications of polymers: their benefits and limitations are critically examined from an environmental standpoint. Successive initial chapters discuss polymers in modern life, their environmental impact and their environmental stability. Two further chapters deal with the management of polymer wastes and biodegradable polymers. Modern developments, such as the introduction of 'new' biodegradable polymers based on starch and cellulose, and the search for hydro-biodegradable polymers are shown to be making progress towards meeting environmental demands.

This book is extremely well written and presented, providing a balanced view of the environmental benefits and limitations of polymeric materials. It is highly recommended for students and for professionals dealing with polymers in numerous capacities: in short for anyone interested in the environment in the new millennium.

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Food Emulsions and Foams: Interfaces, Interactions and Stability

E. Dickinson, J.M. Rodríguez Patino (Eds.); Royal Society of Chemistry, Cambridge, 1999, 390 pages, ISBN 0-854-04753-0, £85.00

Many manufactured foods are complex multiphase systems: familiar examples are ice cream, yoghurt and mayonnaise. Their properties depend on processing techniques used during formulation, and on the nature of the interactions between their molecular ingredients, notably hydrocolloids, lipids and proteins. The very complex structure and composition of food colloids often means that the elucidation of the key mechanisms contributing to their taste, texture and shelf-life involves the study of model systems. Surface chemical and physicochemical properties are of paramount importance: especially the nature and strength of interactions between proteins and other components such as polysaccharides and lipids, as well as the surface properties of adsorbed protein layers. It is essential to monitor current progress and state-of-the-art developments in the understanding of the stability and rheological properties of food dispersions.

Food Emulsions and Foams—Interfaces, Interactions and Stability: records many of the contributions presented at a conference of the same title held in Seville, Spain on 16–18 March 1998. The three principal topics covered were dispersions, fluid–fluid interfaces and the rheology of food colloids. Key topic areas covered included colloid stabilisation, mechanisms of destabilisation, rheology of food colloids, surface rheology of adsorbed proteins, polysaccharide–protein interactions and the preparation of emulsions and foams. Considerable emphasis was placed on relating the behaviour of model systems to properties of adsorbed layers at oil–water and air–water interfaces. The book also includes the latest experimental and theoretical developments, as well as several review articles.

This book is extremely well presented and structured, providing a very useful source of information. It is highly recommended to anyone, either in industry or academia who is interested in food science or surface and colloid chemistry.

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