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

Chemical Formulation **Surfactant Science and Technology** *An Introduction to Surfactants* *Introduction to Surfactant Analysis* **Surfactants in Precision Cleaning** Chemistry and Technology of Surfactants **Surfactant Science and Technology** *Surface Chemistry of Surfactants and Polymers SURFACTANT SCIENCE* **Surfactant Replacement Therapy Surfactants in Cosmetics Biobased Surfactants** Lung Surfactants **Solubilization in Surfactant Aggregates** Surfactant Aggregation **Applied Surfactants** *Industrial Applications of Surfactants IV* **Inhalation Aerosols Nonionic Surfactants Biodegradability of Surfactants** Green Sustainable Process for Chemical and Environmental Engineering and Science **Polymer-Surfactant Systems Microbial Surfactants** Surfactants and Detergents **Polymeric Surfactants Surfactants and Interfacial Phenomena** Lung Epithelial Biology in the Pathogenesis of Pulmonary Disease *Application and Characterization of Surfactants* Natural Surfactants *Silicone Surfactants* Surfactant - Based Separation Processes DNA Interactions with Polymers and Surfactants **Enzymes in Detergency Biobased Surfactants and Detergents Surfactants from Renewable Raw Materials** *Surfactants* Biodegradation **Cationic Surfactants Industrial Applications of Surfactants IV Cationic Surfactants**

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Industrial Applications of Surfactants IV Jun 13 2021 Environmental considerations are increasingly shaping the development of many industries. This is an overview of surfactants and the environment. It goes on to look at new surfactants derived from renewable, "natural" resources such as sucrose, seaweed and starch. Other chapters review a decade of change in the surfactant industry and assess future market trends. Some of the developments in surfactant technology are presented, including "gemini" twin-chained surfactants, sulfobetaines, alkyl phosphates and the use of alkyl alkoxylates and alkyl glucosides in highly alkaline solutions. The volume takes a practical approach throughout.

Inhalation Aerosols May 12 2021 Inhalation aerosols continue to be the basis for successful lung therapy for several diseases, with therapeutic strategies and the range of technology significantly evolving in recent years. In response, this third edition takes a new approach to reflect the close integration of technology with its application. After briefly presenting the general considerations that apply to aerosol inhalation, the central section of the book uses the focus on disease and

therapeutic agents to illustrate the application of specific technologies. The final integrated strategies section draws the major points from the applications for disease targets and drug products.

Surfactants and Detergents Nov 06 2020 Surfactants by virtue of their structure form self-assembled organized structures that exhibit fascinating properties useful for a wide range of applications. This book is a compilation of chapters from leading experts highlighting the use of specific surfactants and their functional properties in new and emerging areas of science and technology. The first two chapters of this book discuss the various applications of surfactants, including their use in cosmetics, oil recovery from rocks and mineral processing. Subsequent chapters cover advanced topics like new-generation polymer-based nanoparticles with microbial activity and complex phase systems formed as a result of charge-induced interactions between surfactants, polymers and proteins with potential applications in medical devices. In addition, this book reports for the first time on bio-surfactants extracted from micro-organisms present in the clouds. This report is not the only one of its kind, but it opens up a totally new area of research in terms of an unexplored source of bio-surfactants. It also paves the way for understanding their role in controlling our atmosphere and climate.

Solubilization in Surfactant Aggregates Sep 16 2021 This work covers topics ranging from fundamental studies of solubilization to practical technological applications of the phenomenon. It reviews the solubilization of organic materials into surfactant aggregates, including micelles, vesicles and admicelles. The book also details methods of measuring solubilization that utilize both classical and newer instrumental techniques. It is intended for physical, surface, colloid and surfactant chemists; chemical, environmental and civil engineers; and upper-level undergraduate and graduate students in these disciplines.

Biobased Surfactants Nov 18 2021 Biobased Surfactants: Synthesis, Properties, and Applications, Second Edition, covers biosurfactant synthesis and applications and demonstrates how to reduce manufacturing and purification costs, impurities, and by-products. Fully updated, this book covers surfactants in biomedical applications, detergents, personal care, food, pharmaceuticals, cosmetics, and nanotechnology. It reflects on the latest developments in biobased surfactant science and provides case scenarios to guide readers in efficient and effective biobased surfactant application, along with strategies for research into new applications. This book is written from a biorefinery-based perspective by an international team of experts and acts as a key text for researchers and practitioners involved in the synthesis, utilization, and development of biobased surfactants. Describes new and emerging biobased surfactants and their synthesis and development Showcases an interdisciplinary approach to the topic, featuring applications to chemistry, biotechnology, biomedicine, and other areas Presents the entire lifecycle of biobased surfactants in detail

Biodegradation Sep 23 2019 This book contains a collection of different biodegradation research activities where biological processes take place. The book has two main sections: A) Polymers and Surfactants Biodegradation and B) Biodegradation: Microbial Behaviour.

Surfactants from Renewable Raw Materials Nov 25 2019 Surfactants are often completely invisible to us and yet they are present in almost every chemical that we use in our daily life. They are found in toothpastes, cosmetics, sunscreens, mayonnaise, detergents, and an array of cleaning products. Traditional surfactants are known to have adverse environmental impacts spurring research into eco-friendly and cost-effective surfactants from renewable resources. Surfactants from Renewable Raw Materials examines the class of surfactants synthesized using plant-based raw materials detailing their properties, applications, bioavailability, and biodegradability. The concluding chapter reviews patent activity over the last decade. Additional features include: Addresses the tremendous variation found in the raw materials used to

synthesize commercially available surfactants. Explores the selection of raw materials based upon the desired hydrophobic group or hydrophilic group to be incorporated into the product. Examines the characteristics and medicinal applications of pulmonary surfactants in preterm babies as well as their probable contribution in COVID-19 Discusses the biodegradability of surfactants to assist with the determination of truly green surfactants. This comprehensive reference will prove indispensable for professional and academic researchers creating or working with bio-based surfactants.

Surfactants Oct 25 2019 Characteristically, surfactants in aqueous solution adsorb at interfaces and form aggregates (micelles of various shapes and sizes, microemulsion droplets, and lyotropic liquid crystalline phases). This book is about the behaviour of surfactants in solution, at interfaces, and in colloidal dispersions. Adsorption at liquid/fluid and solid/liquid interfaces, and ways of characterizing the adsorbed surfactant films, are explained. Surfactant aggregation in systems containing only an aqueous phase and in systems with comparable volumes of water and nonpolar oil are each considered. In the latter case, the surfactant distribution between oil and water and the behaviour of the resulting Winsor systems are central to surfactant science and to an understanding of the formation of emulsions and microemulsions. Surfactant layers on particle or droplet surfaces can confer stability on dispersions including emulsions, foams, and particulate dispersions. The stability is dependent on the surface forces between droplet or particle surfaces and the way in which they change with particle separation. Surface forces are also implicated in wetting processes and thin liquid film formation and stability. The rheology of adsorbed films on liquids and of bulk colloidal dispersions is covered in two chapters. Like surfactant molecules, small solid particles can adsorb at liquid/fluid interfaces and the final two chapters focus on particle adsorption, the behaviour of adsorbed particle films and the stabilization of Pickering emulsions.--Provided by publisher.

Applied Surfactants Jul 14 2021 While currently available titles either focus on the basics or on very specific subtopics, this text meets the need for a comprehensive survey of surfactants and their properties, with a strong emphasis on applications and their correlation to the fundamentals. The author covers their classification, physical properties, phase behavior, adsorption, effects - such as wetting, spreading and adhesion - as well as industrial applications in personal care and cosmetics, pharmaceuticals, agrochemicals and food products. Professor Tadros is a well-known expert on the topic of surfactants, with much experience in colloid science. Here, he uses his industrial experience to close the gap between fundamentals of surfactants and their relevance and applications in practice.

Surfactant Replacement Therapy Jan 20 2022

Polymer-Surfactant Systems Jan 08 2021 "Chronicles recent advances in our knowledge of polymer-surfactant systems, combining authoritative reviews of new experimental methods, instrumentation, and applications with fundamental discussions of classical methodologies and surveys of specific properties."

SURFACTANT SCIENCE Feb 21 2022 A concise and practical reference for understanding surfactant systems Offers original formulas and phase diagrams for improved surfactant design and performance¿ Equations related to online computer apps allow readers to test their own data Written in a conversational form, with a focus on real-world problems and troubleshooting Applications to detergents, coatings, cosmetics, soil and water remediation, and biosurfactants Full chapter included on foam and anti-foam science

Biobased Surfactants and Detergents Dec 27 2019 This book provides an overview of biobased surfactants currently under development. The first chapter provides an overview of biobased surfactant research and development in the industrial sector, including synthesis, applications, and current trends and directions in the field. Several chapters describe the current state-of-

the-art of biosurfactants, natural amphiphiles synthesized by microorganisms, including their synthesis and applications. An additional focus area is on the application of biobased surfactants as lung surfactants. Many chapters involve the chemical and enzymatic synthesis and applications of biobased surfactants consisting of polyols derived from nature, particularly, mono- and di-saccharides and amino acids. The employment of enzymes as catalysts to direct the synthesis of biobased surfactants is particularly attractive due the reduction of solvent and energy use during the surfactants' manufacture, and the reduction of purification costs and formation of impurities and by-products.

Microbial Surfactants Dec 07 2020 Biosurfactants are the surface-active biomolecules produced by microorganisms. Biosurfactants have gained commercial significance due to their unique properties, such as high surface activity, high specificity, low toxicity, tolerance to pH, temperature and ionic strength, biodegradability, excellent emulsifying and demulsifying ability, antimicrobial activity, ability to work under extreme conditions, and relative ease of preparation. Biosurfactants are used in several industries, including organic chemicals, petroleum, petrochemicals, mining, metallurgy (mainly bioleaching), agrochemicals, fertilizers, foods, beverages, cosmetics, pharmaceuticals and many others. The aim of this book is to highlight key aspects from basics to advanced concepts, classifications, production and applications in various fields such as agriculture, health, bioremediation, industries, pharmaceutical, oil recovery, environment, and nanotechnology. It also serves as an excellent and expansive literature on fermentation, recovery, genomics, and metagenomics of biosurfactant production. The book focuses on the biosurfactant production from bacteria, the diversity of biosurfactant producing bacteria, and industrial need of biosurfactant.

Biodegradability of Surfactants Mar 10 2021 The awareness and development of 'biodegradable' surfactants pre-dates current pressures by the environmental movement by nearly three decades, wherein a responsible industry mutually agreed to replace 'hard', non-biodegradable com ponents of household detergents by 'soft', biodegradable alternatives, without course to legislation. The only requirement at that time was for surfactants used in detergents to exhibit a 'primary biodegradability' in excess of 80%; this referring to the disap pearance or removal from solution of the intact surface active material as de tected by specified analytical techniques. This proved useful, as observed environmental impacts of surfactants, e.g. visible foam on rivers, are associated with the intact molecule. Test methods for 'primary biodegradability' were eventually enshrined in EU legislation for nonionic surfactants (Directive 821242/EEC, amended 73/404IEEC) and for anionic surfactants (Directive 8212431EEC, amended 73/405IEEC). No approved test methods and resultant legislation have been developed for cationic and amphoteric surfactants to date. The environmental classification of chemical substances, which of course includes surfactants, and associated risk assessment utilises a second criterion 'ready biodegradability'. This may be assessed by a number of methods which monitor oxygen uptake (BOD), carbon dioxide production or removal of dis solved organic carbon (DOC). Some surfactants which comply with the above Detergents Directive are borderline when it comes to 'ready biodegradability'.

DNA Interactions with Polymers and Surfactants Feb 27 2020 A broad overview of the interaction of DNA with surfactants and polymers Due to the potential benefits of biotechnology, interest in the interaction between DNA and surfactants and polymers has become increasingly significant. Now, DNA Interactions with Polymers and Surfactants provides an extensive, up-to-date overview of the subject, giving readers a basis for understanding the factors leading to complexation between DNA and different cosolutes, including metal ions, polyelectrolytes, spermine, spermidine, surfactants and lipids, and proteins. Topical coverage includes:

Polyelectrolytes, physico-chemical aspects and biological significance Solution behavior of nucleic acids Single DNA molecules: compaction and decompaction Interaction of DNA with surfactants and cationic polymers Interactions of histones with DNA DNA-DNA interactions The hydration of DNA-amphiphile complexes DNA-surfactant/lipid complexes at liquid interfaces DNA and DNA-surfactant complexes at solid surfaces The role of correlation forces for DNA-cosolute interactions Simulations of polyions Cross-linked DNA gels and gel particles DNA as an amphiphilic polymer Lipid-DNA interactions Covering both theoretical and practical aspects of the subject, DNA Interactions with Polymers and Surfactants is an ideal resource for chemists and biochemists working in gene and DNA delivery research in industry and academia, as well as for cell biologists, chemical engineers, molecular biologists, and development biologists in the pharmaceutical industry.

Natural Surfactants Jun 01 2020 This book focuses on the use of natural surfactants in enhanced oil recovery, providing an overview of surfactants, their types, and different physical–chemical properties used to analyse the efficiency of surfactants. Natural surfactants discuss the history of the surfactants, their classification, and the use of surfactants in petroleum industry. Special attention has been paid to natural surfactants and their advantages over synthetic surfactants, including analysing their properties such as emulsification, interfacial tension, and wettability and how these can be used in EOR. This book offers an overview for researchers and graduate students in the fields of petroleum and chemical engineering, as well as oil and gas industry professionals.

Application and Characterization of Surfactants Jul 02 2020 The surfactants are among the materials that have a significant importance in everyday life of human. The rapid growth in science and technology has opened new horizons in a very wide range, in which the surfactants play a major and vital role. Hence, the increasing number of applications as well as arising environmental issues has made this relatively old topic still a hot research theme. In the first section of this book, some of the applications of surfactants in various fields such as biology and petroleum industry, as well as their environmental effects, are described. In Section 2 some experimental techniques used for characterization of the surfactants have been discussed.

Polymeric Surfactants Oct 05 2020 Polymeric Surfactants covers the structure and stability origins of these highly useful surfactants. Adsorption and solution properties in emulsions are discussed based on their underlying thermodynamics and kinetics. Research scientists and Ph.D. students investigating chemistry, chemical engineering and colloidal science will benefit from this text on polymeric surfactants and their value in preparation and stabilization of disperse systems.

Enzymes in Detergency Jan 28 2020 Offers an integrated overview of enzyme use in household detergents, from product development and manufacturing to safety and health-related issues. The text details the major types of enzymes, structure-function relationships, life cycle analyses, protein-engineering techniques, cleaning mechanisms, and past, present and future applications.

Surfactants in Precision Cleaning Jun 25 2022 Surfactants in Precision Cleaning: Removal of Contaminants at the Micro and Nanoscale is a single source of information on surfactants, emulsions, microemulsions and detergents for removal of surface contaminants at the micro and nanoscale. The topics covered include cleaning mechanisms, effect of surfactants, types of stable dispersions (emulsions, microemulsions, surfactants, detergents, etc.), cleaning technology, and cleaning applications. Users will find this volume an excellent resource on the use of stable dispersions in precision cleaning. Single source of current information on surfactants, emulsions, microemulsions and detergents for precision cleaning applications Includes a list of extensive reference sources Discusses specific selection and properties of surfactants and their use in cleaning Provides a guide for cleaning applications

in different industry sectors Surfactant - Based Separation Processes Mar 30 2020 Focuses on novel techniques and reviews established methods for surfactant-based separation processes that can be widely applied in industry. Describes new extraction techniques, micellar-enhanced ultrafiltration and admicellar chromatography, protein extraction using reverse micelles, surfactant-en

An Introduction to Surfactants Aug 27 2022 Surfactants are surface active agents, molecules that have a significant role in emulsions, suspensions, and foams. They find widespread application in personal care, cosmetics, pharmaceuticals, agrochemicals and the food industry. The main objective of this graduate level textbook is to present an overview of the classification, physical properties, phase behavior, their effects and applications of surfactants, e.g. as emulsifiers, foam stabilizer, in nano- and microemulsions and as wetting agents.

Introduction to Surfactant Analysis Jul 26 2022 The analysis of surfactants presents many problems to the analyst. This book has been written by an experienced team of surfactant analysts, to give practical help in this difficult field. Readers will find the accessible text and clear description of methods, along with extensive references, an invaluable aid in their work.

Lung Surfactants Oct 17 2021 Integrating basic and clinical research on the biophysical and physiological functions of pulmonary surfactants, this practical reference presents thorough, cutting-edge coverage on surfactant-related lung disease. Manage neonatal respiratory distress syndrome (RDS), acute respiratory distress syndrome (ARDS), and acute lung injury more effectively!

Surfactants in Cosmetics Dec 19 2021 ""Second Edition provides a thorough, up-to-date treatment of the fundamental behavior of surface active agents in solutions, their interaction with biological structures from proteins and membranes to the stratum corneum and epidermis, and their performance in formulations such as shampoos, dentifrice, aerosols, and skin cleansers.

Surfactants and Interfacial Phenomena Sep 04 2020 This book is the premier text on the properties and applications ofsurfactants. The third edition is completely updated and revised,including new information on gemini surfactants (a new type ofpowerful surfactant), superspreading (or superwetting) by aqueoussurfactant solutions of highly hydrophobic surfaces (important inagricultural applications), and dynamic surface tension (animportant interfacial property not covered in the first twoeditions). * Clearly explains the mechanisms by which surfactants operate ininterfacial processes * Uses a minimum of mathematics in explanation of topics, making iteasy-to-understand and very user-friendly * Problems are included at the end of each chapter * Includes many tables of data as reference that are not compiledelsewhere * Milton J Rosen is an expert in the field of Surfactant research

Cationic Surfactants Jun 20 2019 Cationic surfactants, comprising a positively charged hydrophilic head, have been one of the most promising compounds due to their ability to produce a range of supramolecular aggregates of various kinds through self-organization in different media. They are used often in the chemical, industrial, pharmaceutical, environmental as well as biological fields. This book provides an overview of properties, uses and toxicity of cationic surfactants. Chapter One addresses the perspective of the cationic surfactants for manifold applications through correlation of different physicochemical properties of cationic surfactant-based organized media with the dissolved states of the surfactants in different media. Chapter Two presents a review on recent results regarding the interactions of the cationic surfactants, cetyl trimethylammonium chloride (CTAC) and dodecyltrimethylammonium bromide (DTAB), with the Glossoscolex paulistus hemoglobin. Chapter Three provides an outlook on zeolitic nanomaterials synthesized from coal ash that are being used for environmental applications with an emphasis on color removal from dye-containing wastewaters. Chapter Four is devoted to the specific features of the acid-

base and related equilibria in the reverse water-in-oil microemulsions based on cationic surfactants.
Silicone Surfactants Apr 30 2020 "Serves as a comprehensive introduction to the preparation, uses, and physical chemistry of silicone surfactants--focusing on silicone polyoxyalkylene copolymers that are surface active in both aqueous and nonaqueous systems. Covers applications in the manufacture of polyurethane foam, coatings, wetting agents, fabric finishes, and polymer surface modifiers."
Green Sustainable Process for Chemical and Environmental Engineering and Science Feb 09 2021 Green Sustainable Process for Chemical and Environmental Engineering and Science: Biosurfactants for the Bioremediation of Polluted Environments explores the use of biosurfactants in remediation initiatives, reviewing knowledge surrounding the creation and application of biosurfactants for addressing issues related to the release of toxic substances in ecosystems. Sections cover their production, assessment and optimization for bioremediation, varied pollutant degradation applications, and a range of contaminants and ecological sites. As awareness and efforts to develop greener products and processes continues to grow, biosurfactants are garnering more attention for the potential roles they can play in reducing the use and production of more toxic products. Drawing on the knowledge of its expert team of global contributors, this book provides useful insights for all those currently or potentially interested in developing or applying biosurfactants in their own work. Provides an accessible introduction to biosurfactant chemistry Highlights the optimization, modeling, prediction and kinetics of key factors supporting biosurfactant-enhanced biodegradation processes Explores a wide range of biosurfactant applications for remediation and degradation of pollutants
Chemical Formulation Oct 29 2022 Bridging the gap between theory and application, this book will be invaluable to anyone wishing to broaden their knowledge of applied chemistry.
Lung Epithelial Biology in the Pathogenesis of Pulmonary Disease Aug 03 2020 Lung Epithelial Biology in the Pathogenesis of Pulmonary Disease provides a one-stop resource capturing developments in lung epithelial biology related to basic physiology, pathophysiology, and links to human disease. The book provides access to knowledge of molecular and cellular aspects of lung homeostasis and repair, including the molecular basis of lung epithelial intercellular communication and lung epithelial channels and transporters. Also included is coverage of lung epithelial biology as it relates to fluid balance, basic ion/fluid molecular processes, and human disease. Useful to physician and clinical scientists, the contents of this book compile the important and most current findings about the role of epithelial cells in lung disease. Medical and graduate students, postdoctoral and clinical fellows, as well as clinicians interested in the mechanistic basis for lung disease will benefit from the books examination of principles of lung epithelium functions in physiological condition. Provides a single source of information on lung epithelial junctions and transporters Discusses of the role of the epithelium in lung homeostasis and disease Includes capsule summaries of main conclusions as well as highlights of future directions in the field Covers the mechanistic basis for lung disease for a range of audiences
Chemistry and Technology of Surfactants May 24 2022 Surfactants are used throughout industry as components in a hugerange of formulated products or as effect chemicals in theproduction or processing of other materials. A detailedunderstanding of the basis of their activity is required by allthose who use surfactants, yet the new graduate or postgraduatechemist or chemical engineer will generally have little or noexperience of how and why surfactants work. Chemistry & Technology of Surfactants is aimed at newgraduate or postgraduate level chemists and chemical engineers atthe beginning their industrial careers and those in later life

whobecome involved with surfactants for the first time. The book is astraightforward and practical survey of the chemistry ofsurfactants and their uses, providing a basic introduction tosurfactant theory, information on the various types of surfactantand some application details. This will allow readers to build ontotheir scientific education the concepts and principles on which thesuccessful use of surfactants, across a wide range of industries,is based.

Surfactant Science and Technology Apr 23 2022 Surfactant research explores the forces responsible for surfactant assembly and the critical industrial, medical, and personal applications, including viscosity control, microelectronics, drug stabilization, drug delivery, cosmetics, enhanced oil recovery, and foods. Surfactant Science and Technology: Retrospects and Prospects, "a Festschrift in honor of Dr. Kash Mittal," provides a broad perspective with chapters contributed by leaders in the fields of surfactant-based physical, organic, and materials chemistries. Many of the authors participated in a special symposium in Melbourne, Australia, honoring Kash Mittal's 100th edited book at the 18th Surfactants in Solution (SIS) meeting. Each chapter provides an overview of a specific research area, with discussions on past, present, and future directions. The book is divided into six parts. Part I reviews the evolution of theoretical models for surfactant self-assembly, and introduces a model for interpreting ion-specific effects on aggregate properties. Part II focuses on interactions of surfactant solutions with solid supports; uses contact angles to understand hydrophobic/hydrophilic changes in a lipid layer; uses surface tension to understand molecular arrangements at interfaces; reviews spreading phenomena; discusses pattern formation on solid surfaces; and applies tensiometry to probe flavor components of espresso. Part III discusses novel DNA-based materials, multifunctional poly(amino acid)s–based graft polymers for drug delivery, and polymeric surfactants for stabilizing suspensions and emulsions. Part IV introduces farm-based biosurfactants from natural products and "greener" biosurfactants from bacteria. Part V explores lyotropic liquid crystals and their applications in triggered drug release; microemulsion properties and controlled drug release; the role of hydrotopes in formulations and in enhancing solubilization in liquid crystals; the potential of ionic liquids to generate tunable and selective reaction media; and provides an overview of stimuli-responsive surfactants. Focusing on emulsions, Part VI reviews the design of emulsion properties for various commercial applications, the role of surfactants in the oil and gas industries, and surfactant mechanisms for soil removal via microemulsions and emulsification.

Surface Chemistry of Surfactants and Polymers Mar 22 2022 This book gives the reader an introduction to the field of surfactants in solution as well as polymers in solution. Starting with an introduction to surfactants the book then discusses their environmental and health aspects. Chapter 3 looks at fundamental forces in surface and colloid chemistry. Chapter 4 covers self-assembly and 5 phase diagrams. Chapter 6 reviews advanced self-assembly while chapter 7 looks at complex behaviour. Chapters 8 to 10 cover polymer adsorption at solid surfaces, polymers in solution and surface active polymers, respectively. Chapters 11 and 12 discuss adsorption and surface and interfacial tension, while Chapters 13- 16 deal with mixed surfactant systems. Chapter 17, 18 and 19 address microemulsions, colloidal stability and the rheology of polymer and surfactant solutions. Wetting and wetting agents, hydrophobization and hydrophobizing agents, solid dispersions, surfactant assemblies, foaming, emulsions and emulsifiers and microemulsions for soil and oil removal complete the coverage in chapters 20-25.

Surfactant Aggregation Aug 15 2021 Surface Active Agents (surfactants) are vital components in biological systems, form key ingredients in consumer products and play an important role in many industrial processes. For example, cell membranes owe their structure to the aggregation of surfactants known as lipids which form a major component of the membrane. Other natural

surfactants occur in the digestive system, in the lungs, and even in such substances as crude oil. Man-made surfactants are used in a wide range of domestic and industrial products and processes. In addition to detergents and personal care products, surfactants have found uses in almost every branch of the chemical industry as well as in several other industries. These include dyestuffs, fibres, mineral process ing, oil field chemicals, paints, pesticides, pharmaceuticals and plastics. Surfactants are versatile materials which are manufactured in a huge variety of forms to suit all of these applications. As a result of their importance, the technical literature on all aspects of surfactant behaviour is now very extensive. Surprisingly, however, the treatment in textbooks has been somewhat fragmented, often in the form of conference proceedings or edited, multi-authored works, both lacking in continuity.

Nonionic Surfactants Apr 11 2021 This volume provides a comprehensive overview for recognizing and producing the characteristics of successful special surfactant agents. It highlights one of the most versatile and effective surface-active surfactant agents, detailing the synthesis and production, chemical properties and behaviours, and application for alkyl polyglucosides.

Surfactant Science and Technology Sep 28 2022 A solid introduction to the field of surfactant science, this new edition provides updated information about surfactant uses, structures, and preparation, as well as seven new chapters expanding on technology applications. Offers a comprehensive introduction and reference of the science and technology of surface active materials Elaborates, more fully than prior editions, aspects of surfactant crystal structure as well as their effects on applications Adds more information on new classes and applications of natural surfactants in light of environmental consequences of surfactant use

Industrial Applications of Surfactants IV Jul 22 2019 Environmental considerations are increasingly shaping the development of many industries. This is an overview of surfactants and the environment. It goes on to look at new surfactants derived from renewable, "natural" resources such as sucrose, seaweed and starch. Other chapters review a decade of change in the surfactant industry and assess future market trends. Some of the developments in surfactant technology are presented, including "gemini" twin-chained surfactants, sulfobetaines, alkyl phosphates and the use of alkyl alkoxylates and alkyl glucosides in highly alkaline solutions. The volume takes a practical approach throughout.

Cationic Surfactants Aug 23 2019