
Handbook Of Petrochemicals Production Processes Mcgraw Hill Handbooks

Nuclear Hydrogen Production Handbook
Oil and Gas Production Handbook: An Introduction to Oil and Gas Production
Process Technology
Handbook of Chemicals Production Processes
An Introduction
Handbook of Industrial Hydrocarbon Processes
Guidelines for Chemical Process Quantitative Risk Analysis
Zeolites for Cleaner Technologies
Production Chemicals for the Oil and Gas Industry, Second Edition
Industrial Automation: Hands On
Handbook of Petroleum Refining
Handbook of Petrochemicals and Processes
Petrochemical Processing, Hydrocarbon Technology and Green Engineering
Chemistry of Petrochemical Processes
Petrochemistry
A Guide to Theory and Practice
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Process Safety in Upstream Oil and Gas
Organic Chemicals
Fundamentals of Petroleum Refining
The Chemistry and Technology of Petroleum
Petrochemical Processes
Handbook of Petrochemicals Production Processes
Petrochemical Catalyst Materials, Processes, and Emerging Technologies
Process Automation Handbook
Handbook of Petrochemicals Production Processes, Second Edition
Principles, Practice and Economics of Plant and Process Design
Valve Handbook 3rd Edition
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Fermentation and Biochemical Engineering Handbook, 2nd Ed.

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Nuclear Hydrogen Production Handbook McGraw Hill Professional

Written by two leading researchers from the world-renowned Japan Atomic Energy Agency, the Nuclear Hydrogen Production Handbook is an unrivalled overview of current and future prospects for the effective production of hydrogen via nuclear energy. Combining information from scholarly analyses, industrial data, references, and other resources, this h

Oil and Gas Production Handbook: An Introduction to Oil and Gas Production CRC Press

This handbook provides a comprehensive but concise reference resource for the vast field of petroleum technology. Built on the successful book "Practical Advances in Petroleum Processing" published in 2006, it has been extensively revised and expanded to include upstream technologies. The book is divided into four parts: The first part on petroleum characterization offers an in-depth review of the chemical composition and physical properties of petroleum, which determine the possible uses and the quality of the products. The second part provides a brief overview of petroleum geology and upstream practices. The third part exhaustively discusses established and emerging refining technologies from a practical perspective, while the final part describes the production of various refining products, including fuels and lubricants, as well as petrochemicals, such as olefins and polymers. It also covers process automation and real-time refinery-wide process optimization. Two key chapters provide an integrated view of petroleum technology, including environmental and safety issues. Written by international experts from academia, industry and research institutions, including integrated oil companies, catalyst suppliers, licensors, and consultants, it is an invaluable resource for researchers and graduate students as well as practitioners and professionals.

Process Technology McGraw Hill Professional

This is a well-rounded handbook of fermentation and biochemical engineering presenting techniques for the commercial production of chemicals and pharmaceuticals via fermentation. Emphasis is given to unit operations fermentation, separation, purification, and recovery. Principles, process design, and equipment are detailed. Environment aspects are covered. The practical aspects of development, design, and operation are stressed. Theory is included to provide the necessary insight for a particular operation. Problems addressed are the collection of pilot data, choice of scale-up parameters, selection of the right piece of equipment, pinpointing of likely trouble spots, and methods of troubleshooting. The text, written from a practical and operating viewpoint, will assist development, design, engineering and production personnel in the fermentation industry. Contributors were selected based on their industrial background and orientation. The book is illustrated with numerous figures, photographs and schematic diagrams.

Handbook of Chemicals Production Processes CRC Press

Supported by numerous illustrations and references, this book describes the chemistry and physics that occur during the refinery operations, and how the properties of petroleum can be translated into predictability in refinery scenarios. The chapters discuss such topics as: the composition of

petroleum, petroleum analysis and evaluation; metals and heteroatoms in petroleum; asphaltenes and the structure of petroleum, thermal chemistry of petroleum constituents; heavy oil upgrading processes; hydrocracking reactions, catalysts, and processes; and instability and incompatibility of petroleum products.

An Introduction CRC Press

In Chemistry of Petrochemical Processes, readers find a handy and valuable source of information containing insights into petrochemical reactions and products, process technology, and polymer synthesis. The book reviews and describes the reactions and processes involved in transforming petroleum-based hydrocarbons into the chemicals that form the basis of the multi-billion dollar petrochemical industry. In addition, the book includes information on new process developments for the production of raw materials and intermediates for petrochemicals that have surfaced since the book's first edition. Provides a quick understanding of the chemical reactions associated with oil and gas processing Contains insights into petrochemical reactions and products, process technology, and polymer synthesis

Handbook of Industrial Hydrocarbon Processes CRC Press

First published in 1991, this volume responds to the major changes in the petrochemical industry over the previous decade due to increases in raw material costs, improvements in process efficiency and the increasing importance now being placed on environmental issues. The Handbook of Petrochemicals and Processes provides comprehensive, up to date information on 76 petrochemicals and their processes, giving details of the chemical reactions involved in transforming raw materials, such as olefins and aromatics, into chemicals, plastics and synthetic fibres. The competing processes for each product including the latest technical developments are described, with their feedstock requirements, catalysts and conversion rates compared. Many of the processes are illustrated with clear flow diagrams. The book is easy to use with the products arranged in alphabetical order. Within each chapter on the individual products there are details of the physical characteristics and properties; grades available; handling; transportation; health and safety aspects and lists of the major manufacturers and licensors The Handbook of Petrochemicals and Processes gathers together in one volume, all the commonly sought chemical information. It will prove an invaluable source of reference for industrial chemists, chemical engineers, and industry professionals, as well as librarians and information centres concerned with the petrochemical industry.

Guidelines for Chemical Process Quantitative Risk Analysis CRC Press

This book provides a systematic and comprehensive introduction to various aspects of production of petrochemicals. Beginning with an introduction to petrochemicals, the book discusses the raw materials scenario with special reference to India. While discussing the profile of Indian petroleum and petrochemicals industries, the book emphasises on recent advances in the production of basic raw materials, namely, olefins, aromatics, intermediates and finished products like polymers, elastomers, polyurethane, synthetic fibres, and so on. Issues of environmental management, corrosion and selection of materials of construction in the petrochemical industries have also been dealt with. It has been written in consultation with numerous leading engineers and technologists working in the petroleum, petrochemical and R&D centres in related areas.

Zeolites for Cleaner Technologies McGraw Hill Professional

Fundamentals of Petroleum Refining presents the fundamentals of thermodynamics and kinetics, and it explains the scientific background essential for understanding refinery operations. The text also provides a detailed introduction to refinery engineering topics, ranging from the basic principles and unit operations to overall refinery economics. The book covers important topics, such as clean fuels, gasification, biofuels, and environmental impact of refining, which are not commonly discussed in most refinery textbooks. Throughout the source, problem sets and examples are given to help the reader practice and apply the fundamental principles of refining. Chapters 1-10 can be used as core materials for teaching undergraduate courses. The first two chapters present an introduction to the petroleum refining industry and then focus on feedstocks and products. Thermophysical properties of crude oils and petroleum fractions, including processes of atmospheric and vacuum distillations, are discussed in Chapters 3 and 4. Conversion processes, product blending, and alkylation are covered in chapters 5-10. The remaining chapters discuss hydrogen production, clean fuel production, refining economics and safety, acid gas treatment and removal, and methods for environmental and effluent treatments. This source can serve both professionals and students (on undergraduate and graduate levels) of Chemical and Petroleum Engineering, Chemistry, and Chemical Technology. Beginners in the engineering field, specifically in the oil and gas industry, may also find this book invaluable. Provides balanced coverage of fundamental and operational topics Includes spreadsheets and process simulators for showing trends and simulation case studies Relates processing to planning and management to give an integrated picture of refining

Production Chemicals for the Oil and Gas Industry, Second Edition CRC Press

Comprehensive, up-to-date coverage of valves for the process industry Revised to include details on the latest technologies, Valve Handbook, Third Edition, discusses design, performance, selection, operation, and application. This updated resource features a new chapter on the green technology currently employed by the valve industry, as well as an overview of the major environmental global standards that process plants are expected to meet. The book also contains new information on: Valves used in the wastewater industry Applying emergency shutdown (ESO) valves Recent changes to shutoff classifications Valves specified for the nuclear industry The procurement process for the Nuclear Stamp (N-Stamp) The emergence of wireless technology and its application to current smart technology Characteristics of high-performance hydraulic fluid Valve Handbook, Third Edition, covers: Valve selection criteria Manual valves Check valves Pressure relief valves Control valves Manual operators and actuators Smart valves and positioners Valve and actuator sizing Green valve technology and application Common valve problems Valve purchasing issues

Industrial Automation: Hands On John Wiley & Sons

This book, written and edited by leading authorities from academia and industrial groups, covers both preventive- and curative-zeolite-based technologies in the field of chemical processing. The opening chapter presents the state of the art in zeolite science. The two subsequent chapters summarize the chemistries involved in the processes and the constraints imposed on the catalyst/adsorbent. Three major areas are covered: oil refining, petrochemicals and fine chemicals. A chapter on the (curative) use of zeolites in pollution abatement completes this overview. In the area

of oil refining, a general lecture sets the scene for present and future challenges. It is followed by in-depth case studies involving FCC, hydrocracking and light naphtha isomerization. Also, an entire chapter is devoted to the often-overlooked subject of base oils. In the area of petrochemicals, the processing of aromatics and olefins is described and special attention is paid to the synergy between catalysis and separation on molecular sieves. Contents: Introduction to Zeolite Science and Technology (M Guisnet & J-P Gilson) The Chemistry of Catalytic Processes (A Corma & A Martínez) Preparation of Zeolite Catalysts (T G Roberie et al.) Refining Processes: Setting the Scene (R H Jensen) Advances in Fluid Catalytic Cracking (E T Habib et al.) Hydrocracking (J A R Van Veen) C4-C6 Alkane Isomerisation (F Schmidt & E Köhler) Base Oil Production and Processing (M Daage) Para-Xylene Manufacturing Catalytic Reactions and Processes (F Alario & M Guisnet) Separation of Paraxylene by Adsorption (A Méthivier) Aromatic Alkylation: Towards Cleaner Processes (J S Beck et al.) Methanol to Olefins (MTO) and Beyond (P Barger) Zeolite Effects on Catalytic Transformations of Fine Chemicals (D E De Vos & P A Jacobs) Functionalization of Aromatics over Zeolite Catalysts (P Marion et al.) Zeolites and 'Non-Zeolite' Molecular Sieves in the Synthesis of Fragrances and Flavors (W F Hoelderich & M C Laufer) Pollution Abatement Using Zeolites: State of the Art and Further Needs (G Delahay & B Coq) Readership: Undergraduates, graduate students, academics and researchers in catalyst chemistry. Reviews: "Chapter authors have provided a teaching text that gives excellent introductory chapters to zeolites, and to the nature and significance of the processes that they can catalyse ... This excellent book should be required reading for all scientists who have an interest in improving the environment." Chemistry & Industry

Handbook of Petroleum Refining McGraw Hill Professional

Introduces the reader to the production of the products in a refinery • Introduces the reader to the types of test methods applied to petroleum products, including the need for specifications • Provides detailed explanations for accurately analyzing and characterizing modern petroleum products • Rewritten to include new and evolving test methods • Updates on the evolving test methods and new test methods as well as the various environmental regulations are presented

Handbook of Petrochemicals and Processes CRC Press

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Petrochemical Processing, Hydrocarbon Technology and Green Engineering CRC Press*Handbook of Petrochemical Processes* CRC Press*Chemistry of Petrochemical Processes* Springer Science & Business Media

Process Technology provides a general overview about chemical and biochemical process technology. It focuses on the structure and development of production processes, main technological operations and the important aspects of process economics. The theoretical foundations in each chapter are supplemented by case studies and examples in a clear and instructive manner to illustrate the practical aspects. The author highlights operating principles, reasons for application and available industrial equipment of technological operations. Aim is to

facilitate those without a process technology background in multi-disciplinary cooperation with (bio-) chemical engineers by providing an overview of this exciting field. The textbook is organized into seven distinct parts: Structure of the chemical industry and (bio-) chemical processes (Bio-) Chemical reaction engineering Molecular separations (distillation, extraction, absorption, adsorption) Mechanical separations (filtration, sedimentation, membranes) Particle and final product manufacturing Development, scale-up, design and safety of processes Major industrial process descriptions

Petrochemistry Routledge

Control chemical processes to get the results you want Invaluable to chemical and environmental engineers as well as process designers, *Chemical Process and Design Handbook* shows you how to control chemical processes to yield desired effects efficiently and economically. The book examines each of the major chemical processes, such as reactions, separations, mixing, heating, cooling, pressure change, and particle size reduction and enlargement -- in logically arranged alphabetical chapters, providing you with an understanding of the essential qualitative analysis of each. The Handbook, from expert James Speight: Emphasizes chemical conversions -- chemical reactions applied to industrial processing Provides easy-to-understand descriptions to explain reactor type and design Describes the latest process developments and possible future improvements or changes

A Guide to Theory and Practice Routledge

First published in 1991, this volume responds to the major changes in the petrochemical industry over the previous decade due to increases in raw material costs, improvements in process efficiency and the increasing importance now being placed on environmental issues. The Handbook of Petrochemicals and Processes provides comprehensive, up to date information on 76 petrochemicals and their processes, giving details of the chemical reactions involved in transforming raw materials, such as olefins and aromatics, into chemicals, plastics and synthetic fibres. The competing processes for each product including the latest technical developments are described, with their feedstock requirements, catalysts and conversion rates compared. Many of the processes are illustrated with clear flow diagrams. The book is easy to use with the products arranged in alphabetical order. Within each chapter on the individual products there are details of the physical characteristics and properties; grades available; handling; transportation; health and safety aspects and lists of the major manufacturers and licensors The Handbook of Petrochemicals and Processes gathers together in one volume, all the commonly sought chemical information. It will prove an invaluable source of reference for industrial chemists, chemical engineers, and industry professionals, as well as librarians and information centres concerned with the petrochemical industry.

Handbook of Petroleum Product Analysis Macmillan

Handbook of Chemical Technology and Pollution Control integrates industrial chemistry with pollution control and environmental chemistry. This unified approach provides practicing professionals and consultants with a concise yet authoritative handbook covering the Key Features, relative importance, and environmental impact of currently operating chemical processes. It also meets the critical needs of students training for industrial careers. Handbook of Chemical Technology and Pollution Control considers community, municipal, power generation, industrial, and

transportation components of environmental impact. The book covers the major inorganic and organic commodity chemicals; aluminum, iron and steel, and copper production; pulp and paper; fermentation; petroleum production and refining. It also includes key topics and process details for major petrochemicals and large-scale consumer and engineering polymers. This single, convenient volume describes aspects of recycling at the industrial and post-consumer levels, and emphasizes a quantitative approach as used in the author's well-known lifecycle work with disposable and reusable cups. 0-12-350811-8 Key Features * Covers historical background and new developments in a single, authoritative handbook * Presents integrated treatment of chemical technology with emission control chemistry * Includes tables throughout that give current and trend data * Considers community, municipal, power generation, industrial, and transportation components of environmental impact * Provides many references to further reading * Contains review questions that offer working experience with the information and concepts

Elsevier

The importance of biofuels in greening the transport sector in the future is unquestionable, given the limited available fossil energy resources, the environmental issues associated to the utilization of fossil fuels, and the increasing attention to security of supply. This comprehensive reference presents the latest technology in all aspects of biofuels production, processing, properties, raw materials, and related economic and environmental aspects. Presenting the application of methods and technology with minimum math and theory, it compiles a wide range of topics not usually covered in one single book. It discusses development of new catalysts, reactors, controllers, simulators, online analyzers, and waste minimization as well as design and operational aspects of processing units and financial and economic aspects. The book rounds out by describing properties, specifications, and quality of various biofuel products and new advances and trends towards future technology.

Process Safety in Upstream Oil and Gas John Wiley & Sons

This book distils into a single coherent handbook all the essentials of process automation at a depth sufficient for most practical purposes. The handbook focuses on the knowledge needed to cope with the vast majority of process control and automation situations. In doing so, a number of sensible balances have been carefully struck between breadth and depth, theory and practice, classical and modern, technology and technique, information and understanding. A thorough grounding is provided for every topic. No other book covers the gap between the theory and practice of control systems so comprehensively and at a level suitable for practicing engineers.

Organic Chemicals World Scientific

Production chemistry issues result from changes in well stream fluids, both liquid and gaseous, during processing. Since crude oil production is characterized by variable production rates and unpredictable changes to the nature of the produced fluids, it is essential for production chemists to have a range of chemical additives available for rectifying issues that would not otherwise be fully resolved. Modern production methods, the need to upgrade crude oils of variable quality, and environmental constraints demand chemical solutions. Thus, oilfield production chemicals are necessary to overcome or minimize the effects of the production chemistry problems. Production Chemicals for the Oil and Gas Industry, Second Edition discusses a wide variety of production

chemicals used by the oil and gas industry for down-hole and topside applications both onshore and offshore. Incorporating the large amount of research and applications since the first edition, this new edition reviews all past and present classes of production chemicals, providing numerous difficult-to-obtain references, especially SPE papers and patents. Unlike other texts that focus on how products perform in the field, this book focuses on the specific structures of chemicals that are known to deliver the required or desired performance—information that is very useful for research and

development. Each updated chapter begins by introducing a problem, such as scale or corrosion, for which there is a production chemical. The author then briefly discusses all chemical and nonchemical methods to treat the problem and provides in-depth descriptions of the structural classes of relevant production chemicals. He also mentions, when available, the environmental properties of chemicals and whether the chemical or technique has been successfully used in the field. This edition includes two new chapters and nearly 50 percent more references.

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