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Hydrogen and Syngas Production and Purification Technologies - Ke Liu 2010-01-07
Covers the timely topic of fuel cells and hydrogen-based energy from its fundamentals to practical applications Serves as a resource for practicing researchers and as a text in graduate-level programs Tackles crucial aspects in light of the new directions in the energy industry, in particular how to integrate fuel processing into contemporary systems like nuclear and gas power plants Includes homework-style problems
Lg Scale Adsorption & Chromatography - Phillip C. Wankat 1986-10-31

Zeolites for Cleaner Technologies - Michel Guisnet 2002-09-19
This book, written and edited by leading authorities from academia and industrial groups, covers both preventive- and curative-zeolite-based technologies in the field of chemical processing. The opening chapter presents the state of the art in zeolite science. The two subsequent chapters summarize the chemistries involved in the processes and the constraints imposed on the catalyst/adsorbent. Three major areas are covered: oil refining, petrochemicals and fine chemicals. A chapter on the (curative) use of zeolites in pollution abatement completes this overview. In the area of oil refining, a general lecture sets the scene for present and future challenges. It is followed by in-depth case studies involving FCC, hydrocracking and light naphtha isomerization. Also, an entire chapter is devoted to the often-overlooked subject of base oils. In the area of petrochemicals, the processing of aromatics and olefins is described and special attention is paid to the synergy between catalysis and separation on molecular sieves. Contents:Introduction to Zeolite Science and Technology (M Guisnet & J-P Gilson)The Chemistry of Catalytic Processes (A Corma & A Martínez)Preparation of Zeolite Catalysts (T G Roberie et al.)Refining Processes: Setting the Scene (R H Jensen)Advances in Fluid Catalytic Cracking (E T Habib et al.)Hydrocracking (J A R Van Veen)C4-C6 Alkane Isomerisation (F Schmidt & E Köhler)Base Oil Production and Processing (M Daage)Para-Xylene ManufacturingCatalytic Reactions and Processes (F Alario & M Guisnet)Separation of Paraxylene by Adsorption (A Méthivier)Aromatic Alkylation: Towards Cleaner Processes (J S Beck et al.)Methanol to

Olefins (MTO) and Beyond (P Barger)Zeolite Effects on Catalytic Transformations of Fine Chemicals (D E De Vos & P A Jacobs)Functionalization of Aromatics over Zeolite Catalysts (P Marion et al.)Zeolites and 'Non-Zeolite' Molecular Sieves in the Synthesis of Fragrances and Flavors (W F Hoelderich & M C Laufer)Pollution Abatment Using Zeolites: State of the Art and Further Needs (G Delahay & B Coq) Readership: Undergraduates, graduate students, academics and researchers in catalyst chemistry. Reviews:"Chapter authors have provided a teaching text that gives excellent introductory chapters to zeolites, and to the nature and significance of the processes that they can catalyse ... This excellent book should be required reading for all scientists who have an interest in improving the environment."Chemistry & Industry

Zeolite Molecular Sieves - Donald W. Breck 1984

BUYERS' GUIDE 86 - 1985

Basic Principles of Membrane Technology - Marcel Mulder 2012-12-06

III . 2 Preparation of synthetic membranes 72 III . 3 Phase inversion membranes 75 III. 3. 1 Preparation by evaporation 76 III . 3. 2 Precipitation. from the vapour phase 76 III . 3. 3 Precipitation by controlled evaporation 76 Thermal precipitation 76 III . 3. 4 III . 3. 5 Immersion precipitation 77 Preparation techniques for immersion precipitation 77 III . 4 Flat membranes 77 III . 4. 1 78 III . 4. 2 Tubular membranes 81 III . 5 Preparation techniques for composite membranes 82 III. 5. 1 Interfacial polymerisation Dip-coating 83 III . 5. 2 III . 5. 3 Plasma polymerisation 86 III . 5. 4 Modification of homogeneous dense membranes 87 III . 6 Phase separation in polymer systems 89 III . 6. 1 Introduction 89 III . 6. 1. 1 Thermodynamics 89 III . 6. 2 Demixing processes 99 III . 6. 2. 1 Binary mixtures 99 III . 6. 2. 2 Ternary systems 102 III . 6. 3 Crystallisation 104 III . 6. 4 Gelation 106 III . 6. 5 Vitrification 108 III . 6. 6 Thermal precipitation 109 III . 6. 7 Immersion precipitation 110 III . 6. 8 Diffusional aspects 114 III . 6. 9 Mechanism of membrane formation 117 III. 7 Influence of various parameters on membrane morphology 123 III. 7. 1 Choice of solvent-nonsolvent system 123 III . 7. 2 Choice of the polymer 129 III . 7. 3 Polymer concentration 130 III . 7. 4 Composition of the coagulation bath 132 III . 7. 5 Composition of the casting solution 133 III . 7.

20th European Symposium of Computer Aided Process Engineering - S. Pierucci 2010-06-03

ESCAPE-20 is the most recent in a series of conferences that serves as a forum for engineers, scientists, researchers, managers and students from academia and industry to present and discuss progress being made in the area of "Computer Aided Process Engineering" (CAPE). CAPE covers computer-aided methods, algorithms and techniques related to process and product engineering. The ESCAPE-20 scientific program reflects the strategic objectives of the CAPE Working Party: to check the status of historically consolidated topics by means of their industrial application and to evaluate their emerging issues. * Includes a CD that contains all research papers and contributions * Features a truly international scope, with guest speakers and keynote talks from leaders in science and industry * Presents papers covering the latest research, key topical areas, and developments in computer-aided process engineering (CAPE)

Dynamic Process Modeling - 2013-10-02

Inspired by the leading authority in the field, the Centre for Process Systems Engineering at Imperial College London, this book includes theoretical developments, algorithms, methodologies and tools in process systems engineering and applications from the chemical, energy, molecular, biomedical and other areas. It spans a whole range of length scales seen in manufacturing industries, from molecular and nanoscale phenomena to enterprise-wide optimization and control. As such, this will appeal to a broad readership, since the topic applies not only to all technical processes but also due to the interdisciplinary expertise required to solve the challenge. The ultimate reference work for years to come.

Reverse Osmosis and Ultrafiltration - American Chemical Society. Meeting 1985

The Little Adsorption Book - Diran Basmadjian 2018-02-06
This unique approach to the basic concepts of adsorption is written for students, engineers, scientists, and others who need a clear presentation of adsorption processes. Unlike other texts on this subject, which are written for the specialist and rely heavily on advanced mathematics, this unique book helps you solve everyday problems in applications of adsorption, without complex mathematics or computers. The author, a recognized expert in the field, gives you a quick introduction to the underlying physics of absorption and explains how to apply adsorption to solve analytical and design problems. Rich with practical examples and enhanced by illustrations that support the text, this refreshingly straightforward presentation helps you cut through the complexities of adsorption to find fast answers to pressing real-world questions.
Zeolites and Catalysis - Jiri Cejka 2010-05-27
This indispensable two-volume handbook covers everything on this hot research field. The first part deals with the synthesis, modification, characterization and application of catalytic active zeolites, while the second focuses on such reaction types as cracking, hydrocracking, isomerization, reforming and other industrially important topics. Edited by a highly experienced and internationally renowned team with chapters written by the "Who's Who" of zeolite research.
Technological Eco-Innovations for the Quality Control and the Decontamination of Polluted Waters and Soils - Massimo Zacchini 2020-03-12
The Special Issue “Technological Eco-Innovations for the Quality Control and the Decontamination of Polluted Waters and Soils” deals with the most recent research activities carried out at lab and field scale on eco-sustainable tools for the remediation of contaminated environmental substrates. It is particularly devoted to highlight the relevance of biological organisms (plants, microbes, algae) to assess the chemical contamination in water and soil and to remediate such matrices from the pollution caused by the human activities. Therefore, bioremediation is a primary focus of most of the articles published within the present Special Issue. Bioremediation is a promising environmentally friendly technology to deal with the chemical pollution in different ecosystem compartments and its integration with the traditional approaches might represent a significant breakthrough for the environmental decontamination. An overview of the potential of the eco-innovative technologies, with nature-based solutions associated with the modern analytical techniques, is offered along the contributions forming the Special Issue. In this volume, different contaminants occurring in various environmental matrices are focused, both in controlled conditions and on site, with many interesting outcomes useful from research perspectives.
Advances in Heat Transfer and Thermal Engineering - Chuang Wen 2021-06-01
This book gathers selected papers from the 16th UK Heat Transfer Conference (UKHTC2019), which is organised every two years under the aegis of the UK National Heat Transfer Committee. It is the premier forum in the UK for the local and international heat transfer community to meet, disseminate ongoing work, and discuss the latest advances in the heat transfer field. Given the range of topics discussed, these proceedings offer a valuable asset for engineering researchers and postgraduate students alike.
Fundamentals of Adsorption - M. Douglas LeVan 2012-12-06
Fundamentals of Adsorption is the proceedings of the fifth International Conference on the Fundamentals of Adsorption, which was held on May 13-18, 1995 at the Asilomar Conference Center, Pacific Grove, California. This conference was organized completely under the auspices of the International Adsorption Society. It was attended by 196 participants from 24 countries. Members of the Scientific Advisory Board, together with the Conference Committee, selected papers for presentation from a large number of proposals involving an especially high level of international participation. The fundamental aspects of adsorption is a subject which has grown rapidly in recent years, drawing researchers from many disciplines including materials science, chemistry, physics, biochemistry and biotechnology, and chemical, civil, mechanical and environmental engineering. Fundamentals of Adsorption serves as an excellent reference and may be used as a primary text for a graduate

level course on adsorption research or as a secondary text for a course on any of the disciplines mentioned above.

Handbook of Climate Change Mitigation - Wei-Yin Chen 2011-12-21

There is a mounting consensus that human behavior is changing the global climate and its consequence could be catastrophic. Reducing the 24 billion metric tons of carbon dioxide emissions from stationary and mobile sources is a gigantic task involving both technological challenges and monumental financial and societal costs. The pursuit of sustainable energy resources, environment, and economy has become a complex issue of global scale that affects the daily life of every citizen of the world. The present mitigation activities range from energy conservation, carbon-neutral energy conversions, carbon advanced combustion process that produce no greenhouse gases and that enable carbon capture and sequestion, to other advanced technologies. From its causes and impacts to its solutions, the issues surrounding climate change involve multidisciplinary science and technology. This handbook will provide a single source of this information. The book will be divided into the following sections: Scientific Evidence of Climate Change and Societal Issues, Impacts of Climate Change, Energy Conservation, Alternative Energies, Advanced Combustion, Advanced Technologies, and Education and Outreach.

Handbook of Natural Zeolites - Vassilis J. Inglezakis 2012-08-09

"Handbook of Natural Zeolites provides a comprehensive and updated summary of all important aspects of natural zeolites science and technology. The e-book contains four sections covering the relevant scientific background, established technologies, recent "

Heterogeneous Catalytic Materials - Guido Busca 2014-05-23

Heterogeneous Catalytic Materials discusses experimental methods and the latest developments in three areas of research: heterogeneous catalysis; surface chemistry; and the chemistry of catalysts. Catalytic materials are those solids that allow the chemical reaction to occur efficiently and cost-effectively. This book provides you with all necessary information to synthesize, characterize, and relate the properties of a catalyst to its behavior, enabling you to select the appropriate catalyst for the process and reactor system. Oxides (used both as catalysts and as supports for catalysts), mixed and complex oxides and salts, halides, sulfides, carbides, and unsupported and supported metals are all considered. The book encompasses applications in industrial chemistry, refinery, petrochemistry, biomass conversion, energy production, and environmental protection technologies. Provides a systematic and clear approach of the synthesis, solid state chemistry and surface chemistry of all solid state catalysts Covers widely used instrumental techniques for catalyst characterization, such as x-ray photoelectron spectroscopy, scanning electron microscopy, and more Includes characterization methods and lists all catalytic behavior of the solid state catalysts Discusses new developments in nanocatalysts and their advantages over conventional catalysts

Thermal Degradation of Polymeric Materials - Krzysztof Pielichowski 2005

Understanding the thermal degradation of polymers is of paramount importance for developing a rational technology of polymer processing and higher-temperature applications. Controlling degradation requires understanding of many different phenomena, including chemical mechanisms, the influence of polymer morphology, the complexities of oxidation chemistry, and the effects of stabilisers, fillers and other additives. This book offers a wealth of information for polymer researchers and processors requiring an understanding of the implications of thermal degradation on material and product performance.

Worldwide Petrochemical Directory - 1998

Gas Purification - Arthur L. Kohl 1985

Natural Gas Processing - Alireza Bahadori 2014-05-05

Natural gas is considered the dominant worldwide bridge between fossil fuels of today and future resources of tomorrow. Thanks to the recent shale boom in North America, natural gas is in a surplus and quickly becoming a major international commodity. Stay current with

conventional and now unconventional gas standards and procedures with Natural Gas Processing: Technology and Engineering Design. Covering the entire natural gas process, Bahadori's must-have handbook provides everything you need to know about natural gas, including: Fundamental background on natural gas properties and single/multiphase flow factors How to pinpoint equipment selection criteria, such as US and international standards, codes, and critical design considerations A step-by-step simplification of the major gas processing procedures, like sweetening, dehydration, and sulfur recovery Detailed explanation on plant engineering and design steps for natural gas projects, helping managers and contractors understand how to schedule, plan, and manage a safe and efficient processing plant Covers both conventional and unconventional gas resources such as coal bed methane and shale gas Bridges natural gas processing with basic and advanced engineering design of natural gas projects including real world case studies Digs deeper with practical equipment sizing calculations for flare systems, safety relief valves, and control valves

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

Advances in Carbon Capture - Mohammad Reza Rahimpour 2020-08-04

Advances in Carbon Capture reviews major implementations of CO2 capture, including absorption, adsorption, permeation and biological techniques. For each approach, key benefits and drawbacks of separation methods and technologies, perspectives on CO2 reuse and conversion, and pathways for future CO2 capture research are explored in depth. The work presents a comprehensive comparison of capture technologies. In addition, the alternatives for CO2 separation from various feeds are investigated based on process economics, flexibility, industrial aspects, purification level and environmental viewpoints. Explores key CO2 separation and compare technologies in terms of provable advantages and limitations Analyzes all critical CO2 capture methods in tandem with related technologies Introduces a panorama of various applications of CO2 capture

Adsorption Calculations and Modelling - Howard Brenner 2013-10-22

'Adsorption Calculations and Modelling' provides readers with practical, useful information about how to make adsorption calculations and formulate models describing adsorption processes. Unlike most books on this subject, this book treats both gas phase adsorption and liquid phase adsorption with equal emphasis, and supplies a rigorous treatment of multi-component adsorption. It also covers adsorption applications in environmental applications including the use of impregnated adsorbents for protection against toxic gases and carbon adsorption in water and wastewater treatment. Explores the most up-to-date information on multicomponent adsorption Details adsorption applications in environmental application Explains the fundamentals of adsorption calculation in a simple, straightforward manner.

Chemical Week - 2000

Characterization of Porous Solids - H. Kral 1988-04-01

The importance of porosity has long been recognized by scientists and engineers. Porous solids are widely encountered in industry and everyday life and their behaviour, e.g. chemical reactivity, adsorptive capacity, and catalytic activity is dependent on their pore structure. A

considerable amount of work on porous solids has been undertaken both in academic and in industrial laboratories. However, all this activity is in urgent need of a critical appraisal. To undertake this task, a number of leading experts in the field of adsorption, porosimetry, X-ray and neutron scattering, optical and electron microscopy, calorimetry and fluid permeation, were brought together at the 1987 IUPAC (COPS I) Symposium. This proceedings volume provides an up-to-date overall review of the theoretical foundations for modelling and characterizing porous systems. It deals with most of the techniques in current use as applied to both model systems and porous solids of industrial importance. The reader will find the description and discussion of a number of novel techniques as well as a critical appraisal and comparison of the more established methods. All those concerned with the characterization of porous solids in academic and industrial laboratories will find much to interest them in this volume. It should be on the bookshelf of applied research centres involved in adsorption, catalysis, purification of gases and liquids, pigments, fillers, building materials, etc.

Separation Process Principles - J. D. Seader 2016-01-20

Separation Process Principles with Applications Using Process Simulator, 4th Edition is the most comprehensive and up-to-date treatment of the major separation operations in the chemical industry. The 4th edition focuses on using process simulators to design separation processes and prepares readers for professional practice. Completely rewritten to enhance clarity, this fourth edition provides engineers with a strong understanding of the field. With the help of an additional co-author, the text presents new information on bioseparations throughout the chapters. A new chapter on mechanical separations covers settling, filtration and centrifugation including mechanical separations in biotechnology and cell lysis. Boxes help highlight fundamental equations. Numerous new examples and exercises are integrated throughout as well.

Materials Handbook - John A. Vaccari 2002-07-09

The Materials Handbook is an encyclopedic, A-to-Z organization of all types of materials, featuring their key performance properties, principal characteristics and applications in product design. Materials include ferrous and nonferrous metals, plastics, elastomers, ceramics, woods, composites, chemicals, minerals, textiles, fuels, foodstuffs and natural plant and animal substances --more than 13,000 in all. Properties are expressed in both U.S. customary and metric units and a thorough index eases finding details on each and every material. Introduced in 1929 and often known simply as "Brady's," this comprehensive, one-volume, 1244 page encyclopedia of materials is intended for executives, managers, supervisors, engineers, and technicians, in engineering, manufacturing, marketing, purchasing and sales as well as educators and students. Of the dozens of families of materials updated in the 15th Edition, the most extensive additions pertain to adhesives, activated carbon, aluminides, aluminum alloys, catalysts, ceramics, composites, fullerences, heat-transfer fluids, nanophase materials, nickel alloys, olefins, silicon nitride, stainless steels, thermoplastic elastomers, titanium alloys, tungsten alloys, valve alloys and welding and hard-facing alloys. Also widely updated are acrylics, brazing alloys, chelants, biodegradable plastics, molybdenum alloys, plastic alloys, recyclate plastics, superalloys, supercritical fluids and tool steels. New classes of materials added include aliphatic polyketones, carburizing secondary-hardening steels and polyarylene ether benzimidazoles. Carcinogens and materials likely to be cancer-causing in humans are listed for the first time.

Molecular Sieve Zeolites - 1971

Membrane Separation Systems - R.W. Baker 1991

Describes research needed to bring energy-saving membrane separation processes to technical and commercial readiness for commercial acceptance within the next 5 to 20 years. ÍNDICE: Volume I 1. Executive Summary 2. Assessment Methodology 3. Introduction 4. Government Support of Membrane Research 5. Analysis of Research Needs Appendix A: Peer Reviewers' Comments Volume II Introduction to Volume II 1. Membrane and Module Preparation 2. Pervaporation 3. Gas Separation 4. Facilitated Transport 5. Reverse Osmosis 6. Microfiltration 7.

Ultrafiltration 8. Electrodialysis 9. Glossary of Symbols and Abbreviations.

HAZOP: Guide to Best Practice - Frank Crawley 2015-04-08

HAZOP: Guide to Best Practice, 3rd Edition describes and illustrates the HAZOP study method, highlighting a variety of proven uses and approaches. This updated edition brings additional experience with which to assist the reader in delivering optimum safety and efficiency of performance of the HAZOP team. HAZOP is the most widely-used technique in the process industries for the identification of hazards and the planning of safety measures. This book explains how to implement HAZOP techniques in new facilities and apply it to existing facilities. The content covers many of the possible applications of HAZOP and takes you through all the stages of a study. This simple, easily digestible book is a favorite in the chemical and process industries. A concise and clear guide to the do's and don'ts in HAZOP New edition brings additional experience to help you deliver optimum safety and efficiency of performance. Updated material includes a section on HAZOP study of a procedure with a detailed example, new sections on pre-meeting with the client auditing a study, human factors and linking HAZOP study to LOPA. A section on start-up and shutdown has been added to the chapter on specific applications of HAZOP.

Thomas' Register of American Manufacturers - 2002

Catalytic Removal of Volatile Organic Compounds - Jean-François Lamonier 2018-09-28

This book is a printed edition of the Special Issue "Catalytic Removal of Volatile Organic Compounds" that was published in Catalysts

Adsorption Equilibrium Data Handbook - Diego P. Valenzuela 1989

Very Good,No Highlights or Markup,all pages are intact.

Adsorbents - Ralph T. Yang 2003-08-01

Adsorption promises to play an integral role in several futureenergy and environmental technologies, including hydrogen storage,CO removal for fuel cell technology, desulfurization oftransportation fuels, and technologies for meeting higher standardson air and water pollutants. Ralph Yang's Adsorbents provides asingle and comprehensive source of knowledge for all commercial andnew sorbent materials, presenting the fundamental principles fortheir syntheses, their adsorption properties, and their present andpotential applications for separation and purification. Chaptertopics in this authoritative, forward-looking volume include: - Formulas for calculating the basic forces or potentials foradsorption - Calculation of pore-size distribution from a single adsorptionisotherm - Rules for sorbent selection - Fundamental principles for syntheses/preparation, adsorptionproperties, and applications of commercially availablesorbents - Mesoporous molecular sieves and zeolites -¸-complexation sorbents and their applications - Carbon nanotubes, pillared clays, and polymeric resins Yang covers the explosion in the development of new nanoporousmaterials thoroughly, as the adsorption properties of some of thesematerials have remained largely unexplored. The whole of this bookbenefits from the new adsorbent designs made possible by theincrease in desktop computing and molecular simulation, makingAdsorbents useful to both practicing laboratories and graduateprograms. Ralph Yang's comprehensive study contributessignificantly to the resolution of separation and purificationproblems by adsorption technologies.

Advances in Catalysis - 2021-12-04

Advances in Catalysis, Volume 69 fills the gap between journal papers and textbooks across the diverse areas of catalysis research. For more than 60 years, this series has dedicated itself to record and present the latest progress in the field of catalysis, providing the scientific community with comprehensive and authoritative reviews. This series is an invaluable and comprehensive resource for chemical engineers and chemists working in the field of catalysis in both academia and industry, with this release focusing on solid acids, surface acidity and heterogeneous acid catalysis. Contains authoritative reviews written by experts in the field Explores topics that reflect progress in the field, such as catalyst synthesis, catalyst characterization, catalytic chemistry, reaction engineering, computational chemistry and physics Provides insightful and critical articles that are fully edited to suit various

backgrounds

Adsorption Analysis: Equilibria And Kinetics (With Cd Containing Computer Matlab Programs) - Duong D Do 1998-09-22

This book covers topics of equilibria and kinetics of adsorption in porous media. Fundamental equilibria and kinetics are dealt with for homogeneous as well as heterogeneous particles. Five chapters of the book deal with equilibria and eight chapters deal with kinetics. Single component as well as multicomponent systems are discussed. In kinetics analysis, we deal with the various mass transport processes and their interactions inside a porous particle. Conventional approaches as well as the new approach using Maxwell-Stefan equations are presented. Various methods to measure diffusivity, such as the Differential Adsorption Bed (DAB), the time lag, the diffusion cell, chromatography, and the batch adsorber methods are also covered by the book. It can be used by lecturers and engineers who wish to carry out research in adsorption. A number of programming codes written in MatLab language are included so that readers can use them directly to better understand the behavior of single and multicomponent adsorption systems.

Thomas Register of American Manufacturers and Thomas Register Catalog File - 2002

Vols. for 1970-71 includes manufacturers' catalogs.

Treatment of Biogas for Feeding High Temperature Fuel Cells - Maria Turco 2016-02-13

This book reports on the most recent applications of processes with a particular focus on the source and the properties of biogas and on the characteristics of the fuel cells (FCs). It describes adsorbing materials of potential interest are reviewed and the preparation methods and treatments employed to improve the adsorption properties as well as the stability and regenerability. The characterization of the chemical and physical properties involved in these processes is examined in particular detail. The book also covers aspects that concern the development of the adsorption apparatus with particular attention on the target of low residual concentration and high selectivity.High temperature FCs, such as molten carbonates (MCFCs) or solid oxides (SOFCs), are efficient, with a low environmental impact, and they can use a wide variety of fuels, such as biogas. The presence of some poisonous compounds such as sulphides, halides, and siloxanes can react with electrode catalysts and electrolyte, leading to the degradation and short lifetime of the cell. The treatment of raw biogas to obtain a FC-compatible fuel is mainly based on adsorption processes on suitable materials.

Life Cycle of a Process Plant - Mahdi Nouri 2021-12-04

Life Cycle of a Process Plant focuses on workflows, work processes, and interfaces. It is an ideal reference book for engineers of all disciplines, technicians, and business people working in the upstream, midstream, and downstream fields. This book is tailored to the everyday work tasks of the process and project engineer/manager and relates regulations to actions engineers can take in the workplace via case studies. It covers oil, gas, chemical, petrochemical, and carbon capture industries. The content in this book will be interesting for any engineers (from all disciplines) and other project team members who understand the technical principles of their work, but who would like to have a better idea of where their contribution fits into the complete picture of the life cycle of a process plant. This book shows the basic principles and approaches of process plant lifecycle information management and how they can be applied to generate substantial cost and time savings. Thus, the readers with their own knowledge and experience in plant design and operations can adapt and implement them into their specific plant lifecycle applications. Authors bring their practical and hands-on industry expertise to this book Covers the entire workflow process of a process plant from project initiation and design through to the commissioning stage Cost estimations which relate to process plants are discussed Covers the program and project management in O&G industry