

Handbook Of Petroleum Processing 1st Edition

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Handbook of Petrochemical Processes - James G. Speight 2019-06-13

The petrochemical industry is a scientific and engineering field that encompasses the production of a wide range of chemicals and polymers. The purpose of this book is not only to provide a follow-on to form the later chapters of the highly successful Chemistry and Technology of Petroleum 5th Edition but also provides a simplified approach to a very diverse chemical subject dealing with the chemistry and technology of various petroleum and petrochemical process. Following from the introductory chapters, this book provides the readers with a valuable source of information containing insights into petrochemical reactions and products, process technology, and polymer synthesis. Provides readers with a valuable source of information containing insights into petrochemical reactions and products, process technology, and polymer synthesis Introduces the reader to the various petrochemical intermediates are generally produced by chemical conversion of primary petrochemicals to form more complicated derivative products The reactions and processes involved in transforming petroleum-based hydrocarbons into the chemicals that form the basis of the multi-billion dollar petrochemical industry are reviewed and described The book includes information on new process developments for the production of raw materials and intermediates for petrochemicals Includes a description of the origin of the raw materials for the petrochemicals

industry - including an overview of the coal chemicals industry

Synthetic Fuels Handbook - James Speight 2008-06-22

Capitalize on the Vast Potential of Alternative Energy Sources Such as Fuel Cells and Biofuels Synthetic Fuels Handbook is a comprehensive guide to the benefits and trade-offs of numerous alternative fuels, presenting expert analyses of the different properties, processes, and performance characteristics of each fuel. It discusses the concept systems and technology involved in the production of fuels on both industrial and individual scales. Written by internationally renowned fuels expert James G. Speight, this vital resource describes the production and properties of fuels from natural gas and natural gas hydrates...tar sand bitumen...coal...oil shale...synthesis gas...crops...wood sources...biomass...industrial and domestic waste...landfill gas...and much more. Using both U.S. and SI units, Synthetic Fuels Handbook features: Information on conventional and nonconventional fuel sources Discussion of the production of alternative fuels on both industrial and individual scales Analyses of properties and uses of gaseous, liquid, and solid fuels from different sources Comparison of properties of alternative fuels with petroleum-based fuels Discover All the Benefits and Trade-Offs of Synthetic Fuels • Fuel sources: conventional and nonconventional • Natural gas and natural gas hydrates • Petroleum and heavy oil • Tar sand bitumen • Coal • Oil shale • Synthesis gas • Crops • Wood sources

- Biomass • Industrial and domestic waste • Landfill gas • Comparison of the properties and uses of gaseous fuels from different sources • Comparison of the properties and uses of liquid fuels from different sources • Comparison of the properties and uses of solid fuels from different sources

Shale Oil and Gas Handbook - Sohrab Zendehboudi 2016-11-19

Shale Oil and Gas Handbook: Theory, Technologies, and Challenges provides users with information on how shale oil and gas exploration has revolutionized today's energy industry. As activity has boomed and job growth continues to increase, training in this area for new and experienced engineers is essential. This book provides comprehensive information on both the engineering design and research aspects of this emerging industry. Covering the full spectrum of basic definitions, characteristics, drilling techniques, and processing and extraction technologies, the book is a great starting point to educate oil and gas personnel on today's shale industry. Critical topics covered include characterization of shale gas, theory and methods, typical costs, and obstacles for exploration and drilling, R&D and technology development in shale production, EOR methods in shale oil reservoirs, and the current status and impending challenges for shale oil and gas, including the inevitable future prospects relating to worldwide development. Reveals all the basic information needed to quickly understand today's shale oil and gas industry, including advantages and disadvantages, equipment and costs, flow diagrams, and processing stages Evenly distributes coverage between oil and gas into two parts, as well as upstream and downstream content Provides a practical handbook with real-world case studies and problem examples, including formulas and calculations

Handbook of Offshore Oil and Gas Operations - James G. Speight
2014-10-22

Handbook of Offshore Oil and Gas Operations is an authoritative source providing extensive up-to-date coverage of the technology used in the exploration, drilling, production, and operations in an offshore setting. Offshore oil and gas activity is growing at an expansive rate and this must-have training guide covers the full spectrum including geology,

types of platforms, exploration methods, production and enhanced recovery methods, pipelines, and environmental management and impact, specifically worldwide advances in study, control, and prevention of the industry's impact on the marine environment and its living resources. In addition, this book provides a go-to glossary for quick reference. Handbook of Offshore Oil and Gas Operations empowers oil and gas engineers and managers to understand and capture one of the fastest growing markets in the energy sector today. Quickly become familiar with the oil and gas offshore industry, including deepwater operations Understand the full spectrum of the business, including environmental impacts and future challenges Gain knowledge and exposure on critical standards and real-world case studies

Handbook of Process Integration (PI) J Klemeš 2013-07-31

Since its first development in the 1970s, Process Integration (PI) has become an important methodology in achieving more energy efficient processes. This pioneering handbook brings together the leading scientists and researchers currently contributing to PI development, pooling their expertise and specialist knowledge to provide readers with a comprehensive and up-to-date guide to the latest PI research and applications. After an introduction to the principles of PI, the book reviews a wide range of process design and integration topics ranging from heat and utility systems to water, recycling, waste and hydrogen systems. The book considers Heat Integration, Mass Integration and Extended PI as well as a series of applications and case studies. Chapters address not just operating and capital costs but also equipment design and operability issues, through to buildings and supply chains. With its distinguished editor and international team of expert contributors, Handbook of Process Integration (PI) is a standard reference work for managers and researchers in all energy-intensive industries, as well as academics with an interest in them, including those designing and managing oil refineries, petrochemical and power plants, as well as paper/pulp, steel, waste, food and drink processors. This pioneering handbook provides a comprehensive and up-to-date guide to the latest process integration research and applications Reviews a wide range of

process design and integration topics ranging from heat and utility systems to water, recycling, waste and hydrogen systems Chapters also address equipment design and operability issues, through to buildings and supply chains

Handbook of Industrial Chemistry - M. Farhat Ali 2005

The definitive guide for the general chemical analyses of non-petroleum based organic products such as paints, dyes, oils, fats, and waxes. * Chemical tables, formulas, and equations * Covers all of the chemical processes which utilize organic chemicals * Physical properties for the most common organic chemicals Contents: Safety Considerations in Process Industries * Industrial Pollution Prevention and Waste Management * Edible Oils, Fats, and Waxes * Soaps and Detergents * Sugar and Other Sweeteners * Paints, Pigments, and Industrial Coatings * Dyestuffs, Finishing and Dyeing of Textiles * Industrial Fermentation * Pharmaceutical Industry * Agrochemicals * Chemical Explosives * Petroleum Processing and Petrochemicals * Polymers and Plastics

Fundamentals of Petroleum Refining - Mohamed A. Fahim 2009-11-19

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

Springer Handbook of Petroleum Technology - Chang Samuel Hsu 2017-12-20

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.

The Extra-Virgin Olive Oil Handbook audio Peri 2014-04-14

According to European legislation, extra virgin is the top grade of olive oils. It has a superior level of health properties and flavour compared to virgin and refined olive oils. Mediterranean countries still produce more than 85% of olive oil globally, but the constant increase of demand for extra virgin olive oil has led to new cultivation and production in other areas of the world, including California, Australia, China, South Africa and South America. At the same time, olive oil's sensory properties and health benefits are increasingly attracting the attention and interest of nutritionists, food processors, manufacturers and food services. Progress and innovation in olive cultivation, harvesting and milling technologies as well as in oil handling, storage and selling conditions make it possible to achieve even higher quality levels than those stipulated for extra virgin oils. As a consequence, a new segment - excellent extra virgin olive oils - is increasingly attracting the attention of the market and earning consumers' preference. The Extra-Virgin Olive Oil Handbook provides a complete account of olive oil's composition, health properties, quality, and the legal standards surrounding its production. The book is divided into convenient sections focusing on extra virgin olive oil as a product, the process by which it is made, and the process control system through which its quality is assured. An appendix presents a series of tables and graphs with useful data, including conversion factors, and the chemical and physical characteristics of olive oil. This book is aimed at people involved in the industrial production as well as in the marketing and use of extra virgin olive oil who are looking for practical information, which avoids overly academic language, but which is still scientifically and technically sound. The main purpose of the handbook is to guide operators involved in the extra virgin olive oil chain in making the most appropriate decisions about product quality and operating conditions in the production and distribution processes. To these groups, the most important questions are practical ones of why, how, how often, how much will it cost, and so on. The Extra-Virgin Olive Oil Handbook will provide the right answers to these key practical considerations, in a simple, clear yet precise and up-to-date way.

Handbook of Pollution Prevention and Cleaner Production Vol. 1:

Best Practices in the Petroleum Industry - Nicholas P Cheremisinoff
2009-09-22

This new Handbook provides a series of reference guides to cleaner production methods, technologies, and practices for key industry sectors. Each volume covers, for each industry sector: * the manufacturing technologies * waste management * pollution * methods for estimating and reporting emissions * treatment and control technologies * worker and community health risk exposures * cost data for pollution management * cleaner production and prevention alternatives Best Practices in The Petroleum Industry provides an overview of refineries and gas plant operations and identifies the key Environmental Aspects, supported by case studies of major incidents that resulted in catastrophic releases of oil and refined products, and a critical assessment of the methodology and calculation procedures that the industry relies on in preparing emissions inventories. The authors offer alternative approaches to providing more accurate emissions estimates, and guidelines on cleaner production and pollution prevention practices for improving overall environmental performance. Overview of the key Environmental Aspects of gas plant operations and refineries Case studies of major incidents that resulted in catastrophic releases of oil and refined products, including the Santa Barbara oil spill of 1969 and the EXXON Valdez incident Provides guidelines on cleaner production and pollution prevention practices for improving overall environmental performance

Handbook of Olive Oil: Analysis and Properties - Ramon Aparicio
2013-11-09

This new olive oil handbook provides a wealth of detail about the analysis and properties of olives and their oil. It covers technological aspects and biochemistry, a description of detailed techniques, and an analysis of olive oil from the standpoint of general methodology.

Fats and Oils Handbook (Nahrungsfette und Öle) - Michael Bockisch
2015-08-13

This book acknowledges the importance of fats and oils and surveys today's state-of-the-art technology. To pursue food technology without

knowing the raw material would mean working in a vacuum. This book describes the raw materials predominantly employed and the spectrum of processes used today. It is the updated and revised English version of *Nahrungsfette und Ole*, originally printed in German. It contains 283 tables, 647+ figures, and over 850 references. "If you can afford only one book on oils and fats, their composition, processing and use, then this should probably be the one!" Presents details on the composition, chemistry, and processes of the major fats and oils used today Includes hundreds of illustrations and tables, making the concepts easier to read and grasp Acknowledges the importance of fats and oils offers details on relevant technologies

Handbook of Petroleum Processing - Steven A Treese 2015-08-04

This extensively updated second edition of the already valuable reference targets research chemists and engineers who have chosen a career in the complex and essential petroleum industry, as well as other professionals just entering the industry who seek a comprehensive and accessible resource on petroleum processing. The handbook describes and discusses the key components and processes that make up the petroleum refining industry. Beginning with the basics of crude oils and their nature, it continues with the commercial products derived from refining and with related issues concerning their environmental impact. More in depth coverage of many topics previously covered in the first edition, such as hydraulic fracturing or fracking as it is often termed, help ensure this reference remains a relevant and up-to-date resource. At its core is a complete overview of the processes that make up a modern refinery, plus a brief history of the development of processes. Also described in detail are design techniques, operations and in the case of catalytic units, the chemistry of the reaction routes. These discussions are supported by calculation procedures and examples, which enable readers to use today's simulation-software packages. The handbook also covers off-sites and utilities, as well as environmental and safety aspects relevant to the industry. The chapter on refinery planning covers both operational planning and the decision making procedures for new or revamped processes. Major equipment used in the industry is reviewed along with

details and examples of the process specifications for each. An extensive glossary and dictionary of the terms and expressions used in petroleum refining, plus appendices supplying data such as converging factors and selected crude oil assays, as well as an example of optimizing a refinery configuration using linear programming are all included to aid the reader. The 2nd edition of the *Handbook of Petroleum Processing* is an indispensable desk reference for chemists and engineers as well as an essential part of the libraries of universities with a chemical engineering faculty and oil refineries and engineering firms performing support functions or construction.

Petroleum Refining Design and Applications Handbook - A. Kayode Coker 2018-08-09

There is a renaissance that is occurring in chemical and process engineering, and it is crucial for today's scientists, engineers, technicians, and operators to stay current. With so many changes over the last few decades in equipment and processes, petroleum refining is almost a living document, constantly needing updating. With no new refineries being built, companies are spending their capital re-tooling and adding on to existing plants. Refineries are like small cities, today, as they grow bigger and bigger and more and more complex. A huge percentage of a refinery can be changed, literally, from year to year, to account for the type of crude being refined or to integrate new equipment or processes. This book is the most up-to-date and comprehensive coverage of the most significant and recent changes to petroleum refining, presenting the state-of-the-art to the engineer, scientist, or student. Useful as a textbook, this is also an excellent, handy go-to reference for the veteran engineer, a volume no chemical or process engineering library should be without. Written by one of the world's foremost authorities, this book sets the standard for the industry and is an integral part of the petroleum refining renaissance. It is truly a must-have for any practicing engineer or student in this area.

[Handbook of Oil Spill Science and Technology](#) - Merv Fingas 2015-02-02
Provides a scientific basis for the cleanup and for the assessment of oil spills Enables Non-scientific officers to understand the science they use

on a daily basis Multi-disciplinary approach covering fields as diverse as biology, microbiology, chemistry, physics, oceanography and toxicology Covers the science of oil spills from risk analysis to cleanup and through the effects on the environment Includes case studies examining and analyzing spills, such as Tasman Spirit oil spill on the Karachi Coast, and provides lessons to prevent these in the future

The Biodiesel Handbook - Gerhard Knothe 2015-08-13

The second edition of this invaluable handbook covers converting vegetable oils, animal fats, and used oils into biodiesel fuel. The Biodiesel Handbook delivers solutions to issues associated with biodiesel feedstocks, production issues, quality control, viscosity, stability, applications, emissions, and other environmental impacts, as well as the status of the biodiesel industry worldwide. Incorporates the major research and other developments in the world of biodiesel in a comprehensive and practical format Includes reference materials and tables on biodiesel standards, unit conversions, and technical details in four appendices Presents details on other uses of biodiesel and other alternative diesel fuels from oils and fats

Petroleum Processing Handbook - John J. McKetta Jr 1992-04-30

A reference that details the pertinent chemical reactions and emphasizes the plant design and operations of petroleum processing procedures. The handbook is divided into four sections: products, refining, manufacturing processes, and treating processes. Wherever possible, shortcut methods of calculation

Handbook of Chemical Technology and Pollution Control - Martin B. B. Hocking 2016-04-06

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

Handbook of Food Processing - Theodoros Varzakas 2015-10-22

Packed with case studies and problem calculations, Handbook of Food Processing: Food Safety, Quality, and Manufacturing Processes presents the information necessary to design food processing operations and describes the equipment needed to carry them out in detail. It covers the most common and new food manufacturing processes while addressing relevant

Petroleum Refining Design and Applications Handbook - A. Kayode Coker 2021-03-09

A must-read for any practicing engineer or student in this area There is a renaissance that is occurring in chemical and process engineering, and it is crucial for today's scientists, engineers, technicians, and operators to stay current. This book offers the most up-to-date and comprehensive coverage of the most significant and recent changes to petroleum refining, presenting the state-of-the-art to the engineer, scientist, or student. Useful as a textbook, this is also an excellent, handy go-to reference for the veteran engineer, a volume no chemical or process engineering library should be without.

Chemical Processing Handbook - John J. McKetta Jr 1993-04-30

Written by more than 40 world renowned authorities in the field, this reference presents information on plant design, significant chemical reactions, and processing operations in industrial use - offering shortcut calculation methods wherever possible.

Handbook of Waste Management and Co-Product Recovery in Food Processing - Keith W. Waldron 2007-03-31

The intensification of agriculture and food production in recent years has led to an increase in the production of food co-products and wastes. Their disposal by incineration or landfill is often expensive as well as environmentally sensitive. Methods to valorise unused co-products and improve the management of wastes that cannot be reused, as well as techniques to reduce the quantity of waste produced in the first place, are increasingly important to the food industry. With its distinguished editor and array of international contributors, Waste management and co-product recovery in food processing reviews the latest developments in this area and describes how they can be used to reduce waste. The first section of the book provides a concise introduction to the field with a particular focus on legislation and consumer interests, principle drivers of waste management. Part two addresses the minimisation of biowaste and the optimisation of water and energy use in food processing. The third section covers key technologies for co-product separation and recovery, such as supercritical fluid extraction and membrane filtration, as well as important issues to consider when recovering co-products, such as waste stabilisation and microbiological risk assessment. Part four offers specific examples of waste management and co-product exploitation in particular sectors such as the red meat, poultry, dairy, fish and fruit and vegetable industries. The final part of the book summarises advanced techniques, to dispose of waste products that cannot be reused, and reviews state of the art technologies for wastewater treatment. Waste management and co-product recovery in food processing is a vital reference to all those in the food processing industry concerned with waste minimisation, co-product valorisation and end waste management. Looks at the optimisation of manufacturing

procedures to decrease waste, energy and water use Explores methods to valorise waste by co-product recovery Considers best practice in different sectors of the food industry

Standard Handbook of Petroleum and Natural Gas Engineering: - William C. Lyons 1996-10-16

Petroleum engineering now has its own true classic handbook that reflects the profession's status as a mature major engineering discipline. Formerly titled the Practical Petroleum Engineer's Handbook, by Joseph Zaba and W.T. Doherty (editors), this new, completely updated two-volume set is expanded and revised to give petroleum engineers a comprehensive source of industry standards and engineering practices. It is packed with the key, practical information and data that petroleum engineers rely upon daily. The result of a fifteen-year effort, this handbook covers the gamut of oil and gas engineering topics to provide a reliable source of engineering and reference information for analyzing and solving problems. It also reflects the growing role of natural gas in industrial development by integrating natural gas topics throughout both volumes. More than a dozen leading industry experts-academia and industry-contributed to this two-volume set to provide the best , most comprehensive source of petroleum engineering information available.

Handbook of Electrical Engineering - Alan L. Sheldrake 2016-06-22

A practical treatment of power system design within the oil, gas, petrochemical and offshore industries. These have significantly different characteristics to large-scale power generation and long distance public utility industries. Developed from a series of lectures on electrical power systems given to oil company staff and university students, Sheldrake's work provides a careful balance between sufficient mathematical theory and comprehensive practical application knowledge. Features of the text include: Comprehensive handbook detailing the application of electrical engineering to the oil, gas and petrochemical industries Practical guidance to the electrical systems equipment used on off-shore production platforms, drilling rigs, pipelines, refineries and chemical plants Summaries of the necessary theories behind the design together with practical guidance on selecting the correct electrical equipment and

systems required Presents numerous 'rule of thumb' examples enabling quick and accurate estimates to be made Provides worked examples to demonstrate the topic with practical parameters and data Each chapter contains initial revision and reference sections prior to concentrating on the practical aspects of power engineering including the use of computer modelling Offers numerous references to other texts, published papers and international standards for guidance and as sources of further reading material Presents over 35 years of experience in one self-contained reference Comprehensive appendices include lists of abbreviations in common use, relevant international standards and conversion factors for units of measure An essential reference for electrical engineering designers, operations and maintenance engineers and technicians.

Handbook of Spent Hydroprocessing Catalysts - Meena Marafi
2017-01-18

Handbook of Spent Hydroprocessing Catalysts, Second Edition, covers all aspects of spent hydroprocessing catalysts, both regenerable and non-regenerable. It contains detailed information on hazardous characteristics of spent and regenerated catalysts. The information forms a basis for determining processing options to make decisions on whether spent catalysts can be either reused on refinery site after regeneration or used as the source of new materials. For non-regenerable spent catalysts, attention is paid to safety and ecological implications of utilizing landfill and other waste handling and storage options to ensure environmental acceptance. As such, this handbook can be used as a benchmark document to develop threshold limits of regulated species. Includes experimental results and testing protocols which serve as a basis for the development of methodologies for the characterization of solid wastes Presents a database which assists researchers in selecting/designing research projects on spent catalysts, i.e., regeneration vs. rejuvenation and metal reclamation Provides the environmental laws, acts, and liabilities to raise awareness in safety and health issues in all aspects of spent catalysts Contains solid waste management procedures specific to hydroprocessing that serve as a

model for designing research projects in other solid waste areas
Handbook of Physical Vapor Deposition (PVD) Processes D.M. Mattox
2014-09-19

This book covers all aspects of physical vapor deposition (PVD) process technology from the characterizing and preparing the substrate material, through deposition processing and film characterization, to post-deposition processing. The emphasis of the book is on the aspects of the process flow that are critical to economical deposition of films that can meet the required performance specifications. The book covers subjects seldom treated in the literature: substrate characterization, adhesion, cleaning and the processing. The book also covers the widely discussed subjects of vacuum technology and the fundamentals of individual deposition processes. However, the author uniquely relates these topics to the practical issues that arise in PVD processing, such as contamination control and film growth effects, which are also rarely discussed in the literature. In bringing these subjects together in one book, the reader can understand the interrelationship between various aspects of the film deposition processing and the resulting film properties. The author draws upon his long experience with developing PVD processes and troubleshooting the processes in the manufacturing environment, to provide useful hints for not only avoiding problems, but also for solving problems when they arise. He uses actual experiences, called ""war stories"", to emphasize certain points. Special formatting of the text allows a reader who is already knowledgeable in the subject to scan through a section and find discussions that are of particular interest. The author has tried to make the subject index as useful as possible so that the reader can rapidly go to sections of particular interest. Extensive references allow the reader to pursue subjects in greater detail if desired. The book is intended to be both an introduction for those who are new to the field and a valuable resource to those already in the field. The discussion of transferring technology between R&D and manufacturing provided in Appendix 1, will be of special interest to the manager or engineer responsible for moving a PVD product and process from R&D into production. Appendix 2 has an

extensive listing of periodical publications and professional societies that relate to PVD processing. The extensive Glossary of Terms and Acronyms provided in Appendix 3 will be of particular use to students and to those not fully conversant with the terminology of PVD processing or with the English language.

The Petroleum Engineering Handbook: Sustainable Operations - M.R. Islam 2013-11-25

This is the first book in the petroleum sector that sheds light on the real obstacles to sustainable development and provides solutions to each problem encountered. Each solution is complete with an economic analysis that clarifies why petroleum operations can continue with even greater profit than before while ensuring that the negative environmental impact is diminished. The new screening tools and models proposed in this book will provide one with proper guidelines to achieve true sustainability in both technology development and management of the petroleum sector.

Practical Handbook of Soybean Processing and Utilization - D. R. Erickson 2015-08-25

This book is a single source of information on all aspects of soybean processing and utilization written by experts from around the globe. Written in an easy-to-read format, this title covers a wide range of topics including the physical and chemical characteristics of soybeans and soybean products; harvest and storage considerations; byproduct utilization; soy foods; and nutritional aspects of soybean oil and protein. Compares soybeans to other vegetable oils as a source of edible oil products Presents a wide range of topics including chemistry, production, food use, byproduct use, and nutritional aspects Offers practical information ideal for soybean oil plant managers

Handbook of Petroleum Refining Processes - Robert A. Meyers 2003-10-14

* Offers detailed description of process chemistry and thermodynamics and product by-product specifications of plants * Contributors are drawn from the largest petroleum producers in the world, including Chevron, Mobil, Shell, Exxon, UOP, and Texaco * Covers the very latest

technologies in the field of petroleum refining processes * Completely updated 3rd Edition features 50% all new material

Fluid Catalytic Cracking Handbook - Reza Sadeghbeigi 2000-06-08
This thoroughly updated edition of Fluid Catalytic Cracking Handbook provides practical information on the design, operation, troubleshooting, and optimization of fluid catalytic cracking (FCC) facilities. Based on the author's years of field experience, this expanded, second edition covers the latest technologies to improve the profitability and reliability of the FCC units, and provides several "no-to-low-cost" practical recommendations. A new chapter supplies valuable recommendations for debottlenecking and optimizing the performance of cat cracker operations.

Handbook of Petroleum Refining - James G. Speight 2016-10-26
Petroleum refining involves refining crude petroleum as well as producing raw materials for the petrochemical industry. This book covers current refinery processes and process-types that are likely to come on-stream during the next three to five decades. The book includes (1) comparisons of conventional feedstocks with heavy oil, tar sand bitumen, and bio-feedstocks; (2) properties and refinability of the various feedstocks; (3) thermal processes versus hydroprocesses; and (4) the influence of refining on the environment.

Handbook of Industrial Hydrocarbon Processes - James G. Speight 2010-12-24

Written by an author with over 38 years of experience in the chemical and petrochemical process industry, this handbook will present an analysis of the process steps used to produce industrial hydrocarbons from various raw materials. It is the first book to offer a thorough analysis of external factors effecting production such as: cost, availability and environmental legislation. An A-Z list of raw materials and their properties are presented along with a commentary regarding their cost and availability. Specific processing operations described in the book include: distillation, thermal cracking and coking, catalytic methods, hydroprocesses, thermal and catalytic reforming, isomerization, alkylation processes, polymerization processes, solvent processes, water

removal, fractionation and acid gas removal. Flow diagrams and descriptions of more than 250 leading-edge process technologies An analysis of chemical reactions and process steps that are required to produce chemicals from various raw materials Properties, availability and environmental impact of various raw materials used in hydrocarbon processing

Handbook of Liquefied Natural Gas - Saeid Mokhatab 2013-10-15
Liquefied natural gas (LNG) is a commercially attractive phase of the commodity that facilitates the efficient handling and transportation of natural gas around the world. The LNG industry, using technologies proven over decades of development, continues to expand its markets, diversify its supply chains and increase its share of the global natural gas trade. The Handbook of Liquefied Natural Gas is a timely book as the industry is currently developing new large sources of supply and the technologies have evolved in recent years to enable offshore infrastructure to develop and handle resources in more remote and harsher environments. It is the only book of its kind, covering the many aspects of the LNG supply chain from liquefaction to regasification by addressing the LNG industries' fundamentals and markets, as well as detailed engineering and design principles. A unique, well-documented, and forward-thinking work, this reference book provides an ideal platform for scientists, engineers, and other professionals involved in the LNG industry to gain a better understanding of the key basic and advanced topics relevant to LNG projects in operation and/or in planning and development. Highlights the developments in the natural gas liquefaction industries and the challenges in meeting environmental regulations Provides guidelines in utilizing the full potential of LNG assets Offers advices on LNG plant design and operation based on proven practices and design experience Emphasizes technology selection and innovation with focus on a "fit-for-purpose design Updates code and regulation, safety, and security requirements for LNG applications
Oil and Gas Production Handbook: An Introduction to Oil and Gas Production - Havard Devold 2013

Handbook of Natural Gas Transmission and Processing - Saeid Mokhatab 2017-09-01

Handbook of Natural Gas Transmission and Processing gives engineers and managers complete coverage of natural gas transmission and processing in the most rapidly growing sector to the petroleum industry. The authors provide a unique discussion of new technologies that are energy efficient and environmentally appealing at the same time. It is an invaluable reference on natural gas engineering and the latest techniques for all engineers and managers moving to natural gas processing as well as those currently working on natural gas projects. Provides practicing engineers critical information on all aspects of gas gathering, processing and transmission First book that treats multiphase flow transmission in great detail Examines natural gas energy costs and pricing with the aim of delivering on the goals of efficiency, quality and profit

Practical Guide to Vegetable Oil Processing - Monoj Gupta 2017-02-16

Practical Guide to Vegetable Oil Processing, Second Edition, includes an up-to-date summary of the basic principles of edible oil refining, processing, and deodorizing, serving as a hands-on training manual for chemists, engineers, and managers new to the industry. The 15-chapter book includes current information on the bleaching of green oils and coconut oil, quality requirements for frying oil applications, and more. Written for the non-chemist new to the industry, the book makes it simple to apply these important concepts for the edible oil industry. Provides insights to the challenges of bleaching very green oils Includes new deodorizer designs and performance measures Offers insights on frying oil quality management Simple and easy-to-read language

Practical Advances in Petroleum Processing - Chang Samuel Hsu 2007-01-10

Includes topics not found together in books on petroleum processing: economics, automation, process modeling, online optimization, safety, environmental protection Combines overviews of petroleum composition, refinery processes, process automation, and environmental protection

with comprehensive chapters on recent advances in hydroprocessing, FCC, lubricants, hydrogen management Gives diverse perspectives, both geographic and topical, because contributors include experts from eight different countries in North America, Europe and Asia, representing oil companies, universities, catalyst vendors, process licensors, consultants and engineering contractors

Handbook of Fire and Explosion Protection Engineering Principles
Dennis P. Nolan 2014-05-28

Written by an engineer for engineers, this book is both training manual and on-going reference, bringing together all the different facets of the complex processes that must be in place to minimize the risk to people, plant and the environment from fires, explosions, vapour releases and oil spills. Fully compliant with international regulatory requirements, relatively compact but comprehensive in its coverage, engineers, safety professionals and concerned company management will buy this book to capitalize on the author's life-long expertise. This is the only book focusing specifically on oil and gas and related chemical facilities. This new edition includes updates on management practices, lessons learned from recent incidents, and new material on chemical processes, hazards and risk reviews (e.g. CHAZOP). Latest technology on fireproofing, fire and gas detection systems and applications is also covered. An introductory chapter on the philosophy of protection principles along with fundamental background material on the properties of the chemicals concerned and their behaviours under industrial conditions, combined with a detailed section on modern risk analysis techniques makes this book essential reading for students and professionals following Industrial Safety, Chemical Process Safety and Fire Protection

Engineering courses. A practical, results-oriented manual for practicing engineers, bringing protection principles and chemistry together with modern risk analysis techniques Specific focus on oil and gas and related chemical facilities, making it comprehensive and compact Includes the latest best practice guidance, as well as lessons learned from recent incidents

Dictionary of Oil, Gas, and Petrochemical Processing - Alireza Bahadori
2013-12-04

In industry, miscommunication can cause frustration, create downtime, and even trigger equipment failure. By providing a common ground for more effective discourse, the Dictionary of Oil, Gas, and Petrochemical Processing can help eliminate costly miscommunication. An essential resource for oil, gas, and petrochemical industry professionals, engineer *Refining Processes Handbook* Surinder Parkash, Ph. D 2003-10-16 Besides covering topics like catalytic cracking, hydrocracking, and alkylation, this volume has chapters on waste water treatment and the economics of managing or commissioning the design of a petroleum refinery. Found only in this volume is material on operating a jointly owned and operated refinery. (Over the last decade, the ownership of many refineries has shifted to small companies, from the large, integrated companies. Because of this shift, many refineries are now jointly owned and operated.) Filled with handy process flow diagrams, this volume is the only reference that a chemical engineer or process manager in a petroleum refinery needs for answers to everyday process and operations questions. * Covers the technologies and operations of petroleum refineries * Provides material on operating a jointly owned and operated refinery * Gives readers a comprehensive introduction to petroleum refining, as well as a full reference to engineers in the field