Formulation Evaluation Of Mouth Dissolving Tablets Of Ketotifen Fumarate Oral Strips: Formulation and Evaluation of Fast Dissolving Tablets

The Theory and Practice of Industrial Pharmacy

Handbook of Bioequivalence Testing

Fast Dissolving Films: A Novel Approach for Delivery of Domperidone

Formulation and Evaluation of Fast Dissolving Film of Lamotrigine

Formulation and Evaluation of Fast Dissolving Tablets of Thiabendazole

Oral delivery is currently the gold standard in the pharmaceutical industry where it is regarded as the safest, most convenient and most economical method of drug
Biopolymer Membranes and Films

In the present study, formulation of Fast dissolving film containing antihistaminic drug Desloratadine was designed to achieve immediate release of drug from the dosage form, to increase therapeutic efficacy and to improve patient compliance in case of allergy. The combination of drug with suitable polymers such as HPMC E-5 and HPMCAS E-15 helps in providing quick onset of action. The basic aim of this work is to produce immediate release action of drug from the film. Fast dissolving film was prepared by solvent casting method using PEG 400 as plasticizer. A full factorial design was used to study the effect of HPMC E-5 and HPMCAS E-15 on disintegration time, thickness and folding endurance of the film. The responses were analyzed using ANOVA and by the polynomial equation. All the formulations were then evaluated for disintegration time, weight variation, and drug content and dissolution studies. Stability study shows that there was no significant change in physical appearance, disintegration time, thickness, drug content and in vitro drug release of the formulation. Fast dissolving film is an innovative concept for quick release of the drug.

Pharmaceutical Dosage Forms and Drug Delivery, Second Edition

In recent years there has been an explosion of interest in the production of nanoscale fibres for drug delivery and tissue engineering. Nanofibres in Drug Delivery aims to outline to new researchers in the field the utility of nanofibres in drug delivery, and to explain to them how to prepare fibres in the laboratory. The book begins with a brief discussion of the main concepts in pharmaceutical science. The authors then introduce the key techniques that can be used for fibre production and explain briefly the theory behind them. They discuss the experimental implementation of fibre production, starting with the simplest possible set-up and then moving on to consider more complex arrangements. As they do so, they offer advice from their own experience of fibre production, and use examples from current literature to show how each particular type of fibre can be applied to drug delivery. They also consider how fibre production could be moved beyond the research laboratory into industry, discussing regulatory and scale-up aspects.

Formulation and Evaluation of Fast Dissolving Oral Film

This text book is a guide for pharmaceutical academics (students and teachers) as well as industry professionals learning about drug delivery and formulation. Chapters presents comprehensive information about self-emulsifying formulations by providing an in-depth understanding of the basic concepts and formulation mechanisms. This information is supplemented by details about current research and development in this field. Readers will learn about the types of self-emulsifying drug delivery systems, evaluation parameters and digestion models, among other topics. Key Features: - 9 chapters organized in a reader-friendly layout - complete guide on self-emulsifying drug delivery formulations, including lipid based systems, SMEDOS, surfactants, and oral dosage forms - includes basic concepts and current developments in research and industrial applications - presents information on conventional and herbal formulations - references for further reading

Advances in Chitin/Chitosan Characterization and Applications

The book with title Formulation and Evaluation of Fast Dissolving Film of Lamotrigine included Fast dissolving film is oral film intended to be dissolved in mouth to ensure quick release of medication. Fast dissolving film of ant-epileptic drug Lamotrigine which release the drug in a second to treat emergency condition occurred due to epilepsy. Faster onset of action in bipolar disease and in epileptic condition.

Paediatric Formulation

Hot-melt extrusion (HME) - melting a substance and forcing it through an orifice under controlled conditions to form a new material - is an emerging processing technology in the pharmaceutical industry for the preparation of various dosage forms and drug delivery systems, for example granules and sustained release tablets. Hot-Melt Extrusion: Pharmaceutical Applications covers the main instrumentation, operation principles and theoretical background of HME. It then focuses on HME drug delivery systems, dosage forms and clinical studies (including pharmacokinetics and bioavailability) of HME products. Finally, the book includes some recent and novel HME applications, scale-up considerations and regulatory issues. Topics covered include: principles and design of single screw extrusion twin screw extrusion techniques and practices in the laboratory and on production scale HME developments for the pharmaceutical industry solubility parameters for prediction of drug/polymer miscibility in HME formulations and the influence of plasticizers in HME applications of polyethacrylate polymers in HME HME of ethylcellulose, hypromellose, and polyethylene oxide bioadhesions properties of polymeric films produced by HME taste masking using HME clinical studies, bioavailability and pharmacokinetics of HME products injection moulding and HME processing for pharmaceutical materials laminar dispersive & distributive mixing with dissolution and applications to HME technological considerations related to scale-up of HME processes devices and implant systems by HME an FDA perspective on HME product and process understanding improved process understanding and control of an HME process with near-infrared spectroscopy Hot-Melt Extrusion: Pharmaceutical Applications is an essential multidisciplinary guide to the emerging pharmaceutical uses of this processing technology for researchers in academia and industry working in drug formulation and delivery, pharmaceutical engineering and processing, and polymers and materials science. This is the first book from our brand new series Advances in Pharmaceutical Technology. Find out more about the series here.

Standard Methods for the Examination of Water and Wastewater

Fast Dissolving Tablets of Thiabendazole is designed for Providing the better and effective treatment against Helminthiasis. Fast Dissolving Tablet of thiabendazole is designed with the aim to enhance the bioavailability of the dosage form. Helminthiasis infection is very common in urban areas and particularly in the childrens that are playing in soil so the Fast dissolving tablet of Thiabendazole provide rapid action by inhibiting the enzyme fumarate reductase so it provide a safest action and effective treatment.

Evaluation of Cellulose Ethers for Conservation

A Comprehensive Text Book on Self-emulsifying Drug Delivery Systems

Biopolymer Membranes and Films: Health, Food, Environment, and Energy Applications presents the latest techniques for the design and preparation of biopolymer-based membranes and films, leading to a range of cutting-edge applications. The first part of the book introduces the fundamentals of biopolymers, two-dimensional systems, and the characterization of biopolymer membranes and films, considering physicochemical, mechanical and barrier properties. Subsequent sections are organized by application area, with each chapter explaining how biopolymer-based membranes or films can be developed for specific innovative uses across the health, food, environmental and energy sectors. This book is a valuable resource for researchers, scientists and advanced students involved in biopolymer science, polymer membranes and films, polymer chemistry and materials science, as well as for those in industry and academia who are looking to develop materials for advanced applications in the health, food, science, environment or energy industries. Presents detailed coverage of a range of novel applications in key strategic areas across health, food, environment and energy. Presents detailed coverage of a range of novel applications in key strategic areas across health, food, environment and energy. Presents detailed coverage of a range of novel applications in key strategic areas across health, food, environment and energy. Presents detailed coverage of a range of novel applications in key strategic areas across health, food, environment and energy. Presents detailed coverage of a range of novel applications in key strategic areas across health, food, environment and energy. Presents detailed coverage of a range of novel applications in key strategic areas across health, food, environment and energy. Presents detailed coverage of a range of novel applications in key strategic areas across health, food, environment and energy. Presents detailed coverage of a range of novel applications in key strategic areas across health, food, environment and energy. Presents detailed coverage of a range of novel applications in key strategic areas across health, food, environment and energy.
ScholarlyNews™ You can expect the information about Joint Diseases in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Joint Diseases: Advances in Research and Treatment: 2011 Edition has been produced by the world’s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

Hot-Melt Extrusion

The book describes the preparation and evaluation of orally fast dissolving film of Domperidone- an anti emetic drug. As Domperidone possess very less water solubility, preparation of rapidly dissolving film is a challenge. Hence, in order to increase the solubility, solid dispersion approach is utilized and it is prepared using beta-cyclodextrin as a carrier. Solid dispersion are prepared in various molar ratio of Drug: Carrier and evaluated. Based on evaluation, the optimized solid dispersion is selected and utilized further for the preparation of films. Suitable film forming polymer was selected from the available polymers i.e. HPMC E3 LV, HPMC E5 LV and pullulan. Pullulan was found to be suitable for preparation of film. Films are prepared using pullulan and PEG-400 by solvent casting method and evaluated. Factorial design was applied in order to decide the optimized formulation and it was then compared with the films prepared with plain Domperidone. Results showed that films prepared using solid dispersion were better than the films prepared using plain Domperidone. Hence, fast dissolving film of Domperidone was successfully prepared.

Formulation and Evaluation of Fast Dissolving Sublingual Tablet

According to United States Pharmacopeia, the orodispersable tablets may be defined as solid dosage form containing medicinal substance or active ingredient which disintegrates rapidly within a matter of seconds when placed upon the tongue. This means that the tablets dissolve or disintegrate in the oral cavity without use of water. In this regard, the tablets need to improve disintegration time, dispersion time, drug release studies, bioavailability and patient compliance and also need to mask the bitter taste of the drug and to maintain the drug stable at accelerated condition i.e. 40 C/75% RH up to 6 months period as per ICH guidelines. Tramadol HCl is centrally acting synthetic opioid analgesic for the treatment of moderate to severe pain and is readily soluble in water. The half life of the drug is around 5.5 hours. The MTDT's place a major role for rapid onset of action for geriatrics, pediatrics and the patients who have less access of water. The drug itself having bitter taste, so the present authors developed mouth dissolving tablets of tramadol HCl with the aim to mask the bitter taste of the drug, to minimize the disintegration time and improve the drug release rate."

Formulation, Evaluation and Optimization of Mouth Dissolving Tablets

Formulation and Evaluation of Oral Film of Atenolol and Amlodipine

Modified-release Drug Delivery Technology

The development of paediatric medicines can be challenging since this is a different patient population with specific needs. A medicine designed for use in paediatric patients must consider the following aspects: patient population variability; the need for dose flexibility; route of administration; patient compliance; excipient tolerability. For example, the toxicity of excipients may differ in children compared to adults and children have different taste preferences. Globally, about 75% of drugs do not carry regulatory approval for use in children; worldwide, many medications prescribed for the treatment of paediatric diseases are used off-label, and less than 20% of package inserts have sufficient information for treating children. This book provides an update on both state-of-the-art methodology and operational challenges in paediatric formulation design and development. It aims at re-evaluating what is needed for more progress in the design and development of age-appropriate treatments for paediatric diseases, focusing on: formulation development; drug delivery design; efficacy, safety, and tolerability of drugs and excipients.

Conference on Drug Design and Discovery Technologies

Fast Dissolving/Dissintegrating Dosage Forms (FDDFs) have been commercially available since the late 1990s. FDDFs were initially available as orodispersible tablets, and later, as orodispersible films for treating specific populations (pediatrics, geriatrics, and psychiatric patients). Granules, pellets and mini tablets are among latest additions to these dosage forms, which are still in the development pipeline. As drug delivery systems, FDDFs enable quicker onset of action, immediate drug delivery, and sometimes offer bioavailability benefits due to buccal/sublingual absorption. With time, FDDF have evolved to deliver drugs in a sustained and controlled manner. Their current market and application is increasing in demands with advances in age adapted dosage forms for different patients and in new indications. The book provides a detailed information about FDDFs from their inception to recent developments. Readers will learn about the technical details of various FDDF manufacturing methods, formulation aspects, evaluation and methods to conduct clinical studies. The authors also give examples of marketed fast disintegrating/dissolving drug products in US, Europe, Japan, and India. This reference is ideal for pharmacology students at all levels seeking information about this specific form of drug delivery and formulation.

Formulation & Evaluation of Fast Dissolving Tablets to Treat Migraine

The present study was aimed to formulate and evaluate Fast Dissolving Sublingual Tablets of Ibravradine Hydrochloride, a selective If current inhibitor to reduce ischaemic condition in Stable Angina. Efficacy of sublingual administration, higher permeability of drug and improvement in bioavailability achievement for drug were the factors that lead to the development of the present work. Compatibility studies of drug and polymer were performed by FTIR and demonstrated no interaction between drug and excipients. Tablets were prepared by direct compression using different concentration of Croscarmellose sodium and Crospovidone. Pre-compression parameters for blend were in the range. Prepared tablets were evaluated for disintegration time, wetting time, Water absorption ratio, %CDR and Ex-vivo permeability study. Formulation F6 (3% CCS, 4.5% CP) was found to be the optimized and showed disintegration time of 25 sec. In vitro drug release was found within 3 minutes and maximum relative difference was less than 2%. Dosage form also showed better stability criteria. From the results it was concluded that prepared FDTs executed faster release of IBH with improved characteristic.

Formulation And Evaluation Of Nebivolol Hcl Fast Dissolving Tablets

Profiles of Drug Substances, Excipients, and Related Methodology, Volume 45, presents comprehensive reviews of drug substances and additional materials, with critical review chapters that summarize information related to the characterization of drug substances and excipients. The series encompasses review articles, with this release focusing on Azilsartan Medoxomil, Piroxicam, Carbetapentane Citrate, Emtricitabine, Etrlotinib, Isotretinoin and Meloxicam. Contains contributions from leading authorities Informs and updates on all the latest developments in the field of drug substances, excipients and methodologies

Profiles of Drug Substances, Excipients, and Related Methodology

This report is the result of a three-year research program. It describes the chemical character of cellulose ethers as a general class of polymers and establishes an approximate ranking of the relative stability of each generic chemical subclass. Ranking the thermal stability of the polymers with respect to color change and loss in degree of polymerization led to the conclusion that as generic chemical classes, methylcellulose and carboxymethylcellulose appear to be the most stable of the cellulose ethers. Water-soluble ethylhydroxyethylcellulose apparently also possesses good stability. Of questionable long-term stability are hydroxyethylcellulose and hydroxypropylcellulose. Ethylcellulose and organic-soluble ethylhydroxyethylcellulose proved to be of poor stability, potentially undergoing marked changes in twenty years or less under normal museum conditions. An important additional conclusion reached here, as well as in an earlier investigation, is that considerable
variations in stability can occur within a generic chemical class from differences in the basic raw material, a natural product from plants, which is not a uniform, manufactured, chemical substance. Further variations can exist due to different manufacturing processes or commercial sources. Hence, commercial products must be evaluated individually to determine the most stable of a given generic type. Nonetheless, the authors believe the conclusions expressed here to be valid with regard to the relative stability of the generic chemical classes of cellulose ethers.

**Joint Diseases: Advances in Research and Treatment; 2011 Edition**

As the generic pharmaceutical industry continues to grow and thrive, so does the need to conduct efficient and successful bioequivalence studies. In recent years, there have been significant changes to the statistical models for evaluating bioequivalence, and advances in the analytical technology used to detect drug and metabolite levels have made it easier to determine the most stable of a given generic type. Nonetheless, the authors believe the conclusions expressed here to be valid with regard to the relative stability of the generic chemical classes of cellulose ethers.

**Applied Biopharmaceutics and Pharmacokinetics**

Loratadine is a non-sedative anti-histaminic drug. Its major use is in control of congestion, sneezing, runny nose and itching that a patient suffers with an allergic attack or an infection. It has poor solubility in water. Therefore, the solubility and drug release were enhanced using the solid dispersion technique and fast dissolving tablet were formulated. Solid dispersion prepared using Poloxamer 407, PEG 6000 and urea. The solid dispersion were evaluated for saturation solubility, drug content and in vitro dissolution study and it was characterized using FT-IR, X-RD, SEM and DSC study. The fast dissolving tablets of loratadine was formulated using crospovidone and croscarmellose sodium by direct compression method. The tablets were evaluated for thickness, hardness, weight variation, friability, disintegration time and % in vitro drug release. A 32 factorial design was used to study the effect of Loratadine: Poloxamer 407 and crospovidone on disintegration time and % in vitro drug release. The responses were analyzed using ANOVA. The obtained model was validated & optimized formulation was prepared as suggested by the software.

"Fast dissolving tablets"

This volume provides readers with the basic principles and fundamentals of extrusion technology and a detailed description of the practical applications of a variety of extrusion processes, including various pharma grade extruders. In addition, the downstream production of films, pellets and tablets, for example, for oral and other delivery routes, are presented and discussed utilizing melt extrusion. This book is the first of its kind that discusses extensively the well-developed science of extrusion technology as applied to pharmaceutical drug product development and manufacturing. By covering a wide range of relevant topics, the text brings together all technical information necessary to develop and market pharmaceutical dosage forms that meet current quality and regulatory requirements. As extrusion technology continues to be refined further, usage of extruder systems and the array of applications will continue to expand, but the core technologies will remain the same.

**Development and Evaluation of Fast Dissolving Tablet of Loratadine**

In a finished nutraceutical product, flavors play an integral role. Flavor Development for Functional Foods and Nutraceuticals is about the crucial role added flavors play in any nutraceutical product. It describes the various extraction techniques that are being adopted for manufacturing flavors from natural raw materials. Yield and retention of aromatic components during several extraction methods and flavor encapsulation techniques for thermal degradable food components are discussed. Advanced methods of flavor extraction techniques like supercritical CO2 extraction are emphasized. The safety and quality aspects of flavor incorporation in food processing industries are reviewed with respect to international regulations. The importance of flavor in the nutraceuticals industry is also discussed. In addition, the book stresses the functional value and organoleptic acceptability towards product optimization/formulation. Features: Explains how flavors play an integral role in a finished nutraceutical product. Describes the various extraction techniques that are being adopted for manufacturing flavors from natural raw materials. Covers flavor encapsulation techniques for thermal degradable food components. Provides an introduction to the history of how some natural flavor ingredients, botanicals, and extracts were used in ancient times in Ayurveda and herbal medicine. It is an ideal reference book for the flavor chemists, food scientists, nutraceutical formulators, and students and academicians who are working in the area of nutraceutical, supplement, and functional food development and provides very useful information to help them select appropriate flavors for their products. Also available in the Nutraceuticals: Basic Research/Clinical Applications Series: Flavors for Nutraceuticals and Functional Foods, edited by M. Sekarumuthukumar and Yashwant Pathak (ISBN: 978-1-1380-6417-1). Antioxidant Nutraceuticals: Preventive and Healthcare Applications, edited by Chuanhai Cao, Sarvadamana Pathak, Kiran Patil (ISBN 978-1-4987-3703-6). Food By-product Based Functional Food Powders, edited by Ozlem Tokgoz (ISBN 978-1-4822-2437-5).

**Formulation and Evaluation Mouth Dissolving Tablets of Tramadol HCL**

This publication is based on peer-reviewed manuscripts from the 2019 Conference on Drug Design & Discovery Technologies (CDDT) held at Ramaiah University of Applied Sciences, India. Providing a wide range of up to date topics on the latest advancements in drug design and discovery technologies, this book ensures the reader receives a good understanding of the scope of the field. Aimed at scientists, students, regulators, academicians and consultants throughout the world, this book is an ideal resource for anyone interested in the state of the art in drug design and discovery.

**Polymer Engineering Science and Viscoelasticity**

The third edition of this introductory text covers the factors which influence the release of the drug from the drug product and how the body handles the drug. A stronger focus has been placed on the basics with clear explanations and illustrated examples. There is also more information on statistics and population pharmacokinetics and new chapters on drug distribution, computer applications, enzyme kinetics and pharmacokinetics models.

**Preparation and characterization of fast-dissolving oral films for pediatric use**

Oral films, also called oral wafers, are intended for the application in the oral cavity and they are an innovative and promising dosage form especially for use in pediatrics, patients with dysphagia and geriatric patients. On the one hand, the study focused on the development of such a dosage form for pediatric use with an appropriate active substance. On the other hand it was planned to develop adequate analytical methods for their characterization as well as improving already existing approaches. Drug-free films were prepared according to the patent literature starting with a pre-evaluation of different film formers such as cellulose ethers, polyethylene glycol-polyvinyl alcohol copolymer (Kollicoat® IR), pullulan and sodium alginate. Gelatin, hypromellose, polivinyl alcohol and pullulan were evaluated for further use in drug-loaded oral films in view of the API. The API chosen for the study was loratadine because of its pleasant taste and was shown for oral films made of gelatin and pullulan. Improving their palatability by using different sweeteners, flavors and dyes led to two formulations with pleasant taste without any bitterness. The oral films, based on different formulations, were evaluated with regard to their morphology, mechanical and thermal properties. Recrystallization of caffeine occurred within the drug-loaded oral wafers, which led to non-uniform distribution of API and caused limited content uniformity for oral wafers made of gelatin and one hypromellose type (HSMISPOLAZ910). Furthermore, residual solvent was used as a release modifier. In the formulations that contained ethanol as solvent, this alcohol could not be quantified in the finished products making the oral wafers safe for pediatric use. The results from the investigations of camolates of dissolved films in appropriate medium showed values far below the critical threshold for cell necrosis which additionally approves the applicability of oral wafers to pediatrics. An attempt to simulate the disintegration and dissolution behavior in the human oral cavity was made by developing methods using a fiber-optic sensor, contact angle meter or determination of swelling. Since only a small amount of saliva is present in the oral cavity, the development of an adequate method proved to be difficult. It was revealed that oral wafers showed fast-dissolving behavior, both in vitro and in vivo, although they had a drug-load of 10 mg caffeine. However, the present study revealed that recrystallization of API may be problematic. Further studies should be aimed at preventing the recrystallization which occurred in the case of caffeine. The developed approaches, especially for dissolution testing, should be improved to better mimic the natural conditions. Adequate methods to determine mucocadhesion are another possibility for prediction of the suitability of film formers for use in the oral cavity. Ultimately, the packaging of those oral wafers will play a considerable role in ascertaining and increasing their stability. In conclusion, in the present work, the development of oral drug-loaded wafers was successful. Although the wafers contain 10 mg caffeine, which is a bitter tasting substance, the taste was assessed as comfortable and pleasant. The manufactured oral wafers
were characterized by several methods and found out to be stable even without primary packaging. An evaluation of appropriate film formers for oral use could be undertaken.

**Current Advances in Drug Delivery Through Fast Dissolving/Disintegrating Dosage Forms**

The objective of the present study was the formulation and evaluation of Nebivolol HCl fast dissolving tablet by solid dispersions. Fast dissolving tablets are novel types of tablets that dissolve / disintegrate / disperse in saliva within few seconds without water. The major category of Nebivolol HCl is in the treatment of hypertension, adrenergic beta-antagonist and vasodilator. It is a poorly soluble and require enhancement of solubility and dissolution rate in its formulation development.

*Indian Pharmacopoeia, 2007*

**Melt Extrusion**

"The signature undertaking of the Twenty-Second Edition was clarifying the QC practices necessary to perform the methods in this manual. Section in Part 1000 were rewritten, and detailed QC sections were added in Parts 2000 through 7000. These changes are a direct and necessary result of the mandate to stay abreast of regulatory requirements and a policy intended to clarify the QC steps considered to be an integral part of each test method. Additional QC steps were added to almost half of the sections."—Pref. p. iv.

**Pharmaceutical Drug Delivery Systems and Vehicles**

Pharmaceutical Drug Delivery Systems and Vehicles focuses on the fundamental principles while touching upon the advances in the pharma field with coverage of the basic concepts, fundamental principles, biomedical rationales, preparative and characterization techniques, and potential applications of pharmaceutical drug delivery systems and vehicles.

**Flavor Development for Functional Foods and Nutraceuticals**

**Oral Controlled Release Formulation Design and Drug Delivery**

Fast dissolving films have become popular as a new delivery system because they are easy to administer and sudden onset of drug action is possible as the films are taken through the sublingual route. In present study Zolmitriptan fast dissolving sublingual films were prepared which allow fast, reproducible drug dissolution in the oral cavity, thus bypassing first pass metabolism to provide rapid onset of drug action. The fast dissolving films were prepared by solvent casting method. Low viscosity grade of hydroxypropyl methylcellulose (HPMC E5) and maltodextrin were used as film forming polymer due to their hydrophilic nature. Proposed combination provides acceptable dissolving criteria owing to HPMC E5 and better mechanical properties due to maltodextrin. Propylene glycol, citric acid, mannitol and mango flavour were used as a plasticizer, saliva stimulating agent, sweetener and flavouring agent respectively. Drug-excipients compatibility study was done using FT-IR spectroscopy. The prepared films were evaluated for thickness, weight variation, disintegration time, surface pH, folding endurance, drug content, in vitro dissolution, tensile strength and % elongation.

**Aulton’s Pharmaceutics**

Functional advanced biopolymers have received far less attention than renewable biomass (cellulose, rubber, etc.) used for energy production. Among the most advanced biopolymers known is chitosan. The term chitosan refers to a family of polysaccharides obtained by partial de-N-acetylation from chitin, one of the most abundant renewable resources in the biosphere. Chitosan has been firmly established as having unique material properties as well as biological activities. Either in its native form or as a chemical derivative, chitosan is amenable to being processed—typically under mild conditions—into soft materials such as hydrogels, colloidal nanoparticles, or nanofibers. Given its multiple biological properties, including biodegradability, antimicrobial effects, gene transfectability, and metal adsorption—to name but a few—chitosan is regarded as a widely versatile building block in various sectors (e.g., agriculture, food, cosmetics, pharmacy) and for various applications (medical devices, metal adsorption, catalysis, etc.). This Special Issue presents an updated account addressing some of the major applications, including also chemical and enzymatic modifications of oligos and polymers. A better understanding of the properties that underpin the use of chitin and chitosan in different fields is key for boosting their more extensive industrial utilization, as well as to aid regulatory agencies in establishing specifications, guidelines, and standards for the different types of products and applications.

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