By Skelland A H P

Thank you very much for downloading **by skelland a h p**. As you may know, people have search hundreds times for their chosen books like this by skelland a h p, but end up in harmful downloads. Rather than enjoying a good book with a cup of coffee in the afternoon, instead they cope with some harmful virus inside their computer.

by skelland a h p is available in our digital library an online access to it is set as public so you can download it instantly.
Our book servers spans in multiple locations, allowing you to get the most less latency time to download any of our books like this one.
Merely said, the by skelland a h p is universally compatible with any devices to read

Mixing V1 Vincent Uhl 2012-12-02 Mixing: Theory and Practice, Volume 1 focuses on the mechanisms and applications of mixing in turbulent flow. This book discusses the theoretical and empirical methods that provide a basis for predicting the process as well as the mechanical performance characteristics of equipment used in different types of mixing operations. Comprised of five chapters, this volume starts with an overview of the mixing process, which tends to reduce gradients or nonuniformities in properties, composition, or temperature of materials in bulk. This text then explores the mixing operations that involve the transfer of a component to or from an equipment surface or boundary. Other chapters discuss the kinds of problems that occur in the design and use of mixing equipment, including the selection of size, type, and operating conditions. The final chapter deals with heat transfer where agitation is provided by mechanical devices. Development, design, and operating engineers will find this book extremely useful.

Non-Newtonian Flow and Applied Rheology R. P. Chhabra 2011-04-08 This book bridges the gap between the theoretical work of the rheologist, and the practical needs of those who have to design and operate the systems in which these materials are handled or processed. It is an established and important reference for senior level mechanical engineers, chemical and process engineers, as well as any engineer or scientist who needs to study or work with these fluids, including pharmaceutical engineers, mineral processing engineers, medical researchers, water and civil engineers. This new edition covers a considerably broader range of topics than its predecessor, including computational fluid dynamics modelling techniques, liquid/solid flows and applications to areas such as food processing, among others. * Written by two of the world's leading experts, this is the only dedicated non-Newtonian flow reference in print. * Since first publication significant advances have been made in almost all areas covered in this book, which are incorporated in the new edition, including developments in CFD and computational techniques, velocity profiles in pipes, liquid/solid flows and applications to food processing, and new heat/mass transfer methods and models. * Covers both basic rheology and the fluid mechanics of NN fluids ? a truly self-contained reference for anyone studying or working with the processing and handling of fluids

Intelligent and Active Packaging for Fruits and Vegetables Charles L. Wilson, Ph.D. 2007-07-18 Recent nationwide recalls of spinach due to E. coli contamination and peanut butter due to Salmonella, make the emerging development of "active" and "intelligent" packaging crucial for consumer safety and quality assurance. Now that it is possible to make packaging that can detect and inform consumers of

contamination, as well as prevent or reduce the growth of human foodborne pathogens, the food packaging and safety industry needs a comprehensive overview of the state-of-the-science and future directions of this widely important field. Drawing on the research of a diverse group of scientists and pioneers in the field, Intelligent and Active Packaging for Fruits and Vegetables explores the new technology and applications used to bring fresh, safe, nutritious produce to the consumer. It explains Modified Atmosphere Packaging (MAP) and its use in packaging fruits and vegetables, as well as, fish and meat. It includes variations and advances on MAP such as high vapor-permeable films, and demonstrates modeling techniques to assist in the prediction and selection of packaging type. The book contains a chapter on the trends, opportunities, and challenges of RFID temperature monitoring in food packaging. It also considers the interaction between container and food product, as well as the use of non-toxic insect repellent plastics. There is a chapter on the regulatory implications of the use of nanotechnology in food packaging. Finally, the book discusses consumer perception, the specific needs of developing countries, and current implementation in Europe. Explaining the very latest in packaging technology and opening areas for future research, Intelligent and Active Packaging for Fruits and Vegetables provides an excellent knowledge base from which to revolutionize the delivery of safe and nutritious food.

Elastomer Technology Handbook Nicholas P. Cheremisinoff 2020-07-09 Elastomer Technology Handbook is a major new reference on the science and technology of engineered elastomers. This contributed volume features some of the latest work by international experts in polymer science and rubber technology. Topics covered include theoretical and practical information on characterizing rubbers, designing engineering elastomers for consumer and engineering applications, properties testing, chemical and physical property characterization, polymerization chemistry, rubber processing and fabrication methods, and rheological characterization. The book also highlights both conventional and emerging market applications for synthetic rubber products and emphasizes the latest technology advancements. Elastomer Technology Handbook is a "must have" book for polymer researchers and engineers. It will also benefit anyone involved in the handling, manufacturing, processing, and designing of synthetic rubbers.

Non-Newtonian Flow in the Process Industries R. P. Chhabra 1999 Non-Newtonian materials are encountered in virtually all of the chemical and process industries and a full understanding of their nature and flow characteristics is an essential requirement for engineers and scientists involved in their formulation and handling. This book will bridge the gap between much of the highly theoretical and mathematically complex work of the rheologist and the practical needs of those who have to design and operate plants in which these materials are handled and processed. At the same time, numerous references are included for the benefit of those who need to delve more deeply into the subject. The starting point for any work on non-newtonian fluids is their characterisation over the range of conditions to which they are likely to be subjected during manufacture or utilisation, and this topic is treated early on in the book in a chapter commissioned from an expert in the field of rheological measurements. Coverage of topics is extensive and this book offers a unique and rich selection of material including the flow of single phase and multiphase mixtures in pipes, in packed and fluidised bed systems, heat and mass transfer in boundary layers and in simple duct flows, and mixing etc. An important and novel feature of the book is the inclusion of a wide selection of worked examples to illustrate the methods of calculation. It also incorporates a large selection of problems for the reader to tackle himself.

Fluid Mixing II M.F. Edwards 2013-09-17 Fluid Mixing II documents the proceedings of a symposium organized by the Yorkshire Branch and the Fluid Mixing Processes Subject Group of the Institution of Chemical Engineers and held at Bradford University, on 3-5 April 1984. The conference covers all aspects of mixing including the assessment of mixture quality, experimental and theoretical studies of mixing,

chemical reaction and mass transfer, heat transfer, novel experimental techniques, scale-up and optimization. This volume contains 12 papers that deal with topics such as drawdown of floating solids into mechanically agitated vessels; effects of water/cement ratio, intensity of mixing, age and cement particle size and shape upon rheological properties of cement grouts with and without admixture; and mixing of non-absorbent solids with liquids. Other studies cover the flooding transition of a Rushton turbine operating in a gas-liquid system; power consumption in a three phase (liquid-solid-gas) mixing process in a stirred vessel; and an experimental technique for studying the rate of inter-zone mixing.

Solvent Extraction in Biotechnology Karl Schügerl 2013-03-09 Solvent Extraction in Biotechnology deals with the reco- very and purification of primary and secondary metabolites by solvent extraction. In the first part the reaction engineering principles: definitions, thermodynamic fundamentals, and system models, the kinetics of mass transfer between two phases without and with chemical reaction as well as extraction equipment, which are important for downstream processing in biotechnology, are considered in detail. The special part of the book describes the recovery of low-molecular metabolites: alcohols, acids and antibiotics with organic solvents, carrier-modifier-solvent systems, supercritical gases as well as with liquid membrane techniques. Several practical examples are given for the recovery of different metabolites as well as for the calculation of the extraction processes necessary for equipment design. Besides solvent extraction, novel separation techniques with liquid membrane, microemulsion and reversed micelles are also presented. This book will introduce the biochemical engineer and process engineer to the recovery of products from complex cultivation broths by modern techniques of solvent extraction and help them with process design.

Advances in Chemical Engineering 1992-02-03 Advances in Chemical Engineering

Principles and Modern Applications of Mass Transfer Operations Jaime Benitez 2016-12-08 A staple in any chemical engineering curriculum New edition has a stronger emphasis on membrane separations, chromatography and other adsorptive processes, ion exchange Discusses many developing topics in more depth in mass transfer operations, especially in the biological engineering area Covers in more detail phase equilibrium since distillation calculations are completely dependent on this principle Integrates computational software and problems using Mathcad Features 25-30 problems per chapter

Coulson and Richardson’s Chemical Engineering R. P. Chhabra 2017-11-28 Coulson and Richardson's Chemical Engineering has been fully revised and updated to provide practitioners with an overview of chemical engineering. Each reference book provides clear explanations of theory and thorough coverage of practical applications, supported by case studies. A worldwide team of editors and contributors have pooled their experience in adding new content and revising the old. The authoritative style of the original volumes 1 to 3 has been retained, but the content has been brought up to date and altered to be more useful to practicing engineers. This complete reference to chemical engineering will support you throughout your career, as it covers every key chemical engineering topic. Coulson and Richardson’s Chemical Engineering: Volume 1B: Heat and Mass Transfer: Fundamentals and Applications, Seventh Edition, covers two of the main transport processes of interest to chemical engineers: heat transfer and mass transfer, and the relationships among them. Covers two of the three main transport processes of interest to chemical engineers: heat transfer and mass transfer, and the relationships between them Includes reference material converted from textbooks Explores topics, from foundational through technical Includes emerging applications, numerical methods, and computational tools

Petroleum Refining and Petrochemical Based Industries in Eastern India. 2000

Handbook of Industrial Mixing Edward L. Paul 2004-02-17 Handbook of Industrial Mixing will explain the difference and uses of a variety of mixers including gear mixers, top entry mixers, side entry mixers, bottom entry mixers, on-line mixers, and submerged mixers The Handbook discusses the trade-offs among various mixers, concentrating on which might be considered for a particular process. Handbook of Industrial Mixing explains industrial mixers in a clear concise manner, and also: * Contains a CD-ROM with video clips showing different type of mixers in action and a overview of their uses. * Gives practical insights by the top professional in the field. * Details applications in key industries. * Provides the professional with information he did receive in school

Food Process Engineering Dennis R. Heldman 2012-12-06 The Second Edition of Food Process Engineering by Dr. Dennis Heldman, my former student, and co-author Paul Singh, his former student, attests to the importance of the previous edition. In the Foreword to the First Edition, I noted the need for people in all facets of the food processing industry to consider those variables of design of particular importance in engineering for the food processing field. In addition to recognizing the many variables involved in the biological food product being handled from production to consumption, the engi neer must oftentimes adapt equations developed for non-biological materials. As more and more research is done, those equations are appropriately modified to be more accurate or new equations are developed specifically for designing to process foods. This Edition updates equations used. This book serves a very important need in acquainting engineers and technologists, particularly those with a math ematics and physics background, with the information necessary to provide a more efficient design to accomplish the objectives. Of prime importance, at present and in the future, is to design for efficient use of energy. Now, it is often economical to put considerably more money into first costs for an efficient design than previously, when energy costs were a much smaller proportion of the total cost of process engineering.

Intensification of Liquid–Liquid Processes Laurence R. Weatherley 2020-04-16 Explore and review novel techniques for intensifying transport and reaction in liquid-liquid and related systems with this essential toolkit. Topics include discussion of the principles of process intensification, the nexus between process intensification and sustainable engineering, and the fundamentals of liquid-liquid contacting, from an expert with over forty-five years' experience in the field. Providing promising directions for investment and for new research in process intensification, in addition to a unique review of the fundamentals of the topic, this book is the perfect guide for senior undergraduate students, graduate students, developers, and research staff in chemical engineering and biochemical engineering.

Science and Practice of Liquid-liquid Extraction: Phase equilibria, mass transfer and interfacial phenomena, extractor hydrodynamics, selection, and design John D. Thornton 1992 This work presents an up-to-date account of some of the fundamental aspects of liquid-liquid extraction technology together with an account of extraction processes in a number of important industries. The work is divided into two parts. Volume 1 is concerned with the thermodynamics of phase equilibria; mass transfer in liquid-liquid systems, including the complicating role of interfacial turbulence; behavior of liquid-liquid dispersions; and the selection and design of countercurrent contactors for particular applications. Volume 2 gives an account of the process chemistry and associated extraction operations in a number of industries of current interest. New extraction techniques have been developed in recent years for specific applications and these are illustrated with reference to the hydrometallurgical, nuclear, pharmaceutical and food industries.

Encyclopedia of Chemical Processing (Online) Sunggyu Lee 2005-11-01 This second edition Encyclopedia supplies nearly 350 gold standard articles on the methods, practices, products, and standards influencing the chemical industries. It offers expertly written articles on technologies at the forefront of the field to

maximize and enhance the research and production phases of current and emerging chemical manufacturing practices and techniques. This collecting of information is of vital interest to chemical, polymer, electrical, mechanical, and civil engineers, as well as chemists and chemical researchers. A complete reconceptualization of the classic reference series the Encyclopedia of Chemical Processing and Design, whose first volume published in 1976, this resource offers extensive A-Z treatment of the subject in five simultaneously published volumes, with comprehensive indexing of all five volumes in the back matter of each tome. It includes material on the design of key unit operations involved with chemical processes; the design, unit operation, and integration of reactors and separation systems; process system peripherals such as pumps, valves, and controllers; analytical techniques and equipment; and pilot plant design and scale-up criteria. This reference contains well-researched sections on automation, equipment, design and simulation, reliability and maintenance, separations technologies, and energy and environmental issues. Authoritative contributions cover chemical processing equipment, engineered systems, and laboratory apparatus currently utilized in the field. It also presents expert overviews on key engineering science topics in property predictions, measurements and analysis, novel materials and devices, and emerging chemical fields. ALSO AVAILABLE ONLINE This Taylor & Francis encyclopedia is also available through online subscription, offering a variety of extra benefits for both researchers, students, and librarians, including: Citation tracking and alerts Active reference linking Saved searches and marked lists HTML and PDF format options Contact Taylor and Francis for more information or to inquire about subscription options and print/online combination packages. US: (Tel) 1.888.318.2367; (E-mail) e-reference@taylorandfrancis.com International: (Tel) +44 (0) 20 7017 6062; (E-mail) online.sales@tandf.co.uk

Fluid Mixing IV H. Benkreira 1990

Encyclopedia of Chemical Processing Sunggyu Lee 2006 Collecting information of vital interest to chemical, polymer, mechanical, electrical, and civil engineers, as well as chemists and chemical researchers, this "Encyclopedia "supplies nearly 350 articles on current design, engineering, science, and manufacturing practices-offering expertly written articles on technologies at the forefront of the field to maximize and enhance the research and production phases of current and emerging chemical manufacturing practices and techniques.

Non-Newtonian Flow R. P. Chhabra 1999-08-19 Non-Newtonian materials are encountered in virtually all of the chemical and process industries and a full understanding of their nature and flow characteristics is an essential requirement for engineers and scientists involved in their formulation and handling. This book will bridge the gap between much of the highly theoretical and mathematically complex work of the rheologist and the practical needs of those who have to design and operate plants in which these materials are handled and processed. At the same time, numerous references are included for the benefit of those who need to delve more deeply into the subject. The starting point for any work on non-newtonian fluids is their characterisation over the range of conditions to which they are likely to be subjected during manufacture or utilisation, and this topic is treated early on in the book in a chapter commissioned from an expert in the field of rheological measurements. Coverage of topics is extensive and this book offers a unique and rich selection of material including the flow of single phase and multiphase mixtures in pipes, in packed and fluidised bed systems, heat and mass transfer in boundary layers and in simple duct flows, and mixing etc. An important and novel feature of the book is the inclusion of a wide selection of worked examples to illustrate the methods of calculation. It also incorporates a large selection of problems for the reader to tackle himself.

Diffusional Mass Transfer A. H. P. Skelland 1974

Bubbles, Drops, and Particles in Non-Newtonian Fluids, Second Edition R.P. Chhabra 2006-07-25 Bubbles, Drops, and Particles in Non-Newtonian Fluids, Second Edition continues to provide thorough coverage of the scientific foundations and the latest advances in particle motion in non-Newtonian media. The book demonstrates how dynamic behavior of single particles can yield useful information for modeling transport processes in complex multiphase flows. Completely revised and expanded, this second edition covers macroscopic momentum and heat/mass transfer from a single rigid or fluid particle or ensembles of particles involving strong inter-particle interactions including packed beds, fluidized beds, and porous media with different types of non-Newtonian fluids. It reflects advances made since the publication of the previous, bestselling edition with new material on topics such as extensional flow; time-independent, time-dependent and visco-elastic fluids; free settling behavior of non-spherical particles; and particle motion in visco-elastic and visco-plastic fluids, boundary layer flows, flows in porous media, and falling object rheometry. An excellent reference and handbook dealing with the technological aspects of non-Newtonian materials encountered in nature and in technology, this book highlights qualitative differences between the response of a Newtonian and non-Newtonian fluids in the complex flows encountered in processing applications.

Principles and Applications of Mass Transfer Jaime Benitez 2022-10-19 Principles and Applications of Mass Transfer Core textbook teaching mass transfer fundamentals and applications for the design of separation processes in chemical, biochemical, and environmental engineering Principles and Applications of Mass Transfer teaches the subject of mass transfer fundamentals and their applications to the design of separation processes with enough depth of coverage to guarantee that students using the book will, at the end of the course, be able to specify preliminary designs of the most common separation process equipment. Reflecting the growth of biochemical applications in the field of chemical engineering, the fourth edition expands biochemical coverage, including transient diffusion, environmental applications, electrophoresis, and bioseparations. Also new to the fourth edition is the integration of Python programs, which complement the Mathcad programs of the previous edition. On the accompanying instructor's website, the online appendices contain a downloadable library of Python and Mathcad programs for the example problems in each chapter. A complete solution manual for all end-of-chapter problems, both in Mathcad and Python, is also provided. Some of the topics covered in Principles and Applications of Mass Transfer include: Molecular mass transfer, covering concentrations, velocities and fluxes, the Maxwell-Stefan relations, and Fick's first law for binary mixtures The diffusion coefficient, covering diffusion coefficients for binary ideal gas systems, dilute liquids, and concentrated liquids Convective mass transfer, covering mass-transfer coefficients, dimensional analysis, boundary layer theory, and mass- and heat-transfer analogies Interphase mass transfer, covering diffusion between phases, material balances, and equilibrium-stage operations Gas dispersed gas-liquid operations, covering sparged vessels, tray towers, diameter, and gas-pressure drop, and weeping and entrainment Principles and Applications of Mass Transfer is an essential textbook for undergraduate chemical, biochemical, mechanical, and environmental engineering students taking a core course on Separation Processes or Mass Transfer Operations, along with mechanical engineers and mechanical engineering students starting to get involved in combined heat- and mass-transfer applications.

Liquid Membranes Vladimir S Kislik 2009-08-31 Liquid Membranes: Principles and Applications in Chemical Separations and Wastewater Treatment discusses the principles and applications of the liquid membrane (LM) separation processes in organic and inorganic chemistry, analytical chemistry, biochemistry, biomedical engineering, gas separation, and wastewater treatment. It presents updated, useful, and systematized information on new LM separation technologies, along with new developments in the field. It provides an overview of LMs and LM processes, and it examines the mechanisms and kinetics of carrier-facilitated transport through LMs. It also discusses active transport, driven by

oxidation-reduction, catalytic, and bioconversion reactions on the LM interfaces; modifications of supported LMs; bulk aqueous hybrid LM processes with water-soluble carriers; emulsion LMs and their applications; and progress in LM science and engineering. This book will be of value to students and young researchers who are new to separation science and technology, as well as to scientists and engineers involved in the research and development of separation technologies, LM separations, and membrane reactors. - Provides comprehensive knowledge-based information on the principles and applications of a variety of liquid membrane separation processes. - Contains a critical analysis of new technologies published in the last 15 years.

Summaries of Projects Completed in Fiscal Year ... National Science Foundation (U.S.) 1979

Process Modelling and Simulation in Chemical, Biochemical and Environmental Engineering Ashok Kumar Verma 2014-10-17 The use of simulation plays a vital part in developing an integrated approach to process design. By helping save time and money before the actual trial of a concept, this practice can assist with troubleshooting, design, control, revamping, and more. Process Modelling and Simulation in Chemical, Biochemical and Environmental Engineering explores ef

Advances in Chemical Engineering 1966-01-01 Advances in Chemical Engineering

Bubbles, Drops, and Particles R. Clift 2013-04-22 This volume offers a unified treatment and critical review of the literature related to the fluid dynamics, heat transfer, and mass transfer of single bubbles, drops, and particles. 1978 edition.

Rheology Giovanni Astarita 2013-11-11 At the VIIth International Congress on Rheology, which was held in Goteborg in 1976, Proceedings were for the first time printed in advance and distributed to all participants at the time of the Congress. Although of course we Italians would be foolish to even try to emulate our Swedish friends as far as efficiency of organization is concerned, we decided at the very beginning that, as far as the Proceedings were concerned, the VIIIth International Congress on Rheology in Naples would follow the standards of time liness set by the Swedish Society of Rheology. This book is the result we have obtained. We wish to acknowledge the cooperation of Plenum Press in producing it within the very tight time schedule available. Every four years, the International Congress on Rheology represents the focal point where all rheologists meet, and the state of the art is brought up to date for everybody interested; the Proceedings represent the written record of these milestones of scientific progress in rheology. We have tried to make use of the traditions of having invited lectures, and of leaving to the organizing committee the freedom to choose the lecturers as they see fit, in order to collect a group of invited lectures which gives as broad as possible a landscape of the state of the art in every relevant area of rheology. The seventeen invited lectures are collected in the first volume of the proceedings.

Fluid Mixing 5 H. Benkreira 1996 This work details the proceedings of the Fifth Conference on Fluid Mixing, held in Bradford in July 1996.

Chemical Reactors Pierre Trambouze 2004 This book is designed for engineers in industries involved with the problems of chemical transformations, and for professors and students of process engineering. Whether the reader is working in a design department, and engineering firm or an R&D department, or is managing production plants, he will find material here that is directly applicable to the solution of his problems.

Handbook of Separation Process Technology Ronald W. Rousseau 1987-05-13 Surveys the selection, design, and operation of most of the industrially important separation processes. Discusses the underlying principles on which the processes are based, and provides illustrative examples of the use of the processes in a modern context. Features thorough treatment of newer separation processes based on membranes, adsorption, chromatography, ion exchange, and chemical complexation. Includes a review of historically important separation processes such as distillation, absorption, extraction, leaching, and crystallization and considers these techniques in light of recent developments affecting them.

Fluid Mechanics Frank Kreith 1999-11-29 Many figures and illustrations accompany the readable text, and the index and table of contents are very detailed, making this an especially accessible and convenient resource. The book offers numerous examples that clarify problem-solving processes and are applicable to engineering practices. The ease of use and descriptive text enable the reader to rely heavily on this one resource for all of their fluid mechanics needs. Created for engineers, by engineers, this book provides the necessary basis for proper application of fluid mechanics principles. Fluid Mechanics is an appropriate primary resource for any mechanical engineering professional. Features

Handbook of Food Engineering Dennis R. Heldman 2018-12-19 As the complexity of the food supply system increases, the focus on processes used to convert raw food materials and ingredients into consumer food products becomes more important. The Handbook of Food Engineering, Third Edition, continues to provide students and food engineering professionals with the latest information needed to improve the efficiency of the food supply system. As with the previous editions, this book contains the latest information on the thermophysical properties of foods and kinetic constants needed to estimate changes in key components of foods during manufacturing and distribution. Illustrations are used to demonstrate the applications of the information to process design. Researchers should be able to use the information to pursue new directions in process development and design, and to identify future directions for research on the physical properties of foods and kinetics of changes in the food throughout the supply system. Features Covers basic concepts of transport and storage of liquids and solids, heating and cooling of foods, and food ingredients New chapter covers nanoscale science in food systems Includes chapters on mass transfer in foods and membrane processes for liquid concentration and other applications Discusses specific unit operations on freezing, concentration, dehydration, thermal processing, and extrusion The first four chapters of the Third Edition focus primarily on the properties of foods and food ingredients with a new chapter on nanoscale applications in foods. Each of the eleven chapters that follow has a focus on one of the more traditional unit operations used throughout the food supply system. Major revisions and/or updates have been incorporated into chapters on heating and cooling processes, membrane processes, extrusion processes, and cleaning operations.

Polymer Mixing and Extrusion Technology NicholasP. Cheremisinoff 2017-10-02 Addressing the two major unit operations-mixing and extrusion-fundamental toprocessing elastomers and plastic materials, this reference summarizes design equationsthat can be employed effectively in scaling up product performance parameters, andcontains a thorough survey of rheological principles. In addition, the book provides awealth of practical information, relating molecular and compositional properties ofpolymers to processing characteristics and end-use properties so that engineers can selectpolymers suitable for specific equipment as well as products.Polymer Mixing and Extrusion Technology examines viscometric techniquesand demonstrates their importance to product quality assurance ... reviews design-relatedliterature/correlations and calculation procedures for mixing and extrusion ... definesneeds and precision standards for setting up a polymer processing laboratory so thatproduct quality control can be implemented in physical testing and processing research.. . plus more.Illustrated with over 200 diagrams, tables, and photographs that facilitate readers'understanding of the processes, Polymer Mixing and

Extrusion Technology isan authoritative source for plastics, polymer, and chemical engineers, manufacturers ofplastics processing equipment, and advanced undergraduate and graduate students in thesedisciplines.

Novel Postharvest Treatments of Fresh Produce Sunil Pareek 2017-11-22 Consumption of fresh fruits and vegetables has increased dramatically in the last several decades. This increased consumption has put a greater burden on the fresh produce industry to provide fresher product quality, combined with a high level of food safety. Therefore, postharvest handling, storage and shipment of horticultural crops, including fruit and vegetable products has increased in importance. Novel Postharvest Treatments of Fresh Produce focuses mainly on the application of novel treatments for fruits and vegetables shipping and handling life. A greater emphasis is placed on effects of postharvest treatments on senescence and ripening, bioactive molecule contents and food safety. The work presented within this book explores a wide range of topics pertaining to novel postharvest treatments for fresh and fresh-cut fruits and vegetables including applications of various active agents, green postharvest treatments, physical treatments and combinations of the aforementioned.

Stirring Marko Zlokarnik 2008-07-11 Stirring is one of the most important operations in process technology. No chemical exists that has non been submitted to a mixing process during its synthesis. Furthermore, stirring is important for the pharmaceutical and food industries, too. The most important mixing operations are applied to homogenize miscible liquids, to intensify the heat transfer between a liquid and the heat exchanger, and to perform mass transfer in multiphase systems, to whirl up solid particles in fluids and to disperse immiscible liquids. This book discusses in detail the above listed operations, taking into consideration also different rheological behaviour of the system treated (Newtonian and non-Newtonian). For each stirring task reliable scale-up rules are presented. In addition, mixing in pipes is discussed in great detail. Since there are so many aspects it is almost impossible for the user to get and keep an overview. Therefore, this book presents more than 730 references and covers publications until the end of the year 2000 for everybody who needs to know more details.

Recent Advances in Liquid-Liquid Extraction C. Hanson 2013-10-22 Recent Advances in Liquid-liquid Extraction focuses on the applications of liquid extraction. The selection first discusses solvent extraction. Concerns include organic and inorganic separations, mass transfer process, solvent extraction economics, and coalescence in liquid-liquid systems. The book focuses on the chemistry of solvent extraction. Extraction by acidic organophosphorus compounds; extraction by phosphorus-bonded oxygen-donor solvents; extraction by high-molecular weight amines; and synergistic extraction are elaborated. The book also focuses on industrial organic processes; industrial contacting equipment; response characteristics and control of extraction processes; and calculation of contactors with longitudinal mixing. The selection presents the study of longitudinal mixing in liquid-liquid contactors. Rotating disc contactors, packed columns, vibrating plate extractors, and Oldshue-Rushton columns are described. The text also discusses heat transfer by direct liquid-liquid contact and the coalescence of liquid droplets and liquid dispersion. The selection is a vital source of data for readers interested in liquid extraction.

Engineering Data on Mixing Reiji Mezaki 1999-11-19 This book is a compilation of the engineering data on mixing, which have appeared in the major technical journals of chemical engineering and bioengineering since 1975. That year marked the beginning of a period of rapid advancement in the science and technology of mixing, with rather reliable results for both theoretical and experimental studies. In addition, some important earlier articles which have been, and still are being referred to, are included. Designs of both agitators and tanks still depend primarily on art and experience. In light of this

it was felt that the data on mixing should be compiled and presented in a systematic manner to assist in design and analysis of agitated tanks, and to provide easier access to mixing data for various engineering activities. Although computer-aided searches of pertinent data bases can be of assistance to chemical engineers and bioengineers in their studies, they are sometimes time-consuming and often costly. Furthermore inadequate selection of key words can jeopardize the searches. This book offers an alternative method of surveying mixing data which interests readers. The first chapter presents a variety of results for the experimental measurements of flow patterns in stirred tanks. Most of the measurements were made by using modern Laser-Doppler techniques. This chapter is useful for the prediction of flow patterns in tanks with many different geometries, various types of agitators, and fluids of diverse physical and rheological properties, plus valuable data for the validation of results obtained by CFD simulations. Chapters 2 through 5 deal with data for traditional chemical engineering subjects and Chapter 6 summarizes a number of scale-up relations developed over the years for various systems. These include liquid, solid-liquid, liquid-liquid, gas-liquid, and solid-liquid-gas systems. Chapter 7 provides data related to multiphase processes, and most importantly, drop size and drop-size distributions and bubble-size distributions. These two subjects have not been treated systematically either in text books or in handbooks on stirred-tank mixing, although the results of both experimental and theoretical investigations have been reported on many occasions. Finally gas-inducing mechanically agitated systems are dealt with. The applications of this type of agitation system will become increasingly attractive from the standpoint of rationalization of stirred-tank operations as well as environmental protection.

Desalination Research United States. Congress. House. Committee on Science, Space, and Technology. Subcommittee on Science 1992

Modified Atmosphere Packaging for Fresh-Cut Fruits and Vegetables Aaron L. Brody 2010-12-30 Modified Atmosphere Packaging for Fresh-cut Fruits and Vegetables provides comprehensive coverage of all aspects of modern MAP technologies for fresh-cut fruits and vegetables. Coverage begins with the general MAP concept and application by introducing the concept of MAP, how MAP works for fresh-cut produce and the benefits and shortfalls of MAP in its application. The book then discusses the basic aspects of MAP – packaging materials and machinery. In these sections, the book addresses not only the general information about MAP materials, but also supplies examples to introduce the new packaging films and their successful application in produce and fresh-cut fruits and vegetables. Unique chapters and sections in the book include relevant patents for MAP, commercial practices and MAP packaging machinery. Generally, packaging machinery is only included in books specifically covering packaging engineering. Coverage of this important aspect is included in the book since fresh-cut manufacturers spend much more time in the day-to-day operations on packaging machinery and systems as compared to packaging film materials. In the final section, Modified Atmosphere Packaging for Fresh-cut Fruits and Vegetables highlights the latest developments in the packaging industry and how they could impact the fresh-cut industry.