

**3rd ed.; Wiley, New York, 1998, ix + 111 pages., ISBN 0-471-32928-2 (US\$ 190.00).**

Chitin is a polysaccharide-based biopolymer, which is extracted from seashells. It is also found in insects, and a number of microorganisms. Chitin and chitosan, and their most widely used derivatives, have the potential to be among the most important biomaterials to be used in industries as diverse as health care, cosmetics, water treatment, etc.

In the last few years they have been widely used in a number of Asian countries, Japan and in some European countries. The emphasis on environmentally friendly technology has stimulated interest in biodegradable biopolymers. As a result the development of commercial applications of chitin and chitosan as hydrogels, drug carriers, wound dressings, antimicrobial preparations, and many other promising opportunities has gained in importance in the US.

The new edition of 'Chitin and Chitosan: An Expanding Range of Markets Await Exploitation' is intended to give corporate executive and R & D managers in many countries, particularly in the US an information source on this technology and encourage them to pinpoint new opportunities for commercialization. The book presents:

- Introduction: discussing chitin and chitosan, their properties, and obstacles to development.
- Description of market segments: covering the most important sections including health care, cosmetics, agriculture and food, water treatment, textiles and paper industries.
- Production of chitin and chitosan: covering current technology, key patents, and producers.
- Derivatives of chitin and chitosan: dealing with the current technology, key patents, and involved companies.
- Focus on fibres and membranes: covering current fibre and membrane production technologies for these biomaterials and key patents.
- Focus on separation science, biology and physiology: covering current technology, key patents and involved companies.
- Speciality applications, regulatory and development issues and additional resources: the three final chapters cover these important areas.
- The Appendix deals with the US Patents from 1985 to 1998.

This new edition of 'Chitin and Chitosan: An Expanding Range of Markets Await Exploitation', has up-to-date references, contact names, addresses, phone numbers, as well as information on patents and patentholders. The book is a useful source of reference, which can be used by scientists, researchers interested in the applications of chitin and chitosan and business people around the world.

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**Chitin Handbook; European Chitin Society; R.A.A. Muzzarelli, M.G. Peter (Eds.); Grottammare, Italy, 1997, xv + 528 pages, ISBN 88-86889-01-1, US\$ 95.00**

Chitin occurs in a variety of organisms, including fungi, algae, protozoans and arthropods. Applications of chitin, chitin derivatives and chitin-related enzymes have been discovered in virtually every significant segment of the economy, and the number, importance and variety of industrial uses are growing rapidly.

*Chitin Handbook* is a practical manual which guides the researcher through up-to-date information on the most advanced methods of analysis and preparation of chitin, chitosan, related enzymes and chitin-derived materials.

The book comprises seven sections which are related to: analysis of chitin and chitosan in biological materials; derivatives of chitin and chitosan; characterisation of chitins and chitosans; glucosamine, *N*-acetylglucosamine and chito-oligosaccharides; enzymes involved in hydrolysis and synthesis; applications, preparations and production of chitin and chitosan. Among the many interesting topics covered are: determination of chitin in tissues, molecular mass distribution, controlled depolymerization; chitinase cloning; drug delivery systems; preparation of cosmetics; and textile coating. The concluding chapter provides an interesting coverage of teaching chitin chemistry. The use of polysaccharides as renewable materials is a new subject in chemistry courses and the aim is to show the origin of a product, that has a link with everyday life of the pupils. It includes experimental protocols on different levels.

This book is an important research reference tool for those working in this field and is recommended to all libraries concerned with carbohydrates, biochemistry and molecular biology.

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