Handbook Of Pharmaceutical Granulation

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Handbook of Pharmaceutical Wet Granulation CRC Press
This handbook features contributions from a team of expert authors representing the many disciplines within science, engineering, and technology that are involved in pharmaceutical manufacturing. They provide the information and tools you need to design, implement, operate, and troubleshoot a pharmaceutical manufacturing system. The editor, with more than thirty years' experience working with pharmaceutical and biotechnology companies, carefully reviewed all the chapters to ensure that each one is thorough, accurate, and clear.
Analytical Techniques in the Pharmaceutical Sciences CRC Press
Calcium Phosphates in Biological and Industrial Systems provides a comprehensive discussion on calcium phosphates in the diverse areas of their applications. The authors are all respected specialists in their particular fields, possessing wide knowledge and experience and able to analyze recent results and relate them to their respective areas of expertise. New information, as well as a review of current concepts, highlights the individual contributions. Due to the broad scope of the subject covered and the large number of contributions, this book is divided into three parts. Whilst each section contains a basic theme, there is a considerable overlapping of ideas and approaches. This reflects the excitement and interdisciplinary nature of investigations by researchers interested in dissimilar aspects of calcium phosphates. Considering the general interest in calcium phosphates, Calcium Phosphates in Biological and Industrial Systems is directed at an audience of researchers in the fields of biology, chemistry, dentistry, geology, chemical engineering, environmental engineering, and medicine. It will also be useful to technology-focused researchers in industry whose investigations might be related directly or indirectly to calcium phosphates.
Handbook of Pharmaceutical Excipients CRC Press
Handbook of Pharmaceutical Wet Granulation: Theory and Practice in a Quality by Design Paradigm offers a single and comprehensive reference dedicated to all aspects of pharmaceutical wet granulation, taking a holistic approach by combining introductory principles with

practical solutions. Chapters are written by international experts across industry, academic and regulatory settings, and cover a wide spectrum of relevant and contemporary wet granulation topics, techniques and processes. The books' focus on process analytical technology, quality by design principles, granulation equipment, modeling, scale-up, control and real time release makes it a timely and valuable resource for all those involved in pharmaceutical wet granulation. Discusses fundamentals of theory and current industrial practice in the field of wet granulation, including product and process design and role of material properties in wet granulation Examines the modern evolution of wet granulation through current topics such as established and novel process analytical technologies (PATs), and product development and scale-up paradigms Written for scientists working within the pharmaceutical industry, as well as academics, regulatory officials and equipment vendors who provide PAT tools and granulation equipment

Granularity in Materials Science Routledge

Granulation provides a complete and comprehensive introduction on the state-of-the-art of granulation and how it can be applied both in an academic context and from an industrial perspective. Coupling science and engineering practices it covers differing length scales from the sub-granule level through behaviour through single granules, to bulk granule behaviour and equipment design. With special focus on a wide range of industrially relevant areas from fertilizer production, through to pharmaceuticals. Experimental data is complemented by mathematical modelling in this emerging field, allowing for a greater understanding of the basis of particle products and this important industry sector. Four themes run through the book: 1. The Macro Scale processing for Granulation – including up to date descriptions of the methods used for granulation and how they come about and how to monitor – on-line these changes. 2. The Applications of granulation from an industrial perspective, with current descriptive roles and how they are undertaken with relevance to industry, and effective properties. 3. Mechanistic descriptions of granulation and the different rate processes occurring within the granulator. This includes methods of modelling the process using Population – Balance Equations, and Multi-level Computational Fluid Dynamics Models. 4. The Micro Scale: Granules and Smaller, looking at single granules and there interactions and modelling, while also considering the structure of granules and their constituent liquid bridges. * Covers a wide range of subjects and industrial applications * Provides an understanding of current issues for industrial and academic environments * Allows the reader an understanding of the science behind engineered granulation processes

Pharmaceutical Process Scale-Up, Third Edition Springer Science & Business Media

Granular materials are a special topic of recent research and are a milestone of science and technology. These materials are very simple: they are large conglomerations of discrete macroscopic particles. Granular materials have a broad area of development, which is growing rapidly day by day. Their impact on commercial applications and academia and education is huge. The basic points of this book are the important applications and properties of granular materials. For example, special mention is made of rheological points, shapes, and civil engineering aspects.

Pharmaceutical Extrusion Technology Elsevier Health Sciences

How to Optimize Fluid Bed Processing Technology: Part of the Expertise in Pharmaceutical Process Technology Series addresses the important components of fluid bed granulation, providing answers to problems that commonly arise and using numerous practical examples and case studies as reference. This book covers the theoretical concepts involved in fluidization, also providing a description of the choice and functionality of equipment. Additional chapters feature key aspects of the technology, including formulation requirements, process variables, process scale-up, troubleshooting, new development, safety, and process evaluation. Given its discussion of theoretical principles and practical solutions, this is a go-to resource for all those scientists and new researchers working with fluid bed granulation as a unit operation. Written by an expert in the field with several years of experience in product development, manufacturing, plant operations, and process engineering Illustrates when fluid bed granulation is needed, when to use less common fluid bed granulation methods, and the advantages of fluid bed granulation when compared to other granulation techniques Offers troubleshooting tips and practical advice for scientists working with this technique

Pharmaceutical Dosage Forms - Tablets Springer Science & Business Media

The third volume in the six-volume Handbook of Pharmaceutical Manufacturing Formulations, this book covers liquid drugs, which include formulations of non-sterile drugs administered by any route in the form of solutions (monomeric and multimeric), suspensions (powder and liquid), drops, extracts, elixirs, tinctures, paints, sprays, colloidons, emul

Hot-Melt Extrusion Cambridge University Press

Presenting breakthrough research pertinent to scientists in a wide range of disciplines-from medicine and biotechnology to cosmetics and pharmacy-this Second Edition provides practical approaches to complex formulation problems encountered in the development of particulate delivery systems at the micro- and nano-size level. Completely revised and e

Handbook of Pharmaceutical Manufacturing Formulations John Wiley & Sons

Pharmaceutical Preformulation and Formulation: A Practical Guide from Candidate Drug Selection to Commercial Dosage Form reflects the mounting pressure on pharmaceutical companies to accelerate the new drug development and launch process, as well as the shift from developing small molecules to the growth of biopharmaceuticals. The book meets the need for advanced information for drug preformulation and formulation and addresses the current trends in the continually evolving pharmaceutical industry. Topics include: Candidate drug selection Drug discovery and development Preformulation predictions and drug selections Product design to commercial dosage form Biopharmaceutical support in formulation Development The book is ideal for practitioners working in the pharmaceutical arena—including R&D scientists, technicians, and managers—as well as for undergraduate and postgraduate courses in industrial pharmacy and pharmaceutical technology.

Handbook of Pharmaceutical Manufacturing Formulations Academic Press

The field of encapsulation, especially microencapsulation, is a rapidly growing area of research and product development. The Handbook of Encapsulation and Controlled Release covers the entire field, presenting the fundamental processes involved and exploring how to use those processes for different applications in industry. Written at a level comp

Pharmaceutical Manufacturing Handbook John Wiley & Sons

Polymers are one of the most fascinating materials of the present era finding their

applications in almost every aspects of life. Polymers are either directly available in nature or are chemically synthesized and used depending upon the targeted applications.Advances in polymer science and the introduction of new polymers have resulted in the significant development of polymers with unique properties. Different kinds of polymers have been and will be one of the key in several applications in many of the advanced pharmaceutical research being carried out over the globe. This 4-partset of books contains precisely referenced chapters, emphasizing different kinds of polymers with basic fundamentals and practicality for application in diverse pharmaceutical technologies. The volumes aim at explaining basics of polymers based materials from different resources and their chemistry along with practical applications which present a future direction in the pharmaceutical industry. Each volume offer deep insight into the subject being treated. Volume 1: Structure and Chemistry Volume 2: Processing and Applications Volume 3: Biodegradable Polymers Volume 4: Bioactive and Compatible Synthetic/Hybrid Polymers

Handbook of Pharmaceutical Granulation Technology CRC Press

CRC Handbook of Food, Drug, and Cosmetic Excipients provides a comprehensive summary of toxicological issues regarding inactive ingredients in pharmaceutical products, cosmetic products, and food additives. Background information on regulations and labeling requirements for each type of product is provided, and 77 articles critically review human and animal data pertinent to a variety of agents and makes judgments regarding the clinical relevance. The book also identifies at-risk populations, such as neonates, patients with renal failure, and atopic patients. Inactive common pharmaceutical agents and/or foods containing certain ingredients are listed to help physicians counsel hypersensitive patients who must avoid products containing these excipients.

Handbook of Polymers for Pharmaceutical Technologies, Structure and Chemistry CRC Press

The Third Edition presents all pharmaceutical industry personnel and those in academia with critical updates on the recent advances in granulation technology and changes in FDA regulatory guidelines. Addressing precisely how these recent innovations and revisions affect unit operation of particle generation and granulation, this text assists the reader in selecting the ideal technology for his/her company’s particular drug delivery system. This knowledge helps ensure that regulatory guidelines are followed and met in a cost-effective manner. Here are just a few of the new topics discussed in this revised and expanded handbook: spray drying nanotechnology biotechnologically derived drugs nutraceuticals controlled release drugs particle engineering supercritical fluids concepts of design space process optimization regulation harmonization by global health authorities process controlexpert systems Process Analytical Technology (PAT) regulatory issues in granulation In addition, all chapters in the Handbook of Pharmaceutical Granulation Technology explore the fundamentals of powder characterization, granulation, and state-of-the-art technologies, modeling, application of expert systems, and manufacturing optimization.

Design and Manufacture of Pharmaceutical Tablets Academic Press

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

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"Pharmaceutics is the art of pharmaceutical preparations. It encompasses design of drugs, their manufacture and the elimination of micro-organisms from the products. This book encompasses all of these areas."--Provided by publisher.

Handbook of Pharmaceutical Granulation Technology, Third Edition John Wiley & Sons

The aim of this book is to present a range of analytical methods that can be used in formulation design and development and focus on how these systems can be applied to understand formulation components and the dosage form these build. To effectively design and exploit drug delivery systems, the underlying characteristic of a dosage form must be understood--from the characteristics of the individual formulation components, to how they act and interact within the formulation, and finally, to how this formulation responds in different biological environments. To achieve this, there is a wide range of analytical techniques that can be adopted to understand and elucidate the mechanics of drug delivery and drug formulation. Such methods include e.g. spectroscopic analysis, diffractometric analysis, thermal investigations, surface analytical techniques, particle size analysis, rheological techniques, methods to characterize drug stability and release, and biological analysis in appropriate cell and animal models. Whilst each of these methods can encompass a full research area in their own right, formulation scientists must be able to effectively apply these methods to the delivery system they are considering. The information in this book is designed to support researchers in their ability to fully characterize and analyze a range of delivery systems, using an appropriate selection of analytical techniques. Due to its consideration of regulatory approval, this book will also be suitable for industrial researchers both at early stage up to pre-clinical research.

Handbook of Encapsulation and Controlled Release CRC Press

Design and Manufacture of Pharmaceutical Tablets offers real world solutions and outcomes of formulation and processing challenges of pharmaceutical tablets. This book includes numerous practical examples related to actual formulations that have been validated and marketed and covers important data in the areas of stability, dissolution, bioavailibity and processing. It provides important background and theoretical information on design and manufacturing and includes a full section dedicated to design experimental methodology and statistics. In addition, this book offers a a general discussion of excipients used in proper tablet design along with practical examples related to excipients. Drug development scientists in industry and academia, as well as students in the pharmaceutical sciences will greatly benefit from the practical knowledge and case examples provided throughout this book. Incorporates important mathematical models and computational applications Includes unique content on central composite design and augmented simplex lattice Provides background on important design principles with emphasis on quality-based design (QBD) of pharmaceutical dosage forms

Design and Processing of Particulate Products CRC Press

"Presents a comprehensive examination of polymorphic behavior in pharmaceutical development-demonstrating with clear, practical examples how to navigate complicated crystal structures. Edited by the recipient of the American Association of Pharmaceutical Scientists' 1998 Research Achievement Award in Analysis and Pharmaceutical Quality."

Calcium Phosphates in Biological and Industrial Systems BoD – Books on

Demand
The first edition of Pharmaceutical Extrusion Technology, published in 2003, was deemed the seminal book on pharmaceutical extrusion. Now it is expanded and improved, just like the usage of extrusion has expanded, improved and evolved into an accepted manufacturing technology to continuously mix active pharmaceutical ingredients with excipients for a myriad of traditional and novel dosage forms. Pharmaceutical Extrusion Technology, Second Edition reflects how this has spawned numerous research activities, in addition to hardware and process advancements. It offers new authors, expanded chapters and contains all the extrusion related technical information necessary for the development, manufacturing, and marketing of pharmaceutical dosage forms. Key Features: Reviews how extrusion has become an accepted technology to continuously mix active pharmaceutical ingredients with excipients Focuses on equipment and process technology Explains various extrusion system configurations as a manufacturing methodology for a variety of dosage forms Presents new opportunities available only via extrusion and future trends Includes contributions of experts from the process and equipment fields

Handbook of Pharmaceutical Manufacturing Formulations

Pharmaceutical Press
No other area of regulatory compliance receives more attention and scrutiny by regulatory authorities than the regulation of sterile products, for obvious reasons. With the increasing number of potent products, particularly the new line of small protein products, joining the long list of proven sterile products, the technology of manufacturing ster