

Fundamentals Of Petroleum Refining

A very detailed, workable approach to improving energy efficiency and cost effectiveness in petroleum processing, dealing with the role of management and refinery operators in achieving the best technological parameters, the most rational utilization of energy, as well as the greatest possible economic success. The author provides a detailed and well-founded approach to the methodology, information and criteria necessary for analyzing energy use, economics and the environmental impact, as well as solutions for fulfilling the requirements of the Kyoto agreement. In addition, he describes in sufficient detail the energy streams within a refinery. A practical guide for refinery engineers, managers, and consultants, as well as all engineers involved in the design of process technologies, in developed as well as developing countries.

Sets forth the many technical procedures involved in refining. Included are a new chapter on simple and complex refineries, and a revised chapter on gasoline blending, including current information on alcohol blending components.

The supply of petroleum continues to dwindle at an alarming rate, yet it is the source of a range of products- from gasoline and diesel to plastic, rubber, and synthetic fiber. Critical to the future of this commodity is that we learn to use it more judiciously and efficiently. Fundamentals of Petroleum and Petrochemical Engineering provides a holi

** 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*

Practical Advances in Petroleum Processing

Thermal and Catalytic Processes in Petroleum Refining

Fundamentals of Process Safety Engineering

Clathrate Hydrates of Natural Gases

Petroleum Refining Design and Applications Handbook

Although there is a shortage of light petroleum, there is plenty of heavy petroleum rich in macromolecules available, creating an increasing interest for processes that can convert heavy oils to light oils. Process Chemistry of Petroleum Macromolecules provides the scientific basis for such processes, presenting methods to determine improvement potential. Topics include characterization, thermal kinetics, phase behavior, and separation. Revealing that the science of petroleum macromolecules is simpler and more exciting than imagined, it also discusses macromolecules that self-associate, liquid crystalline phases, reactions triggered by phase separation, and both dispersed and dissolved solutes.

CONTENTS: Crude Petroleum Oil; Petroleum Products & Test Methods; Processing Operations in Refinery; Palm Oil Processing; Lubricating Oil & Grease; Petrochemicals; Petroleum Refining Corrosion; Extraction.

Introduction to Petroleum Biotechnology introduces the petroleum engineer to biotechnology, bringing together the various biotechnology methods that are applied to recovery, refining and remediation in the uses of petroleum and petroleum products. A significant amount of petroleum is undiscoverable in reservoirs today using conventional and secondary methods. This reference explains how microbial enhanced oil recovery is aiding to produce more economical and environmentally-friendly metabolic events that lead to improved oil recovery. Meanwhile, in the downstream side of the industry, petroleum refining operators are facing the highest levels of environmental regulations while struggling to process more of the heavier crude oils since conventional physical and chemical refining techniques may not be applicable to heavier crudes. This reference proposes to the engineer and refining manager the concepts of bio-refining applications to not only render heavier crudes as lighter crudes through microbial degradation, but also through biodenitrogenation, biodemetalization and biodesulfurization, making more petroleum derivatives purified and upgraded without the release of more pollutants. Equipped for both upstream and downstream to learn the basics, this book is a necessary primer for today ' s petroleum engineer. Presents the fundamentals behind petroleum biotechnology for both upstream and downstream oil and gas operations Provides the latest technology in reservoir recovery using microbial enhanced oil recovery methods Helps readers gain insight into the current and future application of using biotechnology as a refining and fuel blending method for heavy oil and tar sands

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.

Challenges and Opportunities

Fundamentals of Petroleum Refining

Modeling and Simulation of Catalytic Reactors for Petroleum Refining

Modeling of Processes and Reactors for Upgrading of Heavy Petroleum

Green Petroleum

The worldwide petroleum industry is facing a dilemma: the production level of heavy petroleum is higher than that of light petroleum. Heavy crude oils possess high amounts of impurities (sulfur, nitrogen, metals, and asphaltenes), as well as a high yield of residue with consequent low production of valuable distillates (gasoline and diesel). These characteristics, in turn, are responsible for the low price of heavy petroleum. Additionally, existing refineries are designed to process light crude oil, and heavy oil cannot be refined to 100 percent. One solution to this problem is the installation of plants for heavy oil upgrading before sending this raw material to a refinery. *Modeling of Processes and Reactors for Upgrading of Heavy Petroleum* gives an up-to-date treatment of modeling of reactors employed in the main processes for heavy petroleum upgrading. The book includes fundamental aspects such as thermodynamics, reaction kinetics, chemistry, and process variables. Process schemes for each process are discussed in detail. The author thoroughly describes the development of correlations, reactor models, and kinetic models with the aid of experimental data collected from different reaction scales. The validation of modeling results is performed by comparison with experimental and commercial data taken from the literature or generated in various laboratory scale reactors. Organized into three sections, this book starts with general aspects of properties and upgrading of heavy oils, describes the modeling of non-catalytic processes, as well as the modeling of catalytic processes. Each chapter provides detailed experimental data, explanations of how to determine model parameters, and comparisons with reactor model predictions for different situations, so that readers can adapt their own computer programs. The book includes rigorous treatment of the different topics as well as the step-by-step description of model formulation and application. It is not only an indispensable reference for professionals working in the development of reactor models for the petroleum industry, but also a textbook for full courses in chemical reaction engineering. The author would like to express his sincere appreciation to the Marcos Moshinsky Foundation for the financial support provided by means of a Cátedra de Investigación.

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

This textbook covers the essential aspects of process safety engineering in a practical and comprehensive manner. It provides readers with an understanding of process safety hazards in the refining and petrochemical industries and how to manage them in a reliable and professional manner. It covers the most important concepts: static electricity, intense thermal radiation, thermodynamics of fluid phase equilibria, boiling liquid expanding vapor explosion (BLEVE), emission source models, hazard identification methods, risk control and methods for achieving manufacturing excellence while also focusing on safety. Extensive case studies are included. Aimed at senior undergraduate and graduate chemical engineering students and practicing engineers, this book covers process safety principles and engineering practice authoritatively, with comprehensive examples:

- Fundamentals, methods, and procedures for the industrial practice of process safety engineering.
- The thermodynamic fundamentals and computational methods for release rates from ruptures in pipelines, vessels, and relief valves.
- Fundamentals of static electricity hazards and their mitigation.
- Quantitative assessment of fires and explosions.
- Principles of dispersion calculations for toxic or flammable gases and vapors.
- Methods of qualitative and quantitative risk assessment and control.

In petroleum refineries, although there are sets of standard operating procedures to operate the plants, unique problems often arise, which need to be tackled with engineering knowledge and experience without much loss of energy and time. This process is termed 'troubleshooting', and it saves production loss, leading to profitability and sustainability of the refinery operation. This book covers the ins and outs of troubleshooting in petroleum refineries, with an analysis of the problems faced, the fundamentals behind them and logical reasoning and illustrations to solve the problems, along with lessons learnt. This is the first such book on the market since the publication of one by Norman P. Lieberman about 40 years ago, and there has been a massive change in technology since then. This book will not only enlighten practicing engineers in refineries and postgraduate students but also facilitate the creation of a knowledge bank on troubleshooting case studies, helping share engineering knowledge and experiences.

Fundamentals and Applications

A Troubleshooting Guide

Oil 101

Fundamentals of Petroleum and Petrochemical Engineering

Process Chemistry of Petroleum Macromolecules

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.

Hydrate research has expanded substantially over the past decade, resulting in more than 4,000 hydrate-related publications. Collating this vast amount of information into one source, Clathrate Hydrates of Natural Gases, Third Edition presents a thoroughly updated, authoritative, and comprehensive description of all major aspects of natural gas cla

Modeling and Simulation of Catalytic Reactors for Petroleum Refining deals with fundamental descriptions of the main conversion processes employed in the petroleum refining industry: catalytic hydrotreating, catalytic reforming, and fluid catalytic cracking. Common approaches for modeling of catalytic reactors for steady-state and dynamic simulations are also described and analyzed. Aspects such as thermodynamics, reaction kinetics, process variables, process scheme, and reactor design are discussed in detail from both research and commercial points of view. Results of simulation with the developed models are compared with those determined at pilot plant scale as well as commercial practice. Kinetics data used in the reactor model are either taken from the literature or obtained under controlled experiments at the laboratory.

In this first volume, the reader will find, collected and condensed, the information needed to characterize, analyze, and evaluate crude oils from different origins and their corresponding petroleum cuts as well. The characteristics and specifications of all the petroleum products along with their simplified process flowsheets are reviewed. Contents: 1. Composition of crude oils and petroleum products. 2. Fractionation and elemental analysis of crude oils and petroleum cuts. 3. Characterization of crude oils and petroleum fractions. 4. Methods for the calculation of hydrocarbon physical properties. 5. Characteristics of petroleum products for energy use (motor fuels - heating fuels). 6. Characteristics of non-fuel petroleum products. 7. Standards and specifications of petroleum products. 8. Evaluation of crude oils. 9. Additives for motor fuels and lubricants. 10. Introduction to refining. Appendices: Principal characteristics of pure components. Principal standard test methods for petroleum products. References. Index.

Oil and Gas Production Handbook: An Introduction to Oil and Gas Production
Fundamentals of General Refining Practices
Fundamentals of the Petroleum Industry
Handbook of Petroleum Refining
Fundamentals of petroleum

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

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.

OIL 101 is a straightforward guide to oil and an essential read for anyone coming to grips with where oil prices, the economy and society are headed. In OIL 101, Downey provides the facts one needs to understand oil, from its history and chemistry, to refining, finished products,

storage, transportation, alternatives, and how prices are determined every day in global wholesale oil markets and how those markets are connected to prices at the pump.

This text examines the thermal and catalytic processes involved in the refining of petroleum including visbreaking, coking, pyrolysis, catalytic cracking, oligomerization, alkylation, hydrofining, hydroisomerization, hydrocracking, and catalytic reforming. It analyzes the thermodynamics, reaction mechanisms, and kinetics of each process, as well as

Petroleum Refining for the Non-technical Person

Energy Efficient, Cost Effective, Environmentally Benign

Handbook of Petroleum Refining Processes

Introduction to Petroleum Biotechnology

Fundamentals of Petroleum Refining present 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. Petroleum refining is a unique and critical in the petroleum supply chain, from the wellhead to the pump. The other add value to petroleum mainly by moving and storing it (e.g., lifting crude oil to the surface; moving crude oil from oil fields to storage facilities and then to refineries; moving refined products from refinery to terminals and end-use locations, etc.). Refining adds value by converting crude oil (which in itself has little end-use value) into a range of refined products, including transportation fuels. The primary economic objective in refining is to maximize the value added in converting crude oil into finished products.

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 Pollution of waterbodies and the environment by petroleum industry is of particular concern in Nigeria. This problem can be addressed by the application of constructed wetlands (CWs) which is a nature-based system that is simple to construct, have low operational and maintenance costs in terms of supply of energy and its periodic maintenance. The application of CWs in Nigeria for polishing of petroleum refinery wastewater is an unprecedented research. This

PhD thesis focused on some specific objectives which were characterization of treated secondary refinery wastewater, design, construction, operation and monitoring of planted (*T. latifolia*, *C. alternifolius* and *C. dactylon*) and unplanted vertical subsurface flow, horizontal subsurface flow and hybrid CWs for the removal of suspended solids, nutrients, heavy metals, organic matter and organic pollutants. The CWs effectively treated the petroleum contaminated wastewater to effluent compliance limits. In this study, *T. latifolia* planted CWs had consistently higher removal efficiencies for all the measured parameters than *C. alternifolius* and *C. dactylon* planted CW systems. Therefore, in order to improve the wastewater quality discharged by Kaduna Refining and Petrochemical Company (KRPC) Nigeria, meet stringent guidelines and protect the recipient streams, installation of CWs at the effluent discharge point of KRPC is strongly recommended.

This book addresses corrosion problems and their solutions at facilities in the oil refining and petrochemical industry, including cooling water and boiler feed water units. Further, it describes and analyzes corrosion control actions, corrosion monitoring, and corrosion management. Corrosion problems are a perennial issue in the oil refining and petrochemical industry, as they lead to a deterioration of the functional properties of metallic equipment and harm the environment – both of which need to be protected for the sake of current and future generations. Accordingly, this book examines and analyzes typical and atypical corrosion failure cases and their prevention at refineries and petrochemical facilities, including problems with: pipelines, tanks, furnaces, distillation columns, absorbers, heat exchangers, and pumps. In addition, it describes naphthenic acid corrosion, stress corrosion cracking, hydrogen damages, sulfidic corrosion, microbiologically induced corrosion, erosion-corrosion, and corrosion fatigue occurring at refinery units. At last, fouling, corrosion and cleaning are discussed in this book.

Integrated Optimization Tools and Applications

Petroleum Refining Course

The Chemistry and Technology of Petroleum

Handbook of Petroleum Processing

Fundamentals of Oil & Gas Industry for Beginners

Leveraging Synergies Between Refining and Petrochemical Processes provides a detailed description of the interfaces and connections between crude oil refining and petrochemicals. It offers a view of global and regional markets and economic opportunities for synergies between these sectors. Features: Shows a global and regional market outlook for crude oil refining and petrochemical sectors Explores economic and market opportunities for taking advantage of the synergies between both sectors Analyzes the technical challenges and opportunities that come with these synergies Gives an outlook and prediction of what companies will be able to achieve in the mid-term future Provides introductory and explanatory material as well as in-depth insight into future technology and market developments This book serves as a reference for professionals in chemical engineering, oil and gas engineering, and industrial chemistry. It aims to help engineers and industry professionals understand the challenges and the potential benefits of developing expansion or optimization projects that may bridge the gap between refining and petrochemicals.

A prominent linchpin in world politics and in security policies world over, oil and gas have tremendous value in both, the political and economical sectors of global relations, business establishments and policy. Regardless of whether one is a

novice to a given field, or a well accomplished veteran in the field, there is a need for the continued engagement with the basics that underlie the core subjects. With that in mind, the Fundamentals of Oil and Gas is a perfect primer for the first-timer in the field, while also a copious text to help a seasoned veteran stay abreast with the nuances of the world of Oil and Gas.

Can "green petroleum" reverse global warming and bring down highgasoline prices? Written in non-technical language for the layperson, this book investigates and details how the oil and gas industry can "go green" with new processes and technologies, thus bringing the world's most important industry closer to environmental and economic sustainability.

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.

Petroleum Refinery Process Modeling

Rules of Thumb, Process Planning, Scheduling, and Flowsheet Design, Process Piping Design, Pumps, Compressors, and Process Safety Incidents

Corrosion Problems and Solutions in Oil Refining and Petrochemical Industry

How Oil and Gas Can Be Environmentally Sustainable

Chemical Nanofluids in Enhanced Oil Recovery

Sustainable world economy requires a steady supply of crude oil without any production constraints. Thus, the ever-increasing energy demand of the entire world can be mostly met through the enhanced production from crude oil from existing reservoirs. With the fact that newer reservoirs with large quantities of crude oil could not be explored at a faster pace, it will be inevitable to produce the crude oil from matured reservoirs at an affordable cost. Among alternate technologies, the chemical enhanced oil recovery (EOR) technique has promising potential to recover residual oil from matured reservoirs being subjected to primary and secondary water flooding operations. Due to pertinent complex phenomena that often have a combinatorial role and influence, the implementation of chemical EOR schemes such as alkali/surfactant/polymer flooding and their combinations necessitates upon a fundamental understanding of the potential mechanisms and their influences upon one another and desired response variables. Addressing these issues, the book attempts to provide useful screening criteria, guidelines, and rules of thumb for the identification of process parametric sets (including reservoir characteristics) and response characteristics (such as IFT, adsorption etc.,) that favor alternate chemical EOR systems. Finally, the book highlights the relevance of nanofluid/nanoparticle for conventional and unconventional reservoirs and serves as a needful resource to understand the

emerging oil recovery technology. Overall, the volume will be of greater relevance for practicing engineers and consultants that wish to accelerate on field applications of chemical and nano-fluid EOR systems. Further, to those budding engineers that wish to improvise upon their technical know-how, the book will serve as a much-needed repository.

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

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.

A comprehensive review of the theory and practice of the simulation and optimization of the petroleum refining processes Petroleum Refinery Process Modeling offers a thorough review of how to quantitatively model key refinery reaction and fractionation processes. The text introduces the basics of dealing with the thermodynamics and physical property predictions of hydrocarbon components in the context of process modeling. The authors - three experts on the topic - outline the procedures and include the key data required for building reaction and fractionation models with commercial software. The text shows how to filter through the extensive data available at the refinery and using plant data to begin calibrating available models and extend the models to include key fractionation sub-models. It provides a sound and informed basis to understand and exploit plant phenomena to improve yield, consistency, and performance. In addition, the authors offer information on applying models in an overall refinery context through refinery planning based on linear programming. This important resource: -Offers the basic information of thermodynamics and physical property predictions of hydrocarbon components in the context of process modeling -Uses the key concepts of fractionation lumps and physical properties to develop detailed models and workflows for atmospheric (CDU) and vacuum (VDU) distillation units -Discusses modeling FCC, catalytic reforming and hydroprocessing units Written for chemical engineers, process engineers, and engineers for measurement and control, this resource explores the advanced simulation tools and techniques that are available to support experienced and aid new operators and

engineers.

Petroleum Refineries

Fundamentals of Petroleum

Treatment of Petroleum Refinery Wastewater with Constructed Wetlands

Dictionary of Oil, Gas, and Petrochemical Processing

Processing of Heavy Crude Oils

The most comprehensive manual of its kind geared toward the broad spectrum of workers involved in today's petroleum industry. From geology and exploration through drilling, production, refining, and environmental concerns, this easy-to-read text takes readers on a full-scale journey with the people and practices that help bring energy to consumers' doorsteps. Covers the basics along with technological advancements. Clearly written and colorfully illustrated. Divided in five parts for usability and includes an index.

Refineries must not only adapt to evolving environmental regulations for cleaner product specifications and processing, but also find ways to meet the increasing demand for petroleum products, particularly for liquid fuels and petrochemical feedstocks. The Chemistry and Technology of Petroleum, Fourth Edition offers a 21st century perspective

Leveraging Synergies Between Refining and Petrochemical Processes

Oil Refineries in the 21st Century

Springer Handbook of Petroleum Technology

Petroleum Refining. Vol....