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Earthen Dwellings and Structures
Processing and Characterization
Contributions to the History of Herpetology
Principles, Practice and Economics of Plant and Process Design
Properties, Catalysts, and Processes
Olefin Polymerization
Catalytic Olefin Polymerization
Introduction to Industrial Polypropylene
Structures: Properties, and Applications
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Feedstock Recycling and Pyrolysis of Waste Plastics
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Geochemical and Biogeochemical Reaction Modeling
Industrial Organic Chemicals
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Petrochemical Technology Assessment
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Semiconductor Materials for Solar Photovoltaic Cells
Science and Technology
Simulation, Modeling, and Intelligent Engineering
Chemical Engineering Design
Glucose Syrups
Bioethanol Technologies
Definitive Guide to Manufacturing, Properties, Processing, Applications and Markets Set
Introduction to Industrial Polyethylene
Handbook of Thermoplastics, Second Edition
Handbook of Industrial Polyethylene and Technology
Polymerization and Characterization
Polymer Reaction Engineering
Structure, Properties and Industrial Applications
Fundamentals and Industrial Applications
Freight Transportation Research
Advances in Technical Nonwovens

MCKEE GRAHAM

Earthen Dwellings and Structures

World Scientific Bioethanol Technologies explores the conceptual and methodological approaches for understanding bioethanol technologies and future perspectives.

The book comprehensively covers the global scenario of ethanol production from both food and non-food crops and other sources. This book is a useful resource for those involved with biofuels in general and bioethanol in particular, including energy engineers, researchers, consultants, analysts, policy makers, and professionals in the industry supply chain. This book: • Reviews the most significant research findings in both ethanol production and utilization; • Presents technological interventions in ethanol production, from plant biomass to food crops; • Offers a foresight analysis on the perspectives of bioethanol as a global commodity; • Presents a complete overview of the main challenges that bioenergy will have to overcome in order to play a key role in future energy systems; • Presents necessary Occupational Health and Safety (OH Processing and Characterization John Wiley & Sons Publisher Description **Contributions to the History of Herpetology** Springer This new edition of the bestselling Handbook of Thermoplastics incorporates recent developments and advances in thermoplastics

with regard to materials development, processing, properties, and applications. With contributions from 65 internationally recognized authorities in the field, the second edition features new and updated discussions of several topics, including: Polymer nanocomposites Laser processing of thermoplastic composites Bioplastics Natural fiber thermoplastic composites Materials selection Design and application Additives for thermoplastics Recycling of thermoplastics Regulatory and legislative issues related to health, safety, and the environment The book also discusses state-of-the-art techniques in science and technology as well as environmental assessment with regard to the impact of thermoplastics. Each chapter is written in a review format that covers: Historical development and commercialization Polymerization and process technologies Structural and phase characteristics in relation to use properties The effects of additives on properties and applications Blends, alloys, copolymers, and composites derived from thermoplastics Applications Giving thorough coverage of the most recent trends in research and practice, the Handbook of Thermoplastics, Second

Edition is an indispensable resource for experienced and practicing professionals as well as upper-level undergraduate and graduate students in a wide range of disciplines and industries. *Principles, Practice and Economics of Plant and Process Design* Handbook of Industrial Polyethylene and TechnologyDefinitive Guide to Manufacturing, Properties, Processing, Applications and Markets Set Stereoregular Polymers and Stereospecific Polymerizations: The Contributions of Guilio Natta and his School to Polymer Chemistry, Volume 1 covers the developments in understanding the reactions, nomenclature, and physico-chemical properties of polymers. This volume is composed of 82 chapters, and starts with surveys of the synthesis and crystal structure of polymers. Significant chapters are devoted to the characterization of crystalline polymers, with emphasis on the determination of their viscosity and molecular weight. Other chapters deal with stereospecific polymers of olefins, mechanism of stereospecific catalysis, reaction kinetics. This volume also considers the polymerization of synthetic elastomers and the copolymerizati

on of olefins, as well as their reaction kinetics. The remaining chapters describe the X-ray characterizati on of isotactic polymers. This book is directed toward polymer chemists. Properties, Catalysts, and Processes World Scientific This book analyses various aspects of social responsibility, corporate responsibility, sustainability and governance. Rather than focusing narrowly on a single perspective, it investigates a number of problems and scenarios that can all be considered an aspect of one of these fields, and shows how they are all related to each other and to the problems and issues facing businesses. This approach is based on the tradition of the Social Responsibility Research Network, which in its 15-year history has sought to broaden the discourse and to treat all research in these areas as inter-related and relevant to business. The book collects the best papers presented at the 15th International Conference on Corporate Social Responsibility and 6th Organisational Governance Conference held in Melbourne, Australia in September 2016. **Olefin Polymerizati on** Elsevier Handbook of Plasticizers,

Third Edition, is an essential professional reference, providing information that enables R&D scientists, production chemists, and engineers the information they need to use plasticizers more effectively, and to avoid certain plasticizers in applications where they may cause health or material durability problems. Plasticizers are vital to the plastics industry, particularly in improving the properties of materials such as PVC. Plasticizers are commonly added to complex mixtures containing a variety of materials, so successful incorporation requires a broad understanding of the mechanisms of plasticizer action, and compatibility with different materials and blends. There is a large selection of commercial plasticizers, and various environmental issues which impact on selection decisions. The book discusses new and historical approaches to the use of plasticizers, explaining mechanisms of plasticizers' action and their behavior in plasticized systems. It goes into detail on the use of plasticizers in a range of specific polymers, polymer blends, and other industrial products. This includes coverage of the impact of

plasticizers on processing. George Wypych provides the data and know-how from the most recent sources and updated information required by engineers and scientists working in the plastics industry and the many industry sectors that use plastics in their products. The book covers the uses, advantages, and disadvantages of plasticizers, historical and theoretical background, their effects on process conditions, and health, safety, and environmental issues. Enables materials scientists, chemists and engineers to use plasticizers more effectively, and avoid health and safety or performance risks Includes detailed coverage of the impact of plasticizers on polymers, and processing methods Provides the broad background of information required to select the correct plasticizer for any application Covers the uses, advantages, and disadvantages of plasticizers, including historical and theoretical background Catalytic Olefin Polymerization Springer Science & Business Media This book presents selected papers presented during the International Symposium on Earthen

Structures held in IISc Bangalore. The papers in this volume cover the theme of earthen structures, with technical content on materials and methods, structural design and seismic performance, durability, seismic response, climatic response, hygrothermal performance and durability, design and codes, architecture, heritage and conservation, and technology dissemination. This book will be of use to professionals, academics, and students in architecture and engineering. *Introduction to Industrial Polypropylene* Elsevier Over the last twenty years, the field of the chemistry of polymerization witnessed enormous growth through the development of new concepts, catalysts, processes etc. Examples are: non classical living polymerizations (group transfer polymerization, living carbocationic polymerization, living radical polymerization and living ring-opening metathesis polymerization (ROMP)); new catalysts (metallocenes and late transition metal catalysts for stereospecific polymerization, Schrock and Grubbs catalyst for ROMP among others) and new processes such as miniemulsion, microemulsion polymerization and dispersion polymerization

(in polar solvents). Apart from the developments in the chemistry of polymerization, methods have been developed for the evaluation of highly reliable rate constants of propagation in radical as well as cationic polymerization. All these have revolutionized the field of synthetic polymer chemistry. In the book, fundamentals of both the new and old polymerization chemistry have been dealt with. The new chemistry has been given nearly equal space along with the old.

Structures: Properties, and Applications

Ssar Publications

Polymers are an example of "products-by-process", where the final product properties are mostly determined during manufacture, in the reactor. An understanding of processes occurring in the polymerization reactor is therefore crucial to achieving efficient, consistent, safe and environmentally friendly production of polymeric materials. Polymer Reaction Engineering provides the link between the fundamentals of polymerization kinetics and polymer microstructure achieved in the reactor. Organized according to the type of polymerization, each chapter starts with a description of

the main polymers produced by the particular method, their key microstructural features and their applications Polymerization kinetics and its effect on reactor configuration, mass and energy balances and scale-up are covered in detail. The text is illustrated with examples emphasizing general concepts, principles and methodology. Written as an authoritative guide for chemists and chemical engineers in industry and academe, Polymer Reaction Engineering will also be a key reference source for advanced courses in polymer chemistry and technology. *Stereoregular Polymers and Stereospecific Polymerizations* Woodhead Publishing This text provides the basic history, molecular structure and intrinsic properties, practical applications and future developments of polyethylene production and marketing - including recycling systems and metallocene technology. It describes commercial processing techniques used to convert raw polyethylene to finished products, emphasizing special properties and end-use applications. The Goals of Sustainable Development BoD – Books on Demand This book provides a comprehensiv

e overview of reaction processes in the Earth's crust and on its surface, both in the laboratory and in the field. A clear exposition of the underlying equations and calculation techniques is balanced by a large number of fully worked examples. The book uses The Geochemist's Workbench® modeling software, developed by the author and already installed at over 1000 universities and research facilities worldwide. Since publication of the first edition, the field of reaction modeling has continued to grow and find increasingly broad application. In particular, the description of microbial activity, surface chemistry, and redox chemistry within reaction models has become broader and more rigorous. These areas are covered in detail in this new edition, which was originally published in 2007. This text is written for graduate students and academic researchers in the fields of geochemistry, environmental engineering, contaminant hydrology, geomicrobiology, and numerical modeling. *Chemicals from Wood* Elsevier Applied Science Part I: Process design -- Introduction to design -- Process flowsheet development -- Utilities and energy

efficient design -- Process simulation -- Instrumentation and process control -- Materials of construction -- Capital cost estimating -- Estimating revenues and production costs -- Economic evaluation of projects -- Safety and loss prevention -- General site considerations -- Optimization in design -- Part II: Plant design -- Equipment selection, specification and design -- Design of pressure vessels -- Design of reactors and mixers -- Separation of fluids -- Separation columns (distillation, absorption and extraction) -- Specification and design of solids-handling equipment -- Heat transfer equipment -- Transport and storage of fluids.

Feedstock Recycling and Pyrolysis of Waste Plastics Elsevier

Handbook of Industrial Polyethylene and TechnologyDefinitive Guide to Manufacturing, Properties, Processing, Applications and Markets SetJohn Wiley & Sons

An Electrochemical Approach to Electron Transfer Chemistry Prabhat Prakashan

Polyolefin Fibres: Structure, Properties and Industrial Applications, Second Edition, explores one of the most widely used commercial polymers, with a focus on the

most important polyolefins, namely polyethylene, polypropylene, and polyolefin bicomponent fibres. These versatile fibres are durable, chemically resistant, lightweight, economical, and functional. This new edition has been updated and expanded to include cutting-edge research on a broad range of advanced applications. Part I covers the structure and properties of polyolefin fibres, incorporating a new chapter on the environmental aspects of polyolefin use. Part II examines the methods for improving the functionality of polyolefins, providing essential information for those engaged in developing high-performance materials. A final group of chapters addresses how polyolefin fibres can be incorporated into specific textile applications, such as automotive, geotextile, biomedical, and hygiene products, and explores potential future development. This book is an essential reference for textile technologists and manufacturers, polymer and fibre scientists, yarn and fabric manufacturers, biomedical and device engineers, and industrialists and researchers. Introduces the types, properties and

structure of polyolefin fibers for readers new to the polyolefins field Examines methods to improve the functionality of polyolefin fibers, providing essential information for textile technologists and research and development managers engaged in developing high-performance materials Presents existing and potential applications of polyolefin fibers, exploring how they can expand the range of commercial polyolefin-based products

Converting Waste Plastics Into Diesel and Other Fuels

William Andrew

Recent development of a new generation of Ziegler-Natta Catalysts using either magnesium dichloride as carrier or methylalumin oxane as cocatalyst has markedly stimulated the research activity in the field of olefin polymerization . These discoveries have not only yielded economical processes for polyolefin production but also opened the way to a new generation of novel polymers. Moreover, the nature of active species is being clarified well by the effort to simplify catalyst systems. The present volume includes 38 papers from the 31 lectures and 18 posters

presented at the symposium on `Recent Developments in Olefin Polymerization Catalysts', which covered the following topics: Overview of super-active homogeneous and heterogeneous catalysts, kinetic profile of olefin polymerization including copolymerization, characterization of catalysts and polymers, methods for the determination of active center concentration, role of Lewis bases on the catalysts isospecificity, polymerization mechanisms, and synthetic pathways for functionalized polyolefins. The contents are well balanced between fundamental research and application as well as between homogeneous and heterogeneous catalyst systems.

Polypropylene and other Polyolefins

CRC Press

Analyzes the performance of the petrochemical industry from two perspectives, systems analysis (detailing the use of linear programming in analyzing the performance of the industry as a whole) and a chemical technology catalog (a data base on modern technology for the production of primary feedstocks and intermediate chemicals, plastics, and resins, man-made fibers, synthetic rubbers, and thermoplastic

elastomers).

Principles and Applications

Elsevier

With an enormous velocity, olefin polymerization has expanded to one of the most significant fields in polymers since the first industrial use about 50 years ago. In 2005, 100 million tons of polyolefins were produced - the biggest part was catalyzed by metallorganic compounds. The Hamburg Macromolecular Symposium 2005 with the title "Olefin Polymerization " involved topics such as new catalysts and cocatalysts, kinetics, mechanism and polymer reaction engineering, synthesis of special polymers, and characterization of polyolefins. The conference combined scientists from different disciplines to discuss latest research results of polymers and to offer each other the possibility of cooperation. This is reflected in this volume, which contains invited lectures and selected posters presented at the symposium.

Geochemical and Biogeochemical Reaction Modeling

Wiley

This book reviews the current status of semiconductor materials for conversion of sunlight to electricity, and highlights advances in both basic science and

manufacturing . Photovoltaic (PV) solar electric technology will be a significant contributor to world energy supplies when reliable, efficient PV power products are manufactured in large volumes at low cost. Expert chapters cover the full range of semiconductor materials for solar-to-electricity conversion, from crystalline silicon and amorphous silicon to cadmium telluride, copper indium gallium sulfide selenides, dye sensitized solar cells, organic solar cells, and environmentally friendly copper zinc tin sulfide selenides. The latest methods for synthesis and characterization of solar cell materials are described, together with techniques for measuring solar cell efficiency. Semiconductor Materials for Solar Photovoltaic Cells presents the current state of the art as well as key details about future strategies to increase the efficiency and reduce costs, with particular focus on how to reduce the gap between laboratory scale efficiency and commercial module efficiency. This book will aid materials scientists and engineers in identifying research priorities to fulfill energy needs, and will also enable researchers to understand novel

semiconductor materials that are emerging in the solar market. This integrated approach also gives science and engineering students a sense of the excitement and relevance of materials science in the development of novel semiconductor materials. · Provides a comprehensive introduction to solar PV cell materials · Reviews current and future status of solar cells with respect to cost and efficiency · Covers the full range of solar cell materials, from silicon and thin films to dye sensitized and organic solar cells · Offers an in-depth account of the semiconductor material strategies and directions for further research · Features detailed tables on the world leaders in efficiency demonstrations · Edited by scientists with experience in both research and industry **Industrial Organic Chemicals** Transportation Research Board National Research This reference work provides a comprehensive and authoritative overview of functional polymers and polymeric materials, ranging from their synthesis and characterization, to properties, actual applications and an outlook on future perspectives. Including over 30 comprehensive review chapters, all written by

leading international experts, this reference is also a sound introduction to this exciting field. The book is carefully edited by an international team of experts in the field, ensuring complete coverage of the relevant topics and concise representation. Functional polymers and smart polymeric materials play a decisive role for new innovations in all areas where new materials are needed. Optoelectronics, catalysis, biomaterials, medicine, building materials, water treatment, coatings, and many more applications rely on functional polymers. This work is a major reference for researchers, scientists, and practitioners working in any of these fields, or entering this vibrant research area. Key topics of this reference work include: Polymerization methods and polymer synthesis Characterization and properties of new functional polymers and smart materials Functional polymer composites and blends Applications of functional polymers and smart materials: for electro-optics and optoelectronics, in biology and in medical research, as coatings and adhesives, for gas sensing, in functional membranes for separation or proton conduction and many more

Plastics Materials Cambridge University Press
The book intends to give a state-of-the-art overview of flexoelectricity , a linear physical coupling between mechanical (orientational) deformations and electric polarization, which is specific to systems with orientational order, such as liquid crystals. Chapters written by experts in the field shed light on theoretical as well as experimental aspects of research carried out since the discovery of flexoelectricity . Besides a common macroscopic (continuum) description the microscopic theory of flexoelectricity is also addressed. Electro-optic effects due to or modified by flexoelectricity as well as various (direct and indirect) measurement methods are discussed. Special emphasis is given to the role of flexoelectricity in pattern-forming instabilities. While the main focus of the book lies in flexoelectricity in nematic liquid crystals, peculiarities of other mesophases (bent-core systems, cholesterics, and smectics) are also reviewed. Flexoelectricity has relevance to biological (living) systems and can also offer possibilities for technical applications. The basics of these two

interdisciplinary fields are also summarized.