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Polyvinylpyrrolidone Excipients for Pharmaceuticals Apr 01 2021 The book describes the properties, analytical methods and the applications of different polyvinylpyrrolidone excipients (povidone, crospovidone, copovidone etc.) for use in pharmaceutical preparations. This group of excipients is one of the most important excipients used in modern technology to produce drugs. The book is intended for all persons working in the research, development and quality control of drugs. It gives a survey of all applications in solid, liquid and semisolid dosage forms including many drug formulation examples and more than 600 references to the literature.

Maths Skills for Pharmacy Feb 11 2022 Written by leading academics with a wealth of experience in pharmacy education, Maths Skills for Pharmacy combines a unique integrated approach to pharmaceutical and scientific calculations, with innovative learning features designed to encourage self-directed learning.

Physicochemical Basis of Pharmaceuticals Nov 08 2021 What are the physical and chemical properties that determine how a drug interacts with the body? What determines which dosage form is best, if it will reach its intended target, and how it will be metabolised once it has entered the body? The Physicochemical Basis of Pharmaceuticals explores the phenomena which affect the formulation and bio-availability of drug substances to

give a straightforward, accessible treatment of the essential concepts affecting the absorption and distribution of drugs. It provides the reader with the conceptual 'tool-kit' necessary to understand the physicochemical aspects of drug design and action, and shows how these concepts apply in practice. The book introduces key underlying physical chemistry principles before exploring pharmaceutical solutions, the pharmaceutical solid phase, solid - liquid dispersal systems, biological interfaces, absorption, distribution, metabolism and excretion, to give a complete view of the field. Focusing at all times on the essential principles and concepts, The Physicochemical Basis of Pharmaceuticals avoids excessive detail, presenting the key facts, backed up with pertinent examples and easy-to-digest illustrations, making it the ideal primer for those who need to understand physicochemical issues in the context of their broader field of study. Online Resource Centre For registered adopters of the text: · Figures from the book in electronic format, ready to download For students: · A hyperlinked bibliography of references given in the text.

Cleaning Validation Nov 15 2019 Pharmaceutical manufacturers and upper management are encouraged to meet the challenges of the science-based and risk-based approaches to cleaning validation. Using some of the principles and practices in this volume will help in designing a more effective and efficient cleaning validation program. Features • Timely coverage of cleaning validation for the pharmaceutical industry, a dynamic area in terms of health-based limits. • The author encourages pharmaceutical manufacturers, and

particularly upper management, to meet the challenges of the science-based and riskbased approaches to cleaning validation. • Draws on the author's vast experience in the field of cleaning validation and hazardous materials. • Discusses EMA vs. ISPE on Cleaning Limits and revised Risk-MaPP for highly hazardous products in shared facilities. • A diverse list of topics from protocol limits for yeasts and molds to cleaning validation for homeopathic drug products.

The Drug Solution Jul 04 2021 This provocative volume makes a valuable contribution to debates on drug legislation. It is the only book that analyses and assesses all regulatory alternatives to drug prohibition. The author brings together research from the scientific, medical, ethical and legal fields to criticize drug laws and enforcement policies of many countries, including the U.S. and Canada.

The Art, Science, and Technology of Pharmaceutical Compounding Jun 03 2021 Presents all the information a pharmacy student needs to understand the purpose and processes of compounding in a logical and progressive format. This comprehensive reference provides practitioners with essential information on establishing, equipping, and operating a compounding facility. Over 200 formulations cover all the dosage forms and delivery systems of modern medications. Written by eminent experts, 25 chapters discuss all aspects of good manufacturing practices, and emphasizes quality control measures for all aspects of compounding medications.

The Drug Solution Mar 12 2022 This provocative volume makes a valuable contribution to debates on drug

legislation. It is the only book that analyses and assesses all regulatory alternatives to drug prohibition. The author brings together research from the scientific, medical, ethical and legal fields to criticize drug laws and enforcement policies of many countries, including the U.S. and Canada.

Pharmaceutical Pricing in Europe Sep 25 2020 Most European Member States, particularly the former EU15 countries, have national systems providing universal access to health care, including pharmaceuticals. Given pressure on public budgets and rising expenditure for healthcare, national governments have introduced mechanisms to regulate healthcare services provision and set prices of pharmaceuticals. As pointed out by the 2008 OECD Report on Pharmaceutical Pricing Policies (OECD, 2008), one of the policies pursued to constrain pharmaceutical prices is International Reference Pricing (IRP). This uses prices paid in other countries as a benchmark for setting domestic price levels. For example, in Spain the Ministry of Health set prices based on, among other factors, the price of the same medicine established in the other 26 EU countries.Traditionally, there has been only limited use by higher income countries of lower income countries' prices. However, there is evidence that this is changing, mainly due to the increasing financial difficulties faced by some EU Member States. The objective for governments is to “import” low pharmaceutical prices from other countries to reduce their own health care expenditures. Greece, in its response to economic crisis in 2010, introduced a series of new regulations to decrease pharmaceutical prices. After initial temporary price cuts, causing two

pharmaceutical companies to withdraw their products (Watson, 2010), Greece implemented an IRP system where prices are reviewed and set three times per year based on the average of the three lowest prices available in 22 EU countries (the EU 27 excluding Denmark, Estonia, Malta, and Sweden) leading to an average price reduction of the reviewed products of 20% (IMS Pharma Pricing and Reimbursement, November 2010).At the other end of the economic spectrum, Germany, the EU Member State with the strongest economy, in an effort to reduce its health budget, has endorsed a series of proposals to reform the market for pharmaceuticals and, in particular, its price-setting system. The bill endorsed by the German parliament in late 2010 will significantly limit the ability of companies to set the price of newly approved pharmaceutical products by introducing, among other measures, the use of IRP. The European Commission is trying to support the interest of Member States in IRP by facilitating the exchange of information on prices paid for pharmaceuticals amongst Member States.

Chemical Engineering in the Pharmaceutical Industry Apr 13 2022 A guide to the important chemical engineering concepts for the development of new drugs, revised second edition The revised and updated second edition of Chemical Engineering in the Pharmaceutical Industry offers a guide to the experimental and computational methods related to drug product design and development. The second edition has been greatly expanded and covers a range of topics related to formulation design and process development of drug products. The authors review basic analytics for

quantitation of drug product quality attributes, such as potency, purity, content uniformity, and dissolution, that are addressed with consideration of the applied statistics, process analytical technology, and process control. The 2nd Edition is divided into two separate books: 1) Active Pharmaceutical Ingredients (API’s) and 2) Drug Product Design, Development and Modeling. The contributors explore technology transfer and scale-up of batch processes that are exemplified experimentally and computationally. Written for engineers working in the field, the book examines in-silico process modeling tools that streamline experimental screening approaches. In addition, the authors discuss the emerging field of continuous drug product manufacturing. This revised second edition: Contains 21 new or revised chapters, including chapters on quality by design, computational approaches for drug product modeling, process design with PAT and process control, engineering challenges and solutions Covers chemistry and engineering activities related to dosage form design, and process development, and scale-up Offers analytical methods and applied statistics that highlight drug product quality attributes as design features Presents updated and new example calculations and associated solutions Includes contributions from leading experts in the field Written for pharmaceutical engineers, chemical engineers, undergraduate and graduation students, and professionals in the field of pharmaceutical sciences and manufacturing, Chemical Engineering in the Pharmaceutical Industry, Second Edition contains information designed to be of use from the engineer's perspective and spans information from solid to semi-

solid to lyophilized drug products.

Recent Development of Electrospinning for Drug Delivery Nov 27 2020 Several promising techniques have been developed to overcome the poor solubility and/or membrane permeability properties of new drug candidates, including different fiber formation methods. Electrospinning is one of the most commonly used spinning techniques for fiber formation, induced by the high voltage applied to the drug-loaded solution. With modifying the characteristics of the solution and the spinning parameters, the functionality-related properties of the formulated fibers can be finely tuned. The fiber properties (i.e., high specific surface area, porosity, and the possibility of controlling the crystalline–amorphous phase transitions of the loaded drugs) enable the improved rate and extent of solubility, causing a rapid onset of absorption. However, the enhanced molecular mobility of the amorphous drugs embedded into the fibers is also responsible for their physical–chemical instability. This Special Issue will address new developments in the area of electrospun nanofibers for drug delivery and wound healing applications, covering recent advantages and future directions in electrospun fiber formulations and scalability. Moreover, it serves to highlight and capture the contemporary progress in electrospinning techniques, with particular attention to the industrial feasibility of developing pharmaceutical dosage forms. All aspects of small molecule or biologics-loaded fibrous dosage forms, focusing on the processability, structures and functions, and stability issues, are included.

Closed-form Solutions for Drug Transport through Controlled-Release Devices in Two and Three Dimensions

Aug 05 2021 Provides solutions for two- and three-dimensional linear models of controlled-release systems Real-world applications are taken from used to help illustrate the methods in Cartesian, cylindrical and spherical coordinate systems Covers the modeling of drug-delivery systems and provides mathematical tools to evaluate and build controlled-release devices Includes classical and analytical techniques to solve boundary-value problems involving two- and three-dimensional partial differential equations Provides detailed examples, case studies and step-by-step analytical solutions to relevant problems using popular computational software

IT Innovations May 22 2020

Handbook of Solubility Data for Pharmaceuticals Oct 19 2022 Aqueous solubility is one of the major challenges in the early stages of drug discovery. One of the most common and effective methods for enhancing solubility is the addition of an organic solvent to the aqueous solution. Along with an introduction to cosolvency models, the Handbook of Solubility Data for Pharmaceuticals provides an extensive database of solubility for pharmaceuticals in mono solvents and binary solvents. Aqueous solubility data can be found in the Handbook of Aqueous Solubility Data by Samuel Yalkowsky and Yan He. Visit www.crcpress.com for more information. In addition to the experimental efforts to measure the solubility of drugs in mono and mixed solvents, this book discusses the advantages and limitations of a number of mathematical models used to predict the solubility in mono or mixed solvent systems. It covers the pharmaceutical cosolvents and other organic solvents that are used in syntheses, separations, and other

pharmaceutical processes. The solutes featured include the available data for official drugs, drug candidates, precursors of drugs, metabolites, and degradation products of pharmaceuticals. The author also presents the solubilities of amino acids since they play an important role in peptide drug properties. Collecting drug solubilities in various cosolvents, this time-saving handbook includes the mixtures and model constants needed to predict undetermined solubilities. It describes mathematical models that enable data to be derived and provides estimates on how drugs are likely to behave in a given cosolvent. A software program and associated user manual are available on the author's website.

Electronic Batch Recording Solutions Mar 20 2020 Monika Futschik introduces an evaluation model that allows a holistic assessment of the advantages and disadvantages of electronic batch recording solutions versus traditional paper batch ticket solutions. In comparison to former studies, this newly developed evaluation model considers the change management efforts and the financial investments required for system deployment. The model proves the overall performance value through the implementation of electronic batch recording solutions and supports decision-makers in finding the most effective solution. The development and effectiveness of this model is based on various surveys, expert interviews, a Delphi study as well as a case study with a real-life pharmaceutical company. The outcome of her research can be easily applied to other industries as well.

The Greening of Pharmaceutical Engineering, Theories and Solutions Jan 30 2021 This is the second

volume in a four-volume series aimed at guiding the pharmaceutical industry toward sustainability. After analyzing and exposing some of the backward and ill-conceived notions that guide the present state of the industry, this volume presents key theories and new, groundbreaking solutions for re-thinking the processes involved in the engineering of pharmaceuticals and offers a fundamental paradigm shift. The 4 volumes in this ambitious project are: • Volume 1: Practice, Analysis, and Methodology • Volume 2: Theories and Solutions • Volume 3: Applications for Mental Disorder Treatments • Volume 4: Applications for Physical Disorder Treatments This ground-breaking set of books is a unique and state-of-the-art study that only appears here, within these pages. A fascinating study for the engineer, scientist, and pharmacist working in the pharmaceutical industry and interested in sustainability, it is also a valuable textbook for students and faculty studying these subjects.

Lecithin-based Microemulsions for Pharmaceutical Use Sep 18 2022

Glocal Pharma (Open Access) Dec 09 2021 The Open Access version of this book, available at http://www.tandfebooks.com, has been made available under a Creative Commons Attribution-Non Commercial-No Derivatives 3.0 license. An exploration of how global pharmaceutical products are localized - of what happens when they become ‘glocal’ - this book examines the tensions that exist between a global pharmaceutical market and the locally bounded discourses and regulations encountered as markets are created for new drugs in particular contexts. Employing the case study of the emergence, representation and regulation of Viagra

in the Swedish market, Glocal Pharma offers analyses of commercial material, medical discourses and legal documents to show how a Swedish, Viagra-consuming subject has been constructed in relation to the drug and how Viagra is imagined in relation to the Swedish man. Engaging with debates about pharmaceuticalization, the authors consider the ways in which new identities are created around drugs, the redefinition of health problems as sites of pharmaceutical treatment and changes in practices of governance to reflect the entrance of pharmaceuticals to the market. With attention to 'local' contexts, it reveals elements in the nexus of pharmaceutcalization that are receptive to cultural elements as new products become embedded in local markets. An empirically informed study of the the ways in which the presence of a drug can alter the concept of a disease and its treatment, understandings of who suffers from it and how to cure it - both locally and internationally - this book will appeal to scholars of sociology and science and technology studies with interests in globalization, pharmaceuticals, gender and the sociology of medicine.

Solid Oral Dose Process Validation Oct 07 2021 Currently there are no process validation (PV) textbooks addressing the lifecycle concepts (Stage 1, 2, 3). Recent regulatory guidance's such as US FDA, EMEA, WHO, PIC/S have adopted the ICH lifecycle approach. The concepts are now harmonized across regulatory guidance's and organizations have an opportunity to align PV activities for all regulated markets. Therefore a need exists for consensus and direction on how to approach solid dose manufacturing process validation for

regulatory compliance. Solid Dose Process Validation: The Basics, Volume One and companion Solid Dose Process Validation: Lifecycle Approach Application, Volume Two, also available as a set, provide directions and solutions for these unmet needs for the pharmaceutical industry. The topics and chapters give a systematic understanding for the application of lifecycle concepts in solid dose pharmaceutical manufacturing. All approaches meet the regulatory requirements enlisted in the guidance's, which is the precursor to applying the concepts. This set is published as a comprehensive solution for solid dose process validation. Since solid dose formulations encompass majority of the pharmaceutical preparations, it is essential information for pharmaceutical professionals who use the process validation lifecycle approach.

Introduction to Pharmaceutical Calculations, 4th edition Jan 22 2023 Introduction to Pharmaceutical Calculations is an essential study aid for pharmacy students. The book contains worked examples and sample questions and answers.

Solubility Behavior of Pharmaceuticals in Aqueous Solutions Jun 15 2022

Handbook of Pharmaceutical Analysis by HPLC Apr 20 2020 High pressure liquid chromatography–frequently called high performance liquid chromatography (HPLC or, LC) is the premier analytical technique in pharmaceutical analysis and is predominantly used in the pharmaceutical industry. Written by selected experts in their respective fields, the Handbook of Pharmaceutical Analysis by HPLC Volume 6, provides a complete yet concise reference guide for utilizing the versatility of

HPLC in drug development and quality control. Highlighting novel approaches in HPLC and the latest developments in hyphenated techniques, the book captures the essence of major pharmaceutical applications (assays, stability testing, impurity testing, dissolution testing, cleaning validation, high-throughput screening). A complete reference guide to HPLC Describes best practices in HPLC and offers 'tricks of the trade' in HPLC operation and method development Reviews key HPLC pharmaceutical applications and highlights currents trends in HPLC ancillary techniques, sample preparations, and data handling

FASTtrack Pharmaceutics Dosage Form and Design, 2nd edition Sep 06 2021 FASTtrack Pharmaceutics – Dosage Form and Design focuses on what you really need to know in order to pass your pharmacy exams. It provides concise, bulleted information, key points, tips and an all-important self-assessment section, including MCQs.

Introduction to Pharmaceutical Analytical Chemistry Nov 20 2022 The definitive textbook on the chemical analysis of pharmaceutical drugs – fully revised and updated Introduction to Pharmaceutical Analytical Chemistry enables students to gain fundamental knowledge of the vital concepts, techniques and applications of the chemical analysis of pharmaceutical ingredients, final pharmaceutical products and drug substances in biological fluids. A unique emphasis on pharmaceutical laboratory practices, such as sample preparation and separation techniques, provides an efficient and practical educational framework for undergraduate studies in areas such as pharmaceutical sciences, analytical

chemistry and forensic analysis. Suitable for foundational courses, this essential undergraduate text introduces the common analytical methods used in quantitative and qualitative chemical analysis of pharmaceuticals. This extensively revised second edition includes a new chapter on chemical analysis of biopharmaceuticals, which includes discussions on identification, purity testing and assay of peptide and protein-based formulations. Also new to this edition are improved colour illustrations and tables, a streamlined chapter structure and text revised for increased clarity and comprehension. Introduces the fundamental concepts of pharmaceutical analytical chemistry and statistics Presents a systematic investigation of pharmaceutical applications absent from other textbooks on the subject Examines various analytical techniques commonly used in pharmaceutical laboratories Provides practice problems, up-to-date practical examples and detailed illustrations Includes updated content aligned with the current European and United States Pharmacopeia regulations and guidelines Covering the analytical techniques and concepts necessary for pharmaceutical analytical chemistry, Introduction to Pharmaceutical Analytical Chemistry is ideally suited for students of chemical and pharmaceutical sciences as well as analytical chemists transitioning into the field of pharmaceutical analytical chemistry.

Practical Pharmaceutical Calculations Oct 15 2019 Understanding practical pharmaceutical calculations is essential for healthcare professionals. Even simple errors in calculation can have serious - and possibly fatal - consequences. Fully revised and updated, with entirely

new chapters and a focus on basic arithmetic, this best-selling practical guide begins by explaining simple units of measurements and expressions of concentration, followed by demonstrations of how straight-forward calculations can be used to estimate individual patient dosages. At the end of each chapter there are self assessment calculations, with fully worked answers - ideal for revision and self-assessment. With the book and free downloads you can always have the guide on hand when you need it most.

Graph of Pharmaceutical Solutions Relating Concentration and Index of Refraction Jul 24 2020

Compatibility of Pharmaceutical Solutions and Contact Materials Feb 23 2023 Compatibility of Pharmaceutical Products and Contact Materials Dennis Jenke Important safety aspects of compatibility for therapeuticproducts and their manufacturing systems, delivery devices, andcontainers Compatibility of Pharmaceutical Products and ContactMaterials helps pharmaceutical, toxicology, analytical, andregulatory affairs professionals assess the safety of leachable andextractable chemicals associated with drug product packaging,manufacturing systems, and devices. The most comprehensive resourceavailable, its coverage includes the strategies, tactics, andregulatory requirements for performing safety assessments, alongwith the means for interpreting results. Structured around a logical framework for an extractables andleachables safety assessment and closely linked to thepharmaceutical product development process, Compatibility ofPharmaceutical Products and Contact Materials directlyaddresses the fundamental questions of "what

activities need to beperformed to completely, efficiently, and effectively address theissue of product safety from an extractables and leachablesperspective?" and "when do the various required activities need tobe performed?" Specifically, the chapters describe: Pertinent regulations and practical ways to meetguidelines Coordinating manufacturing, storage, and delivery systemsdevelopment and qualification with therapeutic productdevelopment Materials characterization and the materials screeningprocess Component and/or system qualification (illustrated by severalcase studies) Performing validation/migration studies and interpreting andreporting the results Creating a product registration dossier and putting it throughregulatory review Product maintenance (Change Control) from an extractables andleachables perspective Likely future developments in extractables and leachablesassessment Additionally, the book's appendix provides a database, includingCAS registry numbers, chemical formulas and molecular weights ofextractable/leachable substances that have been reported in thechemical literature. Detailing the interconnected roles played by analyticalchemistry, biological science, toxicology, and regulatory science,Compatibility of Pharmaceutical Products and ContactMaterials supplies a much-needed, comprehensive resource to allthose in pharmaceutical product or medical device development.

Solid Oral Dose Process Validation, Volume Two Jul 16 2022 The textbook addresses the lifecycle concepts (Stage 1, 2, 3) of Process Validation. Regulatory bodies such as US FDA, EMEA, WHO, PIC/S have adopted the ICH lifecycle approach. Organizations have an

opportunity to harmonize and align PV activities for all regulated markets. The concepts discussed provides a direction on how to approach solid dose manufacturing process validation for regulatory compliance. Solid Oral Dose Process Validation, Lifecycle Approach: Application, Volume Two and the companion Volume One, Solid Dose Process Validation, The Basics, also available as a set, provide directions and solutions for the pharmaceutical industry. The topics and chapters give a systematic understanding for the application of lifecycle concepts in solid dose pharmaceutical manufacturing. Since solid dose formulations encompass majority of the pharmaceutical preparations, it is essential information for pharmaceutical professionals who use the process validation lifecycle approach. This set is published as a comprehensive solution for solid dose process validation.
Cleaning Validation Dec 29 2020 "Pharmaceutical manufacturers and upper management are encouraged to meet the challenges of the science-based and risk-based approaches to cleaning validation. Using some of the principles and practices in this volume will help in designing a more effective and efficient cleaning validation program. Timely coverage of cleaning validation for the pharmaceutical industry is a dynamic area in terms of health-based limits. Author encourages pharmaceutical manufacturers, and particularly upper management, to meet the challenges of the science-based and risk-based approaches to cleaning validation. Draws on the author's vast experience in the field of cleaning validation and hazardous materials. Discusses EMA vs. ISPE on Cleaning Limits and revised Risk-MaPP for highly hazardous products in shared facilities. Diverse list of

topics from protocol limits for yeasts and molds to cleaning validation for homeopathic drug products"--

Ingredient X Jun 22 2020 Ingredient X: The Production of Effective Drugs deals with various aspects of pharmaceutical research and development, with emphasis on the importance of formulation ingredients on drug effectiveness and the role of the pharmaceutical development scientist in designing dosage forms for modern drugs. More than 50 illustrations are used to explain experiments and ""tools of the trade"". This book is comprised of four chapters and opens with an overview of research and development in the pharmaceutical industry, paying particular attention to the kind of work done by scientists according to the degree or level of training. The additives or so-called ""inert"" ingredients used in drug formulation are also considered. The next chapter explains how adding just the right amount of some ""inert"" ingredient—a factor X—can enhance the acceptability of a product to the user. The importance of maintaining drug potency in a dosage form, mainly through refrigeration or storage in cool places, is then discussed. The final chapter looks at the factors to consider to achieve the best possible drug formulation and most effective dosage form, including the safety factor. The need to establish correlations between laboratory quality tests and product performance during the development phase is highlighted. This monograph will be a useful resource for pharmacologists and pharmaceutical development scientists.

Drug Stability for Pharmaceutical Scientists Jan 10 2022 Drug Stability for Pharmaceutical Scientists is a clear and easy-to-follow guide on drug degradation in

pharmaceutical formulation. This book features valuable content on both aqueous and solid drug solutions, the stability of proteins and peptides, acid-base catalyzed and solvent catalyzed reactions, how drug formulation can influence drug stability, the influence of external factors on reaction rates and much more. Full of examples of real-life formulation problems and step-by-step calculations, this book is the ideal resource for graduate students, as well as scientists in the pharmaceutical and related industries. Illustrates important theoretical concepts with numerous examples, figures, calculations, learning problems and questions for self-study and retention of material Provides answers and explanations to test your knowledge Enables you to better understand key concepts such as rate and order of reaction, reaction equilibrium, complex reaction mechanisms and more Includes an in-depth discussion of both aqueous and solid drug solutions and contains the latest international regulatory requirements on drug stability

Remington's Pharmaceutical Sciences Dec 17 2019

State Aids in the European Union for the Pharmaceutical Industry May 02 2021 Describes the Internal Market and the methods used to achieve it. Examines the techniques utilized by the European Union institutions in attempting to achieve a single market for pharmaceutical products. Discusses the limited effect of the Transparency Directive and of parallel trade in facilitating the attainment of a single market for pharmaceuticals. Explains the inefficiencies created by the promotion of parallel imports of pharmaceuticals; inefficiencies very specific to the pharmaceutical industry because pharmaceutical pricing competence remains at

the national level. Highlights judicial inadvertence to these specific inefficiencies in interpreting Articles 30, 81 and 82 of the Treaty establishing the European Community by presenting recent jurisprudence of the European Union courts. Argues that the use of state aids to fund the research and development activities of the pharmaceutical industry could effectively minimize the parallel importation of pharmaceuticals and assist in harmonizing national pharmaceutical price control policies.

Continuous Manufacturing of Pharmaceuticals May 14 2022 A comprehensive look at existing technologies and processes for continuous manufacturing of pharmaceuticals As rising costs outpace new drug development, the pharmaceutical industry has come under intense pressure to improve the efficiency of its manufacturing processes. Continuous process manufacturing provides a proven solution. Among its many benefits are: minimized waste, energy consumption, and raw material use; the accelerated introduction of new drugs; the use of smaller production facilities with lower building and capital costs; the ability to monitor drug quality on a continuous basis; and enhanced process reliability and flexibility. Continuous Manufacturing of Pharmaceuticals prepares professionals to take advantage of that exciting new approach to improving drug manufacturing efficiency. This book covers key aspects of the continuous manufacturing of pharmaceuticals. The first part provides an overview of key chemical engineering principles and the current regulatory environment. The second covers existing technologies for manufacturing both small-molecule-

based products and protein/peptide products. The following section is devoted to process analytical tools for continuously operating manufacturing environments. The final two sections treat the integration of several individual parts of processing into fully operating continuous process systems and summarize state-of-art approaches for innovative new manufacturing principles. Brings together the essential know-how for anyone working in drug manufacturing, as well as chemical, food, and pharmaceutical scientists working on continuous processing Covers chemical engineering principles, regulatory aspects, primary and secondary manufacturing, process analytical technology and quality-by-design Contains contributions from researchers in leading pharmaceutical companies, the FDA, and academic institutions Offers an extremely well-informed look at the most promising future approaches to continuous manufacturing of innovative pharmaceutical products Timely, comprehensive, and authoritative, Continuous Manufacturing of Pharmaceuticals is an important professional resource for researchers in industry and academe working in the fields of pharmaceuticals development and manufacturing.

Freeze-drying of Pharmaceuticals and Biopharmaceuticals Oct 27 2020 Aimed at product and process developers in the biopharmaceutical industry and academia, this is the first book to describe freeze-drying, as related to the pharmaceutical industry.

Course in Pharmaceutical and Chemical Arithmetic Feb 28 2021 This historic book may have numerous typos and missing text. Purchasers can usually download a free scanned copy of the original book (without typos) from

the publisher. Not indexed. Not illustrated. 1917 edition. Excerpt: …the following factors come into play: 1. The amount of drug, mixture, preparation, or solution, or whatever is to represent the 100 parts. 2. The amount of constituent or ingredient. 3. The amount of constituent or ingredient as expressed in percentage. 4. The amount of drug, mixture, etc., expressed in percentage. This is always 100, and is never sought as an answer. 5. The amount of diluent or solvent. For sake of brevity let us designate drug, mixture, preparation, or solution by M, standing for mixture; constituent or ingredient by C, standing for constituent; percentage by its customary symbol, %; and diluent or solvent byD. In percentage problems there are four cases possible: (1) M may be sought, the other factors being known; (2) In order that comparisons may be readily made--made by inspection--suoh data should be reduced to some common standard or scale; and the number 100 is selected, rather than 12, 144, or any other number, for arithmetical reasons. C may be sought; (3) % may be the element to be calculated; (4) the amount of diluent or solvent may be sought. It should be remembered that percentages in pharmaceutical or chemical problems refer to parts by weight, unless the contrary is expressly stated. Now, if percentages stand for parts by weight, they are proportional to weights of M and of C, and any one of the first three factors--M, C, or %--may be calculated by proportion. D is the difference between C and M, and is found by subtracting C from M. See page 79. Examples. 1. Suppose that 6 Gm. of opium on analysis are found to contain.585 Gm. of morphine, and the morphine-strength of the opium is to be expressed in percentage. Solution:

--The three known terms are: --6 Gm. (amount of drug = M), .685 Gm. (amount of morphine,

Remington Education Pharmaceutics Jan 18 2020 Remington Education: Pharmaceutics covers the basic principles of pharmaceutics, from dosage forms to drug delivery and targeting. It addresses all the principles covered in an introductory pharmacy course. As well as offering a summary of key information in pharmaceutics, it offers numerous case studies and MCQs for self assessment.

Properties and Testing of Pharmaceutical Systems: Disperse systems Feb 17 2020

Pharmaceutical Crystals Dec 21 2022 An important resource that puts the focus on understanding and handling of organic crystals in drug development Since a majority of pharmaceutical solid-state materials are organic crystals, their handling and processing are critical aspects of drug development. Pharmaceutical Crystals: Science and Engineering offers an introduction to and thorough coverage of organic crystals, and explores the essential role they play in drug development and manufacturing. Written contributions from leading researchers and practitioners in the field, this vital resource provides the fundamental knowledge and explains the connection between pharmaceutically relevant properties and the structure of a crystal. Comprehensive in scope, the text covers a range of topics including: crystallization, molecular interactions, polymorphism, analytical methods, processing, and chemical stability. The authors clearly show how to find solutions for pharmaceutical form selection and crystallization processes. Designed to be an accessible

guide, this book represents a valuable resource for improving the drug development process of small drug molecules. This important text: Includes the most important aspects of solid-state organic chemistry and its role in drug development Offers solutions for pharmaceutical form selection and crystallization processes Contains a balance between the scientific fundamental and pharmaceutical applications Presents coverage of crystallography, molecular interactions, polymorphism, analytical methods, processing, and chemical stability Written for both practicing pharmaceutical scientists, engineers, and senior undergraduate and graduate students studying pharmaceutical solid-state materials, Pharmaceutical Crystals: Science and Engineering is a reference and textbook for understanding, producing, analyzing, and designing organic crystals which is an imperative skill to master for anyone working in the field.

Principles of Parenteral Solution Validation Aug 25 2020 Principles of Parenteral Solution Validation: A Practical Lifecycle Approach covers all aspects involved in the development and process validation of a parenteral product. By using a lifecycle approach, this book discusses the latest technology, compliance developments, and regulatory considerations and trends, from process design, to divesting. As part of the Expertise in Pharmaceutical Process Technology series edited by Michael Levin, this book incorporates numerous case studies and real-world examples that address timely problems and offer solutions to the daily challenges facing practitioners in this area. Discusses international and domestic regulatory considerations in every section

Features callout boxes that contain points-of-interest for each segment of the audience so readers can quickly find their interests and needs Contains important topics, including risk management, the preparation and execution of properly designed studies, scale-up and technology transfer activities, problem-solving, and more

Pharmaceutical Calculations Aug 17 2022