

Particle Size Analysis By Image Analysis Nsc

This book describes the theories, applications, and challenges for different oral controlled release formulations. This book differs from most in its focus on oral controlled release formulation design and process development. It also covers the related areas like preformulation, biopharmaceutics, in vitro-in vivo correlations (IVIVC), quality by design (QbD), and regulatory issues.

Particle size measurement, Particle size distribution, Size classification, Particulate materials, Photographic images, Optical instruments, Optical measurement, Statistical methods of analysis, Specimen preparation, Microscopic analysis

Pharmaceutics is one of the most diverse subject areas in all of pharmaceutical science. In brief, it is concerned with the scientific and technological aspects of the design and manufacture of dosage forms or medicines. An understanding of pharmaceutics is therefore vital for all pharmacists and those pharmaceutical scientists who are involved with converting a drug or a potential drug into a medicine that can be delivered safely, effectively and conveniently to the patient. Now in its fourth edition, this best-selling textbook in pharmaceutics has been brought completely up to date to reflect the rapid advances in delivery methodologies by eye and injection, advances in drug formulations and delivery methods for special groups (such as children and the elderly), nanomedicine, and pharmacognosy. At the same time the editors have striven to maintain the accessibility of the text for students of pharmacy, preserving the balance between being a suitably pitched introductory text and a clear reflection of the state of the art. provides a logical, comprehensive account of drug design and manufacture includes the science of formulation and drug delivery designed and written for newcomers to the design of dosage forms New to this edition New editor: Kevin Taylor, Professor of Clinical Pharmaceutics, School of Pharmacy, University of London. Twenty-two new contributors. Six new chapters covering parenteral and ocular delivery; design and administration of medicines for the children and elderly; the latest in plant medicines; nanotechnology and nanomedicines, and the delivery of biopharmaceuticals. Thoroughly revised and updated throughout.

Fundamentals of Particle Technology is designed to assist the understanding of how particulate materials behave during processing and is written with engineers and scientists, who are new to the subject, in mind. It is accessible, in both cost and style, and is illustrated with numerous line diagrams. Most of the 16 chapters end with questions in multiple choice format. This helps problem decomposition and the reader can see each step required to arrive at an overall process solution. If the reader makes a mistake with any of the steps he, or she, usually does not see their answer and will immediately know where they have gone wrong. The aspects of Particle Technology covered include: particle characterisation, solid/liquid and solid/gas separations, fluidisation, flow of (and in) dispersions, powder mixing, storage, hazards, crushing and colloidal interaction. Extensive Internet support and referencing is provided. The teaching style adopted is the result of experience gained from presenting the subject for over 30 years at both undergraduate and postgraduate level.

The use of analytical sciences in the discovery, development and manufacture of pharmaceuticals is wide-ranging. From the analysis of minute amounts of complex biological materials to the quality control of the final dosage form, the use of analytical technology covers an immense range of techniques and disciplines. This book concentrates on the analytical aspects of drug development and manufacture, focusing on the analysis of the active ingredient or drug substance. It provides those joining the industry or other areas of pharmaceutical research with a source of reference to a broad range of techniques and their applications, allowing them to choose the most appropriate analytical technique for a particular purpose. The volume is directed at analytical chemists, industrial pharmacists, organic chemists, pharmaceutical chemists and biochemists.

Specialists in the field discuss the latest developments in particle size analysis, presenting an overview of state-of-the-art methodologies and data interpretation. Topics include commercial instrumentation, photon correlation spectroscopy, Fraunhofer Diffraction, field-flow fractionation, and detection systems for particle chromatography.

UHMWPE Biomaterials Handbook describes the science, development, properties and application of ultra-high molecular weight polyethylene (UHMWPE) used in artificial joints. This material is currently used in 1.4 million patients around the world every year for use in the hip, knee, upper extremities, and spine. Since the publication of the 1st edition there have been major advances in the development and clinical adoption of highly crosslinked UHMWPE for hip and knee replacement. There has also been a major international effort to introduce Vitamin E stabilized UHMWPE for patients. The accumulated knowledge on these two classes of materials are a key feature of the 2nd edition, along with an additional 19 additional chapters providing coverage of the key engineering aspects (biomechanical and materials science) and clinical/biological performance of UHMWPE, providing a more complete reference for industrial and academic materials specialists, and for surgeons and clinicians who require an understanding of the biomaterials properties of UHMWPE to work successfully on patient applications. The UHMWPE Handbook is the comprehensive reference for professionals, researchers, and clinicians working with biomaterials technologies for joint replacement New to this edition: 19 new chapters keep readers up to date with this fast moving topic, including a new section on UHMWPE biomaterials; highly crosslinked UHMWPE for hip and knee replacement; Vitamin E stabilized UHMWPE for patients; clinical performance, tribology and biologic interaction of UHMWPE State-of-the-art coverage of UHMWPE technology, orthopedic applications, biomaterial characterisation and engineering aspects from recognised leaders in the field

Recent major advances in particle size analysis, particularly with regard to its application in the pharmaceutical and related industries, provides justification for this title. It is a book for technicians and senior technicians, project and development managers, and formulation More...development scientists in a wide range of industries, pharmace

Characterization and Biology of Nanomaterials for Drug Delivery: Nanoscience and Nanotechnology in Drug Delivery describes the techniques successfully employed for the application of nanocarriers loaded with the antioxidant enzyme, catalase, and thus targeted to endothelial cells. Methods of nanocarrier synthesis, loading within various systems, and the characterization of nanocarriers for targeting activities are covered, as are their advantages, disadvantages and applications. Reflecting the interdisciplinary nature of the subject matter, this book includes contributions by experts from different fields, all with various backgrounds and expertise. It will appeal to researchers and students from different disciplines, such as materials science, technology and various biomedical fields. Enables readers from different fields to access recent research and protocols across traditional boundaries Focuses on protocols and techniques, as well as the knowledge base of the field, thus enabling those in R&D to learn about, and successfully deploy, cutting-edge techniques Explores both current and emerging classes of nanomaterials, along with their fundamentals and applications

A collection of workshop papers providing state-of-the-art reviews on all aspects of fragmentation, including photographic requirements, image enhancement, statistical treatment, and applications in quarrying, mining and minerals processing industries.

Particle Size Analysis reviews the development of particle characterization over the past 25 years and also speculates on its future. Interest in the subject has increased enormously over the years and this book highlights the changes and advances made within the field. This book is comprehensive in its coverage of particle size analysis and includes contributions on such characterization techniques as microscopy using fractal analysis, light diffraction, light scattering with the phase doppler technique, light observation, and photon correlation spectroscopy. A number of chapters address the interest in on-line in-stream particle size analysis and illustrate the progress being made in achieving this long sought after ideal of in-situ in-process particle characterization. Applications to other technological fields are detailed by chapters covering biological systems and the pharmaceutical industry. The subject of surface area determination is considered

with particular emphasis on the measurements on porosity of powders, the characterization and comparability of reference materials, and the need for standards. Particle Size Analysis should provide stimulating reading for technologists, scientists, and engineers involved in particle characterization and powder technology worldwide. MATLAB® is used for a wide range of applications in geosciences, such as image processing in remote sensing, the generation and processing of digital elevation models, and the analysis of time series. This book introduces methods of data analysis in geosciences using MATLAB, such as basic statistics for univariate, bivariate and multivariate datasets, jackknife and bootstrap resampling schemes, processing of digital elevation models, gridding and contouring, geostatistics and kriging, processing and georeferencing of satellite images, digitizing from the screen, linear and nonlinear time-series analysis, and the application of linear time-invariant and adaptive filters. The revised and updated Third Edition includes ten new sections and has greatly expanded on most chapters from the previous edition, including a step by step discussion of all methods before demonstrating the methods with MATLAB functions. New sections include: Data Storage and Handling, Data Structures and Classes of Objects, Generating M-Files to Regenerate Graphs, Publishing M-Files, Distribution Fitting, Nonlinear and Weighted Regression, Color-Intensity Transects of Varved Sediments, and Grain Size Analysis from Microscope Images. The text includes numerous examples demonstrating how MATLAB can be used on data sets from earth sciences. All MATLAB recipes can be easily modified in order to analyse the reader's own data sets.

The essential pharmaceutical textbook One of the world's best-known texts on pharmaceuticals, Aulton's *Pharmaceuticals* offers a complete course in one book for students in all years of undergraduate pharmacy and pharmaceutical sciences degrees. Thoroughly revised, updated and extended by experts in their fields and edited by Professors Kevin Taylor and Michael Aulton, this new edition includes the science of formulation, pharmaceutical manufacturing and drug delivery. All aspects of pharmaceuticals are covered in a clear and readily accessible way and extensively illustrated throughout, providing an essential companion to the entire pharmaceuticals curriculum from day one until the end of the course. Fully updated throughout, with the addition of new chapters, to reflect advances in formulation and drug delivery science, pharmaceutical manufacturing and medicines regulation Designed and written for newcomers to the design and manufacture of dosage forms Relevant pharmaceutical science covered throughout Includes the science of formulation and drug delivery Reflects current practices and future applications of formulation and drug delivery science to small drug molecules, biotechnology products and nanomedicines Key points boxes throughout Over 400 online multiple choice questions

Particle size measurement, Particle size distribution, Size classification, Particulate materials, Electron microscopes, Microscopic analysis, Photographic images, Optical instruments, Optical measurement, Statistical methods of analysis, Specimen preparation

Handling of powders and bulk solids is a critical industrial technology across a broad spectrum of industries, from minerals processing to bulk and fine chemicals, and the food and pharmaceutical industries, yet is rarely found in the curricula of engineering or chemistry departments. With contributions from leading authors in their respective fields, *Characterisation of Bulk Solids* provides the reader with a sound understanding of the techniques, importance and application of particulate materials characterisation. It covers the fundamental characteristics of individual particles and bulk par

Particle Size Analysis in Industrial Hygiene discusses technical information on particle properties, kinetic behavior, sampling instruments, and interpretation. This book is composed of seven chapters and is prepared by the American Industrial Hygiene Association for the Division of Technical Information, United States Atomic Energy Commission. This monograph is a part of the continuing effort of both organizations to extend the field of technical knowledge and safeguard the health and well-being of persons exposed to toxic or deleterious material. After briefly discussing the fundamental physics and chemistry of aerosol systems, the book goes on describing the analytical methods and instruments for particle size analysis. Such methods include direct and indirect sampling methods as well as automatic counting and sizing instruments. Specific methods considered include sieve analysis, optical and electron microscopy, and scanning electron microscopy. A chapter on particle size interpretation and representation with the use of applied mathematical statistics concepts is also provided. This book also covers a general discussion on typical applications of particle size analysis to industrial hygiene, radiation protection, air pollution control, industrial toxicology, and related areas. This book is an invaluable source for industrial hygienists and to those working in the many disciplines dealing with particle behavior.

Written by a team of experts, *Nanotechnology Standards* provides the first comprehensive, state-of-the-art reviews of nanotechnology standards development, both in the field of standards development and in specific areas of nanotechnology. It also describes global standards-developing processes for nanotechnology, which can be extended to other emerging technologies. For topics related to nanotechnology, the reviews summarize active areas of standards development, supporting knowledge and future directions in easy-to-understand language aimed at a broad technical audience. This unique book is also an excellent resource for up-to-date information on the growing base of knowledge supporting the introduction of nanotechnology standards and applications into the market. Praise for this volume: "This book provides a valuable and detailed overview of current activities and issues relevant to the area as well as a useful summary of the short history of standardization for nanotechnologies and the somewhat longer history of standardization in general. I have no hesitation in recommending this book to anyone with an interest in nanotechnologies whether it is from a technical or societal perspective." --Dr. Peter Hatto, Director of Research, IonBond Limited, Durham, UK

This is the fifth edition of the highly successful work first published in 1968, comprising two definitive volumes on particle characterisation. The first volume is devoted to sampling and particle size measurement, while surface area and pore

size determination are reviewed in volume 2. Particle size and characterisation are central to understanding powder properties and behaviour. This book describes numerous potential measuring devices, how they operate and their advantages and disadvantages. It comprise a fully comprehensive treatise on the wide range of available equipment with an extensive literature survey, and a list of manufacturers and suppliers. The author's blend of academic and industrial experience results in a readable technical book with information on how to analyse, present, and extract useful information from data. This is an essential reference book for both industrial and academic research workers in a variety of areas including: pharmaceuticals, food science, pollution analysis and control, electronic materials, agricultural products, polymers, pigments and chemicals.

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Powder technology is a rapidly expanding technology and nowhere more than in particle characterization. There has been an explosion of new particle measuring techniques in the past ten year particularly in the field of on-line measurement. One of the main aims of this book is to bring the reader up-to-date with current practices. One important area of interest is the improvements in on-line light scattering instruments and the introduction of ultrasonic on-line devices. Another is the introduction of on-line microscopy, which permits shape analysis in conjunction with particle sizing. Schools of powder technology are common in Europe and Japan but the importance of this subject has only recently been recognised in America with the emergence of the Particle Research Centre (PERC) at the University of Florida in Gainesville. - Details all the latest developments in powder technology - Written by established authority on powder technology - A comprehensive text covering all aspects of powder technology and handling of particulate solids including characterization, handling and applications

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