Chemical Formulation An Overview Of Surfactant Based Chemical Preparations Used In Everyday Life Rsc Paperbacks

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The Chemical Formulary Wiley
There is hardly a technical library in the world in which the volumes of the Chemical Formulary (Volumes 1-34) do not occupy a prominent place. It does not duplicate any of the formulas included in previous volumes, but lists a wide array of modern and salable products from all branches of the chemical industries. An excellent reference for formulation problems. Contents - 1. Introduction - 2. Adhesives - 3. Cement and Ceramics - 4. Coatings - 5. Cosmetics and Drugs - 6. Detergents - 7. Emulsions and Dispersions - 8. Farm and Garden Formulations - 9. Foods, Beverages and Flavors - 10. Inks - 11. Metals and Treatments - 12. Paper - 13. Polish - 14. Rubber, Plastics and Waxes - 15. Miscellaneous - Appendix - Some Incompatible Chemicals - Tables - Note on Trademark Chemicals - Chemicals (Trademarks) - List of Suppliers - Index - **Product Design and Engineering** John Wiley & Sons
This book is aimed at, from students to advanced researchers, for anyone that is interested or works with current experimental and theoretical methods in medicinal chemistry and biological physics, with particular interest in chemoinformatics, bioinformatics, molecular modeling, QSAR, spectrometry, molecular biology and combinatorial chemistry for many therapeutic purposes. This book attempts to convey something of the fascination of working in these multidisciplinar areas, which overlap knowledge of chemistry, physics, biochemistry, biology and pharmacology. This second volume, in particular, contains 11 chapters, of which 6 are related to theoretical methods in medicinal chemistry and at least 5 deal with experimental/mixed methods. In the modern computational medicinal

chemistry, quantum mechanics (QM) plays an important role since the associated methods can describe molecular energies, bond breaking or forming, charge transfer and polarization effects. Historically in drug design, QM ligand-based applications were devoted to investigations of electronic features, and they have also been routinely used in the development of quantum descriptors in quantitative structure-activity relationships (QSAR) approaches. In chapter 1, we present an overview of the state-of-the-art of quantum methods currently used in medicinal chemistry. Molecular Dynamics (MD) simulation is a sophisticated molecular modeling technique useful to describe molecular structures and macroscopic properties in very large molecular systems comprising hundreds or even thousands of atoms. In the field of drug discovery, MD simulation has been widely used to understand the biomolecule structure, drug and biomolecule interactions. The chapter 2 outlines the theory and practical details of MD approach and focuses on its application in studies of prediction of binding affinities for putative receptor-ligand complexes. In chapter 3 we discuss the important role of the homology modeling procedure in the drug discovery process. This strategy, associated with computational power and more sophisticated and robust algorithms, has been used to predict properties, energies, conformations and support the binding modes of ligands inside their receptor sites. This approach is vital in structure-based drug design (SBBD), since it can quickly predict the tertiary structure of the target whose structure has not been experimentally solved. In drug discovery research, a massive dataset of information is involved and the high throughput screening of typically millions of compounds plays an important role. Different docking protocols can be combined in order to predict binding models and affinities of a ligand with a target receptor, selecting as example the best drug-like compound candidates to further experimental assays, leading to a reduction in the time and cost of the drug discovery process. In the chapter 4, we discuss the general basis and aspects of this approach, presenting some successful cases in drug discovery. Structure-based approaches have increasingly demonstrated their value in drug design. The impact of these technologies on early discovery and lead optimization is significant. Although there is a multiplicity of different approaches being employed in early stages of drug discovery, structure-based drug design (SBDD) is one of the most powerful techniques, and has been used quite frequently by scientists in the pharmaceutical industry as well as in academic laboratories over the past twenty years. The evolution of medicinal chemistry has resulted in an increase in the number of successful applications of structure-based approaches. Some case studies are presented in chapter 5, exploring the value of structure-based virtual screening (SBVS) approaches in drug design, highlighting the identification of novel, potent and selective receptor modulators with drug like properties. Drug discovery has moved toward more rational strategies based on our increasing understanding of the fundamental principles of protein-ligand interactions. The combination of available knowledge of several 3D protein structures with hundreds of thousands of commercially available small molecules has attracted the attention of scientists from all over the world for the application of structure-based pharmacophore strategies. Pharmacophore approaches offer timely and cost-effective ways to identify new drug-like ligands for a variety of biological targets, and their utility in drug design is unquestionable. In the chapter 6, the understanding and limitations of this approach in drug R&D are discussed. Modern molecular biology has inundated drug discovery organizations with countless potential novel drug targets. A foremost challenge for the researchers is to validate this asset of targets with bioactive small molecules (bioproducts can also be included). Eventually, they will be developed into drugs for the more promising targets. The difficulty of finding a good small-molecule starting point is at the beginning of the searching for a proper chemical space that is well related to biological space. Drugs that are small molecules and act at enzyme targets account for over 50% of all medicines in therapeutically use in the marketplace. It is for this reason that chapter 7 take thermodynamics of the small molecule-target enzyme interactions into account to a limited scope. So far, the main purpose of this chapter is to provide a guidance profile of biocalorimetry and its role in drug discovery and development. The chapter 8 intends to describe how proteomes can be analyzed and studied. It addresses some available databases and bioinformatics tools. The description of certain instrumentation, such as mass spectrometry is also presented, but not highly detailed. The aim of chapter 9 is to introduce the reader to the wide spectrum of tools currently available in the drug validation process. With the conclusion of the human genome sequencing, an increase demand for target validation follows the development of high throughput techniques used in the identification of potential new drugs. In vitro technology as the RNA interference (RNAi) and recombinant protein array together with advances on the in vivo technology as the development of transgenic animals, including here the humanized ones, will certainly improve the safety of future clinical trials processes and ultimately play an important role in the treatment of several human diseases. A therapeutically significant drug may have limited utilization in clinical practice because of various shortcomings like poor organoleptic properties (chloranphenicol), poor bioavailability (ampicilin), lack of site specificity (antineoplastic agents), incomplete absorption (epinephrine), poor aqueous solubility (corticosteroids), high first-pass metabolism (propranolol), low chemical stability (penicillin), high toxicity (thalidomide) or other adverse effects. Sometimes, an adequate pharmaceutical formulation can overcome these drawbacks, but often the galenic formulation is inoperant and a chemical modification of active molecule is necessary to correct its pharmacokinetic profile. This chemical formulation process, whose objective is to convert an interesting active molecule into a clinically acceptable drug, often involves the so-called prodrug design , which is extensively discussed in chapter 10. The dominant role of synthetic chemistry has been increasingly challenged by knowledge of the structure and functions of enzymes, receptors, channels, membrane pumps, nucleic acids and by the exponential growth of information about biology, genetics and pathology, giving paramount importance to the dialogue between chemists and biologists. Nevertheless, as in the old days, the development of new chemical entities is still highly dependent on the ability of chemists to obtain, with simple, reliable, fast and possibly inexpensive methods, the molecules that have been designed. Even if it is an undisputed fact that biology has become exceedingly important in drug research, it is reasonable to imagine that chemistry, and in particular synthetic organic chemistry, will continue to play a fundamental role in academic research and in the R&D departments of drug companies of the third millennium. In chapter 11, we describe synthetic routes that have been used to synthesize the structures of top drugs in current usage. This provides an ideal way of introducing students to a wide range of applied

chemistry with brief descriptions of the modes of action of these drugs. Some contents of this book therefore reflect our own ideas and personal experiences, which are presented in reviews of different topics here investigated. It is interesting to consider the information described in this book as the starting point to access available and varied knowledge in Medicinal Chemistry and Biological Physics or related areas.

Industrial Organic Chemicals in Perspective Pharmaceutical Press

Preformulation studies are the physical, chemical, and biological studies needed to characterize a drug substance for enabling the proper design of a drug product, whereas the effectiveness of a drug product is determined during the formulation studies phase. Though the two disciplines overlap in practice, each is a significantly distinct phase of

Formulation and analytical development for low-dose oral drug products Chemical Formulation

Your comprehensive knowledge base when it comes to the formulation of paints and coatings: already in its 3rd edition, this book imparts the composition of coatings clearly, placing special emphasis on the base binder in each type. Advice on specific formulations is then given before formulation guidelines are analysed. Examples of how to develop a real-life paint formulation round off this useful standard work.

Integrated Pharmaceutics Elsevier

Introduction to Cosmetic Formulation and Technology An accessible and practical review of cosmetics and OTC drug-cosmetic products In the newly revised second edition of Introduction to Cosmetic Formulation and Technology, veteran educator and researcher Dr. Gabriella Baki delivers a comprehensive discussion of cosmetics and personal care products, including coverage of basic concepts, ingredient selection, formulation technology, and testing. The book offers a clear and easy-to-understand review of cosmetics and over the counter (OTC) drug-cosmetic products available in the United States. In this latest edition, the author expands on general concepts and adds brand-new chapters on the basics of cosmetics testing, ingredients, and skin lightening products. Each chapter includes a summary of common abbreviations with questions provided online, alongside a solutions manual for instructors. Readers will also find: A thorough introduction to the basic definitions, claims, and classifications of cosmetics and OTC drug-cosmetic products Comprehensive explorations of the current rules and regulations for cosmetics and OTC drug-cosmetic products in the United States and European Union Detailed review of cosmetic ingredients, functions, and typical uses both in a dedicated a chapter and included within various others Practical coverage of good manufacturing practices for cosmetics, including documentation, buildings and facilities, equipment, and personnel Fulsome review of a variety of skin and hair care products, color cosmetics, and other personal care products Perfect for undergraduate and graduate students studying cosmetic science in chemistry, chemical engineering, pharmaceutical, biomedical, and biology departments, Introduction to Cosmetic Formulation and Technology will also benefit cosmetic chemists, cosmetic product formulators, cosmetic scientists, quality control managers, cosmetic testing specialists, and technicians.

Automotive Coatings Formulation John Wiley & Sons

Document from the year 2018 in the subject Pharmicology, grade: 1, , course: Pharmaceutical Technology, language: English, abstract: The aim of this book is to provide a brief but comprehensive overview on the issue of drug bioavailability improvement by preparation of a perspective dosage form – liquisolid systems. The introduction chapter about drug solubility and bioavailability is followed by a description of the general methods which could be used to improve drug bioavailability using approaches of chemistry, physical modification, and primarily pharmaceutical technology. Benefits and practical use of each method are documented by examples. The main part of the book is aimed at characterization and description of liquisolid systems (LSS) – perspective dosage form for bioavailability improvement. Elementary principles of LSS formulation are described in detail, e.g. how to perform a preformulation study; how to choose the correct type and amount of excipients; how to evaluate the dosage forms, etc. All the above mentioned principles are documented with practical examples. The book could be used as a textbook for students of natural, medical and pharmaceutical sciences as well as by researchers in this field or industrial area. Contemporary pharmacotherapy is characterized by the increasing amount of active substances that are only poorly soluble in water. This may lead to the limitation of their systemic absorption on oral administration which is closely related to the bioavailability. This category is estimated to include more than forty percent of active substances that are in general use. So far, this poor aqueous solubility has been improved by physical or chemical modification of the active substance. In general, such changes are very expensive and troublesome, often leading to problems in stability, marketing authorization process, or administration comfort of the particular drug. This is one of the reasons why modern pharmaceutical technology has focused on those dosage forms that can increase the bioavailability of some active substances while maintaining suitable stability and administration comfort. Several processes that improve solubility, respectively bioavailability have been described and published. These include micronization, nanocrystals, and formulation of solid dispersions. Only recently, a novel trend has appeared – to take advantage of good solubility of active substances in chosen solvents, that is, to use the active substances in a liquid phase.

Handbook of Preformulation Lulu.com

Bridging the gap between theory and application, this book will be invaluable to anyone wishing to broaden their knowledge of applied chemistry.

Pharmaceutical Suspensions Walter de Gruyter GmbH & Co KG

The purpose of this book is to interpret more sensitively some of the offerings of the standard text book of general chemistry. As a supplement thereto, it covers various aspects of formulation and stoichiometry that are frequently treated far too perfunctorily or, in many instances, are not considered at all. The inadequate attention often accorded by the comprehensive text to many topics within its proper purview arises, understandably enough, from the numerous broad and highly varied objectives set for the first year of the curriculum for modern chemistry in colleges and universities. For the serious student this means, more often than not, the frustrations of questions unanswered. The amplification that this book proffers in the immediate area of its subject covers the equations representing internal redox reactions, not only of the simple but, also, of the multiple disproportionations of which the complexities often discourage an undertaking despite the challenge they offer: distinctions to be observed in the balancing of equations in con trasting alkali-basic and ammonia-basic reaction media; quantitative contributions made by the ionization or dissociation effects of electrolytes to the colligative properties of their solutions; intensive application of the universal reaction principle of chemical equivalence to the stoichiometry of oxidation and reduction.

Formulation and Stochiometry John Wiley & Sons
This book provides an overview of excipients, their functionalities in pharmaceutical dosage forms, regulation, and selection for pharmaceutical products formulation. It includes development, characterization methodology, applications, and up-to-date advances through the perspectives of excipients developers, users, and regulatory experts. Covers the sources, characterization, and harmonization of excipients: essential information for optimal excipients selection in pharmaceutical development Describes the physico-chemical properties and biological effects of excipients Discusses chemical classes, safety and toxicity, and formulation Addresses recent efforts in the standardization and harmonization of excipients
Introduction to Cosmetic Formulation and Technology Elsevier
This textbook describes a variety of dosage forms and their clinical importance and use. The use and behaviour of dosage forms in different age groups and patient groups will also be considered along with recent developments such as personalised therapies and genomics. It contains relevant examples and clinical case studies.
Drug solubility and bioavailability improvement. Possible methods with emphasis on liquisolid systems formulation John Wiley & Sons
Annotation Volume one of the second edition was published in 1989 (and described in the May 1990 SciTech Book News. Volume two details some 1,900 more cosmetic and toiletry formulations, based on manufacturers' and distributors' descriptions. Each formulation is identified by a description of end use. The formulations include the following as available: a listing of each raw material contained; the percent by weight of each raw material; suggested formulation procedure; and the formula source, which is the company or organization that supplied the formula. A section on trade-named raw materials provides brief chemical descriptions and suppliers' addresses. Annotation c. by Book News, Inc., Portland, Or.
Chemical Formulation Chemical Publishing Company
Growing interest in the formulation of pressure-sensitive adhesives as described in the first edition of this book (Pressure-Sensitive Formulation, VSP, 2000) required a new, enlarged edition including the design of pressure-sensitive adhesives as a separate volume. Developments in the understanding of pressure sensitivity were necessary to use macromolecular chemistry for pressure-sensitive design. Such developments include polymer physics and contact mechanics. Progress in coating technology, especially in in-line coating- and synthesis, opened new ways for the design of pressure-sensitive adhesives and products as well. Actually, pressure-sensitive-products with and without adhesives compete requiring a broad variety of material formulations and the corresponding manufacturing technology. The first volume of the book examines the theoretical aspects of pressure-sensitive design, based on macromolecular chemistry, macromolecular physics, rheology and contact mechanics. The second volume describes the practical aspects of pressure-sensitive design and formulation, related to product application. The advances in the various domains are described by specialists.
Handbook of Cosmetic Science William Andrew
Practical Aspects of Computational Chemistry I: An Overview of the Last Two Decades and Current Trends gathers the advances made within the last 20 years by well-known experts in the area of theoretical and computational chemistry and physics. The title itself reflects the celebration of the twentieth anniversary of the “Conference on Current Trends in Computational Chemistry (CCTCC)” to which all authors have participated and contributed to its success. This volume poses (and answers) important questions of interest to the computational chemistry community and beyond. What is the historical background of the “Structural Chemistry”? Is there any way to avoid the problem of intruder state in the multi-reference formulation? What is the recent progress on multi-reference coupled cluster theory? Starting with a historical account of structural chemistry, the book focuses on the recent advances made in promising theories such as many body Brillouin-Wigner theory, multireference state-specific coupled cluster theory, relativistic effect in chemistry, linear and nonlinear optical properties of molecules, solution to Kohn-Sham problem, electronic structure of solid state materials, development of model core potential, quantum Monte Carlo method, nano and molecular electronics, dynamics of photodimerization and excited states, intermolecular interactions, hydrogen bonding and non-hydrogen bonding interactions, conformational flexibility, metal cations in zeolite catalyst and interaction of nucleic acid bases with minerals. Practical Aspects of Computational Chemistry I: An Overview of the Last Two Decades and Current Trends is aimed at theoretical and computational chemists, physical chemists, materials scientists, and particularly those who are eager to apply computational chemistry methods to problem of chemical and physical importance. This book will provide valuable information to undergraduate, graduate, and PhD students as well as to established researchers.
Coatings Formulation Elsevier
Many chemical substances or compounds - organic or inorganic, natural or synthetic - are not used in their pure form. In order for the active ingredient to be most effective or to obtain the ideal delivery form for the market, the actual synthesis and purification steps are followed by formulation to give end products that range from powders, agglomerates, and granules to suspensions, emulsions, microemulsions, microcapsules, instant preparations, liposomes, and tablets. Formulation combines colloid and surface chemistry with chemical process engineering; sometimes it consists of a simple mixing operation, sometimes it requires an entire series of rather complicated engineering procedures such as comminution, dispersion, emulsification, agglomeration or drying. This book covers basic physico-chemical theory as well as its applications in the chemical industry for the production of pharmaceuticals, agrochemicals, pigments and dyes, food, detergents, cosmetics and many other products; it also provides chemists and chemical engineers with the necessary practical tools for the understanding of the structure/ activity relationship.
Advanced Cleaning Product Formulations Springer Science & Business Media
Agrochemical products and adjuvants are of vital importance in agriculture, to protect food and fibre crops from weeds, insect pests and diseases, in order to feed and clothe the growing world population. In recent years there have been increasing pressures to produce agrochemical formulations which have a lower environmental impact and are safer in use. Enormous changes have taken place in the chemistry and technology of agrochemicals over the last twenty years or so and this book provides a timely review of the most important area of technology in the development of new products. This book covers issues around international product quality and safety standards and describes the current and likely future trends which will carry the

industry forward into the next millennium. It brings together well known international experts with many years of practical experience from agrochemical companies, consultancies, academic institutions and regulatory bodies. Chemists and technologists involved in developing new or improved agrochemical formulations will find this book an essential reference in the course of their work. The book will also be of interest to those working in research and development departments of raw material suppliers, as a concise review of this important field.

Basic Principles of Formulation Types CRC Press

The suspension dosage form has long been used for poorly soluble active ingre- ents for various therapeutic indications. Development of stable suspensions over the shelf life of the drug product continues to be a challenge on many fronts. A good understanding of the fundamentals of disperse systems is essential in the development of a suitable pharmaceutical suspension. The development of a s- pension dosage form follows a very complicated path. The selection of the proper excipients (surfactants, viscosity imparting agents etc.) is important. The particle size distribution in the finished drug product dosage form is a critical parameter that significantly impacts the bioavailability and pharmacokinetics of the product. Appropriate analytical methodologies and instruments (chromatographs, visco- ters, particle size analyzers, etc.) must be utilized to properly characterize the s- pension formulation. The development process continues with a successful scale-up of the manufacturing process. Regulatory agencies around the world require cli- cal trials to establish the safety and efficacy of the drug product. All of this devel- ment work should culminate into a regulatory filing in accordance with the regulatory guidelines. Pharmaceutical Suspensions, From Formulation Development to Manufacturing, in its organization, follows the development approach used widely in the pharmaceutical industry. The primary focus of this book is on the classical disperse system – poorly soluble active pharmaceutical ingredients s- pended in a suitable vehicle.

Chemical Formulation Springer Science & Business Media

In this era of biotechnology there have been many books covering the fundamentals of recombinant DNA technology and protein chemistry. However, not many sources are available for the pharmaceutical develop ment scientist and other personnel responsible for the commercialization of the finished dosage forms of these new biopharmaceuticals and other products from biotechnology. This text will help to fill this gap. Once active biopharmaceutical molecules are candidates for clinical trial investigation and subsequent commercialization, a number of other activities must take place while research and development on these molecules continues. The active ingredient itself must be formulated into a finished dosage form that can be conveniently used by health care professionals and patients. Properties of the biopharmaceutical molecule must be clearly understood so that the appropriate finished product formulation can be developed. Finished product formulation development includes not only the chemical formulation, but also the packaging system, the manufacturing process, and appropriate control strategies to assure such good manufacturing practice attributes as safety, identity, strength, purity, and quality.

Food Flavorings John Wiley & Sons

Cosmetics are the most widely applied products to the skin and include creams, lotions, gels, and sprays. Their formulation, design, and manufacturing ranges from large cosmetic houses to small private companies. This book covers the current science in the formulations of cosmetics applied to the skin. It includes basic formulation, skin science, advanced formulation, and cosmetic product development, including both descriptive and mechanistic content with an emphasis on practical aspects.

Ionic Liquid-Based Surfactant Science William Andrew

This volume will be summarized on the basis of the topics of Ionic Liquids in the form of chapters and sections. It would be emphasized on the synthesis of ILs of different types, and stabilization of amphiphilic self-assemblies in conventional and newly developed ILs to reveal formulation, physicochemical properties, microstructures, internal dynamics, thermodynamics as well as new possible applications. It covers: Topics of ionic liquid assisted micelles and microemulsions in relation to their fundamental characteristics and theories Development bio-ionic liquids or greener, environment-friendly solvents, and manifold interesting and promising applications of ionic liquid based micelles and micremulsions

Formulierungstechnik Springer Science & Business Media

The volume covers the contemporary and potential positions for UV and EB at the forefront of their developments and the beginning of their commercialization.