# Petroleum Refining Processes Chemical Industries

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The chemicals industry is rebounding from pandemic lows, driven primarily by the demand for plastics and methanol. The industry is exhibiting great prospects for the coming year. Thus, we ...

2 Top Chemical Stocks to Buy, 2 to Avoid
A team of researchers from the U.S. National Science Foundation Center for Sustainable Polymers based at the University of Minnesota Twin Cities have developed a chemical technology of combined ...

Chemical researchers invent bio-petroleum for sustainable materials
Due to the rising demand for lithium for electric vehicles (EVs) and other industries, the price of the alkali metal is hovering near its three-year high. And because the ...

2 Stocks to Buy on Soaring Lithium Prices
Researchers have developed a chemical technology of combined fermentation and chemical refining that can produce petroleum-like liquids from renewable plants.

Sustainable Hydrocarbons Made by Microbes Could Replace Oil and Gas
While experiencing unprecedented market variabilities, the global refining market is facing both long-term challenges as well as opportunities arising from technological advances and consumer-driven ...

Downstream Transition
The factory of Yulin Chemical, a China Energy Investment Corporation subsidiary in northwest China's Shaanxi Province, on Sept. 13, 2021. (Xinhua/Tao Ming) BEIJING, Nov. 23 (Xinhua) -- Since China set ...

Sci-tech upgrades assist greener petrochemistry in China
Steam cracking works by skipping the standard crude oil refining process by instead converting ... as demand for crude wanes? The China Petroleum & Chemical Corporation, or Sinopec, announced ...

Sinopec Unveils New Tech For Low-Carbon Petrochemical Production
If the petrochemical industry is ever to wean itself off oil and gas, it has to find sustainably-sourced chemicals that slip effortlessly into existing processes for making products such as fuels ...

Microbes can provide sustainable hydrocarbons for the petrochemical industry
A comprehensive overview of the global Catalysts market is recently added by UnivDatos Market Insights to its humongous database The report has been aggregated by collecting informative data from ...

Catalysts Market Report, Growth Segments - Business Size with Forthcoming Developments, Share, Revenue and Global Trends Forecast 2021 to 2027
The four state oil companies — Sinopec, PetroChina, CNOOC and Sinochem — plan to process a total 7.8 ... The 280,000 b/d Fujian Refining & Chemical was also scheduled to shut an 80,000 b ...

CHINA DATA: State-owned refiners raise Nov run rates to 83% on demand boost
The report tracks the latest trends in the industry ... such as chemical synthesis, petroleum refining, polymers and petrochemicals, and environmental applications for process optimisation ...

Global Catalyst Market to be Driven by the Increasing Demand for Environmental Catalysts in the Forecast Period of 2021-2026
This will be achieved by transitioning to high value materials and chemicals with renewables ... hydrocarbon exploration and production, petroleum refining and marketing, petrochemicals, retail ...

RIL to restructure, repurpose gasification assets
Nalco Water, Ecolab's water and process management business for industrial customers, has launched a new program for refineries, ethylene producers and ...

Ecolab launches technology platform for advanced recycled-plastic feedstocks
Engineers at municipal water or wastewater facilities and industrial plants will find the new OIW80 Sensor from Electro-Chemical Devices (ECD) helps them quickly detect oil in water leak incidents ...

ECD Presents Self-Cleaning, Oil-in-Water Sensor that Detects Petroleum Leaks
BEIJING, Nov. 30, 2021 /CNW/ -- China Petroleum & Chemical Corporation's (HKG ... and the green hydrogen produced by the plant will be supplied to Sinopec Tahe Refining & Chemical to replace the ...

Sinopec Lands World's Largest Photovoltaic Green Hydrogen Production Project in Kuqa, Xinjiang
It is a by-product of the oil refining process and can also ... Benzene is widely adopted for various industrial purposes, such as manufacturing other chemicals, plastics, lubricants, resins ...

Global Benzene Market Report, Size, Growth, Opportunity, Key Players and Industry Trends 2021-26
Data Bridge Market Research analyses that the bio paraxylene market will witness a CAGR of 15 00 for the forecast period of 2021 2028 Bio Paraxylene report research report has the most recent market ...

Bio-Paraxylene Market Global Analysis 2021-2028 ||ENEOS Corporation, Exxon Mobil Corporation, FUJAN REFINING & PETROCHEMICAL COMPANY LIMITED.
It has been difficult for scientists to use plants as a source for plastics because they are mostly made up of sugars which are nothing like the molecules obtained from petroleum. The key sugar in ...

Chemical researchers invent bio-petroleum for sustainable materials
The China Petroleum & Chemical Corporation ... by skipping the standard crude oil refining process by instead converting the crude directly into chemical products, saving time and resources ...

This work highlights contemporary approaches to resource utilization and provides comprehensive coverage of technological advances in residuum conversion. It illustrates state-of-the-art engineering methods for the refinement of heavy oils, bitumen, and other high-sulphur feedstocks.

Separation processesâ€"or processes that use physical, chemical, or electrical forces to isolate or concentrate selected constituents of a mixtureâ€"are essential to the chemical, petroleum refining, and materials processing industries. In this volume, an expert panel reviews the separation process needs of seven industries and identifies technologies that hold promise for meeting these needs, as well as key technologies that could enable separations. In addition, the book recommends criteria for the selection of separations research projects for the Department of Energy's Office of Industrial Technology.

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 work highlights contemporary approaches to resource utilization and provides comprehensive coverage of technological advances in residuum conversion. It illustrates state-of-the-art engineering methods for the refinement of heavy oils, bitumen, and other high-sulphur feedstocks.

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.

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.

As feedstocks to refineries change, there must be an accompanying change in refinery technology. This means a movement from conventional means of refining heavy feedstocks using (typically) coking technologies to more innovative processes that will coax the last drips of liquid fuels from the feedstock. This book presents the evolution of refinery processes during the last century and as well as the means by which refinery processes will evolve during the next three-to-five decades. Chapters contain material relevant to (1) comparisons of current feedstocks with heavy oil and bio-feedstocks; (2) evolution of refineries since the 1950s, (3) properties and refinability of heavy oil and bio-feedstocks, (4) thermal processes vs. hydroprocesses, and (5) evolution of products to match the environmental market. Process innovations that have influenced refinery processing over the past three decades are presented, as well as the relevant patents that have the potential for incorporation into future refineries. Comparison of current feedstocks with heavy oil and bio-feedstocks. Evolution of refineries over the past three decades. Properties and refinability of heavy oil and bio-feedstocks. Thermal processes vs. Hydroprocesses. Evolution of products to match the environmental market. Investigates the engineering and plant design challenges presented by heavy oil and bio-feedstocks Explores the legislatory and regulatory climate, including increasingly stringent environmental requirements Examines the trade-offs of thermal processes vs. hydroprocesses

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

* 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

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