

C. Onwulata (Ed.), Encapsulated and Powdered Foods, CRC Press, Taylor and Francis Group, Boca Raton, FL, USA, 2005 (viii + 514 pp., £115.00, ISBN 0-8247-5327-5)

Food processing industry is one of the largest manufacturing industries worldwide and possesses global strategic importance. This industry like many other processing industries, handles and processes numerous raw materials and finished products in powdered and particulate form. Various food components are increasingly being utilized in powder form, both for processing as well as end use. Future competitiveness may be critically dependent on knowledge originated by research activities in the field known as powder technology or particle technology, which deals with the systematic study of particulate systems in a broad sense.

Encapsulated and Powdered Foods identifies and resolves the food powder handling issues. The book opens with chapters on basic issues like, role of food powders, mixture of food powders, and physical and chemical properties of food powders. Food powder processes including rotary drum processing, supercritical fluid processing, dry coating and fluid bed coating are discussed in the subsequent chapters.

Particle size is one of the most important physical parameters of powders with regarding to handling. Particle size can influence the dissolution rates of food products and in turn influence the taste of such reconstituted products. Particle sizing is even used to monitor process end points and to quality control final products. The issues of particle size analysis of food powders, food powder flowability, blending, segregation, and powder flow properties have been described in individual chapters. Functional properties of particular food powders such as milk, cocoa, salts and sugars are also discussed in this volume. In the final part of the book, knowledge on the manufacture, handling, and use of encapsulated food powders is provided.

This volume provides fundamental and practical information on the importance of food powders and encapsulation along with practical applications. In conclusion, this book can be excellent resource for scientists and technologists, who work with food powders and their applications in new product development.

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Size exclusion chromatography is an important technique to obtain the molecular weight and weight distribution of the polymeric materials. In recent years, the value-added polymers with not only specific molecular weights but also optimal molecular weight distributions are widely used by the polymer materials producers to offer advantages to products. Indeed the application of size exclusion chromatography is more and more common, and the development of this technique is distinct. *Handbook of Size Exclusion Chromatography and Related Techniques* is based on the achievement of the first edition. It has not only been updated but also has six added new chapters to fulfill descriptions of the new development and need of this technique.

There are twenty-three chapters in this book and written by different authors, all of whom are from universities and industries with years of experience in specific areas of size exclusion chromatography. The first five chapters, all concentrate on the introductions to the technique of size exclusion chromatography and give the whole background and principles of size exclusion chromatography to the readers. These chapters also introduce how to use the technique including the method of detectors semi-rigid polymer gels and packing materials. The characterization of the copolymers by this technique is illustrated. These chapters also cover the methods of mobile phase selection, calibration approaches and detectors capabilities.

Applications of the technique to a wide range of polymer compounds are covered in the next eleven chapters. Methods on how to apply the technique to asphalts, polyvinyl alcohol and polyvinyl acetate and analogous polymers are included. The chapters also describe application of the method to protein, nucleic acid, starch, lignins and cellulose. All these chapters are illustrated by examples of data and graphs making it easier for readers to understand.

The next six new chapters, in the final part of the book, cover high-speed size exclusion chromatography, size exclusion chromatography of low molecular weight materials, and the extended family of techniques from two-dimensional liquid chromatography to high osmotic pressure chromatography. These are techniques related to size exclusion chromatography. These chapters give the principles of these related techniques and the methods of operation and analysis.

Overall, *Handbook of Size Exclusion Chromatography and related Techniques* is both an interesting and informative book which has both a teaching and research methodology role and can be expected to be taken up well.

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