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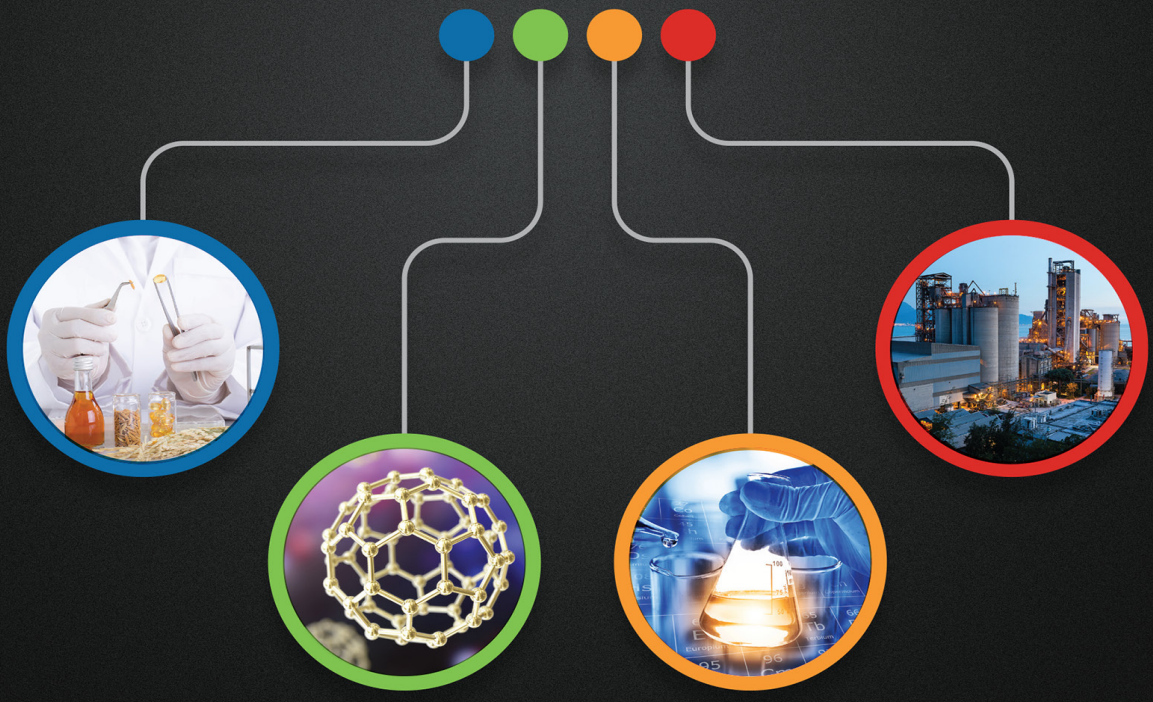
Food Applications of Nanotechnology



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Preface

Nanotechnology has developed remarkably in recent years, aiming to expand its application in several industrial sectors. Among them, nanotechnology has been widely researched and applied to the food industry, allowing new industrial advances, the improvement of conventional technologies, and the commercialization of products with new features and functionalities, with potential to increase productivity, food security, and economic growth for industries.

Cutting-edge research is being carried out in several approaches, such as analyzing and valorizing naturally occurring nanocompounds in many plant and animal products and also process of breaking down larger particles of food matter into smaller particles in nanometers, among others, to enhance new developments, to create useful and safe products, and to make the processes and production viable from commercial and industrial points of view. As a result of these developments, there arises concerns over its safety, regulation, and acceptance by the industry and consumers.

In this sense, the main objectives of this book will be to present the main advances of nanotechnology for food industry development. The fundamental concepts of the technique will be presented, followed by examples of application in several sectors, such as the application for the flavor, color, and sensory characteristics enhancement; general concepts of nanosupplements, antimicrobial nanoparticles, and other active compounds in food; and developments in the field of packaging, among others. In addition, this work aims to carry out an update on the industrial development and the main regulatory aspects for the safety and commercialization of nanofoods.