Basics of Gas Field Processing

Fundamentals of Natural Gas Processing, Third Edition

Offering indispensable insight from experts in the field, Fundamentals of Natural Gas Processing, Third Edition provides an introduction to the gas industry and the processes required to convert wellhead gas into valuable natural gas and hydrocarbon liquids products including LNG. The authors compile information from the literature, meeting proceedings, short courses, and their own work experiences to give an accurate picture of where gas processing technology stands today as well as to highlight relatively new technologies that could become important in the future. The third edition of this bestselling text features updates on North American gas processing and changing gas treating requirements due to shale gas production. It covers the international nature of natural gas trade, LNG, economics, and more. To help nonengineers understand technical issues, the first 5 chapters present an overview of the basic engineering concepts applicable throughout the gas, oil, and chemical industries. The following 13 chapters address natural gas processing, with a focus on gas plant processes and technologies. The book contains 2 appendices. The first contains an updated glossary of gas processing terminology. The second is available only online and contains useful conversion factors and physical properties data. Aimed at students as well as natural gas processing professionals, this edition includes both discussion questions and exercises designed to reinforce important concepts, making this book suitable as a textbook in upper-level or graduate engineering courses.

Energy Research Abstracts

Towards Sustainable Chemical Processes

Commercial development of energy from renewables and nuclear is critical to long-term industry and environmental goals. However, it will take time for them to economically compete with existing fossil fuel energy resources and their infrastructures. Gas fuels play an important role during and beyond this transition away from fossil fuel dominance to a balanced approach to fossil, nuclear, and renewable energies. Chemical Energy from Natural and Synthetic Gas illustrates this point by examining the many roles of natural and synthetic gas in the energy and fuel industry, addressing it as both a “transition” and “end game” fuel. The book describes various types of gaseous fuels and how are they are recovered, purified, and converted to liquid fuels and electricity generation and used for other static and mobile applications. It emphasizes methane, syngas, and hydrogen as fuels, although other volatile hydrocarbons are considered. It also covers storage and transportation infrastructure for natural gas and hydrogen and methods and processes for cleaning and reforming synthetic gas. The book also deals applications, such as the use of natural gas in power production in power plants, engines, turbines, and vehicle needs. Presents a unified and collective look at gas in the energy and fuel industry, addressing it as both a “transition” and “end game” fuel. Emphasizes methane, syngas, and hydrogen as fuels. Covers gas storage and transport infrastructure. Discusses thermal gasification, gas reforming, processing, purification and upgrading. Describes biogas and bio-hydrogen production. Deals with the use of natural gas in power production in power plants, engines, turbines, and vehicle needs.

Natural Gas

Energy and feedstock materials for the chemical industry are in increasing demand and, with constraints related to the availability and use of oil, the energy and chemical industry is undergoing considerable changes. In recent years, major restructuring has occurred in the oil, petrochemical, and chemical industry, with increasing attention devoted to the use of natural gas, methane in particular, as a chemical feedstock rather than just as a fuel. The conversion of remote natural gas into liquid fuels or other transportable chemicals is a challenge to industrial catalysis. Few processes exist so far with the major ones involving the conversion of natural gas to synthesis gas by steam reforming, CO2 reforming, or partial oxidation, followed by the syntheses of methanol, hydrocarbons (Fischer-Tropsch synthesis), or ammonia. In this book, a comprehensive overview of the field of processing natural gas is given, through a series of chapters written by leading scientists and engineers in the field. New developments are discussed and current work relevant to the area is shown by a series of recent works by researchers working in this and related fields.

Plant Processing of Natural Gas
For four decades, Petroleum Refining has guided thousands of readers toward a reliable understanding of the field, and through the years has become the standard text in many schools and universities around the world offering petroleum refining classes, for self-study, training, and as a reference for industry professionals. The sixth edition of this perennial bestseller continues in the tradition set by Jim Gary as the most modern and authoritative guide in the field. Updated and expanded to reflect new technologies, methods, and topics, the book includes new discussion on the business and economics of refining, cost estimation and complexity, crude origins and properties, fuel specifications, and updates on technology, process units, and catalysts. The first half of the book is written for a general audience to introduce the primary economic and market characteristics of the industry and to describe the inputs and outputs of refining. Most of this material is new to this edition and can be read independently or in parallel with the rest of the text. In the second half of the book, a technical review of the main process units of a refinery is provided, beginning with distillation and covering each of the primary conversion and treatment processes. Much of this material was reorganized, updated, and rewritten with greater emphasis on reaction chemistry and the role of catalysis in applications. Petroleum Refining: Technology, Economics, and Markets is a book written for users, the practitioners of refining, and all those who want to learn more about the field.

Gasturbinen Handbuch

Film & Video Finder: Title section (A-K)

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, code design considerations A step-by-step simplification of design 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

Chemical Energy from Natural and Synthetic Gas

Natural gas use is growing rapidly worldwide. There are several reasons the first being that natural gas requires less processing than oil for heating and energy operations. The second is that gas is more environmentally friendly, and finally gas can be transported via a pipeline or in a liquified form as LNG. Because of the demands of this expanding industry, petroleum engineers need a book focusing on the natural gas market, guiding them step-by-step by case studies and practical approaches. The book, Process Modeling, Control and Optimization in the Gas Processing Industry is essential for maximizing process efficiency and profitability in the gas industry. It covers only the critical concepts required to efficiently process and move natural gas from its sources to the consumer. Emphasis is placed on the applications of simulation and optimization to solve real-world problems. Readers are able to use this information to develop and implement advanced control strategies to achieve objectives of throughput maximization, energy minimization, and improved quality control. A timely book that addresses the enormous industry shift from oil to natural gas * Assumes reader knowledge of fundamentals and focuses strictly on process control applications * Case Studies provide examples of best practice in the field

Contamination Control in the Natural Gas Industry


Gas Engineering


Sustainable Membrane Technology for Energy, Water, and Environment

Dieses amerikanische Standardwerk wurde vom Übersetzer angepaßt auf die deutschen Verhältnisse. Es bietet wertvolle Informationen für Installation, Betrieb und Wartung, technische Details der Auslegung, Kennzahlen und vieles mehr.

Erdgas und erneuerbares Methan für den Fahrzeugantrieb

A unique, well-documented, and forward-thinking work, the second edition of Handbook of Natural Gas Transmission and Processing continues to present a thoroughly updated, authoritative, and comprehensive description of all major aspects of natural gas transmission and processing. It provides an ideal platform for engineers, technologists, and operations personnel working in the natural gas industry to get a better understanding of any special requirements for optimal design and operations of natural gas transmission pipelines and processing plants. First book of its kind that covers all aspects of natural gas transmission and processing Provides pivotal updates on the latest technologies, which have not been addressed in-depth in any existing books Offers practical advice for design and operation based on sound
Read Online Fundamentals Of Natural Gas Processing Second Edition

Handbook of Fuels

Handbook of Fuels is the comprehensive resource that has been revised to reflect the recent developments in fuels and additives from renewable sources. Written for professionals in the fields of fossil and renewable fuels, energy planning, process integration, and sustainability engineering. The book offers a comprehensive framework for sustainability assessment, design, and optimization of chemical engineering. Beginning with the analysis and assessment in the early stage of chemical products’ initiating, this book focuses on the combination of science sustainability and process system engineering, involving mathematical models, industrial ecology, circular economy, energy planning, process integration, and sustainability engineering. All chapters throughout answered two fundamental questions in depth: (1) what tools and models are available to be used to assess and design sustainable chemical processes, (2) what the core theories and concepts are to get into the sustainable chemical process fields. Therefore, Towards Sustainable Chemical Processes is an indispensable guide for chemical engineers, researchers, students, practitioners and consultants in sustainability related area.

Handbook of Natural Gas Analysis

According to NACE (National Association of Corrosion Engineers), the total annual cost of corrosion in petroleum refining takes up $3.7 billion in the US alone. Corrosion control is always a challenge for the downstream industry, but as the quality of feedstock is declining due to refineries accepting more of the heavy and shale gas and oil resources that are more readily available today, refinery managers, petroleum and natural gas engineers are unprepared for the new set of corrosion problems that are showing up in their equipment and processing units. Oil and Gas Corrosion Prevention: From Surface Facilities to Refineries quickly gets the engineer and manager up to speed on the latest types of corrosion control, which are common for these lower grade crude oils and gases as well as the best prevention methods for all of the major sections of the refinery, especially desalting and sulfur recovery units, which are the most common problem areas for unconventional feedstocks. Also covering the unique midstream sections, or point of entry to the refinery, as well as the major critical refinery equipment, Oil and Gas Corrosion Prevention: From Surface Facilities to Refineries offers the perfect quick cross-reference for the oil and gas community. Gets engineers and managers up to speed on the latest types of corrosion common for lower grade crude oils and gases. Provides the best prevention methods for all of the major sections of the refinery, especially desalting and sulfur recovery units. Covers additional topics such as unique midstream sections, or point of entry to the refinery, as well as major critical refinery equipment.

Natural Gas Processing from Midstream to Downstream

This book focuses on natural gas and synthetic methane as contemporary and future energy sources. Following a historical overview, physical and chemical properties, occurrence, extraction, transportation and storage of natural gas are discussed. Sustainable production of natural gas and methane as well as production and storage of synthetic methane are scrutinized carefully. A substantial part of the book addresses construction of vehicles for natural and synthetic methane as well as large engines for industrial and maritime use. The last chapters present some perspectives on further uses of renewable liquid fuels as well as natural gas for industrial engines and gas power plants.

Fundamentals of Natural Gas Processing

Combustion Control in the Natural Gas Industry delivers the separation fundamentals and technology applications utilized by natural gas producers and processors. This reference covers principles and practices for better design and operation of a wide range of media, filters and systems to remove contaminants from liquids and gases, enabling gas industry professionals to fulfill diverse fluid purification requirements. Packed to cover practical technologies, diagnostics and troubleshooting methods, this book provides gas engineers and technologists with a critical first-ever reference geared to contamination control. Covers contamination control methods and equipment specific to the natural gas industry. Includes guidelines on fundamentals and real-world technologies used today. Gives engineers better design and operation with rating methods, standards and case histories.

Fundamentals of Natural Gas

A guide to industrially relevant products and processes for transportation fuels. The Handbook of Fuels offers a comprehensive view of the wide variety of fuels used to power vehicles, aircraft and ships and examines the processes to produce these fuels. The updated second edition reflects the growing importance of fuels and fuel additives from sustainable sources. New chapters include information on current production technology and use of bioethanol, biometanol and biomass-to-liquid fuels. The book also reviews novel additives and performance enhancers for conventional engines and fuels for novel hybrid engines. This comprehensive resource contains critical information on the legal, safety, and environmental issues associated with the production and use of fuels as well as reviewing important secondary aspects of the use and production of fuels. This authoritative guide includes contributions from authors who are long-standing contributors to the Ullmann’s Encyclopedia, the world’s most trusted reference for industrial chemistry. This important guide: Contains an updated edition of the authoritative resource to the production and use of fuels used for transportation. Includes information that has been selected to reflect only commercially relevant products and processes. Presents contributions from a team of noted experts in the field. Offers the most recent developments in fuels and additives from renewable sources. Written for professionals in the fields of fossil and renewable fuels, engine design, and transportation. Handbook of Fuels is the comprehensive resource that has been revised to reflect the recent developments in fuels used for transportation.

Handbook of Fuels
The book includes the basics of physical properties of natural gas necessary to understand natural gas processing and process calculations. Items covered in the first chapter are gas molecular weight, density at operating conditions, heating value, compressibility factor, etc. The second chapter covers the basics of phase behavior. The third chapter covers a brief oil and gas separation where a detailed review is provided in the fourth chapter. The fourth chapter covers Natural gas hydrates, prediction and inhibition. The fifth chapter covers dehydration of natural gas. The sixth chapter covers natural gas sweetening and sulfur recovery. The seventh chapter covers hydrocarbon recovery.

Handbook of Liquefied Natural Gas

Natural gas processing is a complex industrial process designed to clean raw natural gas by separating impurities and various non-methane hydrocarbons and fluids to produce what is known as pipeline quality dry natural gas. Natural gas processing begins at the well head. The composition of the raw natural gas extracted from producing wells depends on the type, depth, and location of the underground deposit and the geology of the area. Oil and natural gas are often found together in the same reservoir. The natural gas produced from oil wells is generally classified as associated-dissolved, meaning that the natural gas is associated with or dissolved in crude oil. Natural gas production absent any association with crude oil is classified as "non-associated."

Petroleum Refining

As I received many appreciations for my first book, (Fundamentals of Oil and Gas Processing), which is distributed by Amazon.com. I intended to prepare a book titled (Basics of Gas Field Processing). The new book is still under preparation while I am writing this preface, and it will contain 5 parts as follows:

Part 1: Physical properties of natural gas
Part 2: Water-Hydrocarbon phase behavior, hydrate formation, and hydrate prediction
Part 3: Dehydration of natural gas
Part 4: Gas sweetening
Part 5: Refrigeration, hydrocarbon recovery, and trace component treatments

I think that, some readers are not interested in all above subjects, therefore, I preferred to extract some topics like (natural gas hydrates, the need for hydraulic fracturing, and an indication of shale gas processing). The book also provides new and useful information that has a great potential in the field of exergy analysis application by assessing energy degradation for three well-known MRU technologies on offshore rigs: the Traditional Atmospheric Distillation Process; the Full-Stream Process; and the Slip-Stream Process. The book also elucidates how the main design parameters impact the efficiency of MEG recovery units and offers insights into thermodynamic efficiency based on case studies of general distillation-based processes with sharp or not too sharp cut, providing ranges for expected values of efficiencies and enhancing a global comprehension of this subject. Since MEG recovery is an energy consuming process that has to be conducted in a limited space and with limited power supply, the book examines the performance for those involved in design, engineering, economic evaluation and environmental evaluation of topside processing on offshore platforms for natural gas production.

Fundamentals of Natural Gas Processing

Natural gas and crude oil production from hydrocarbon rich deep shale formations is one of the most quickly expanding trends in domestic oil and gas exploration. Vast new natural gas and oil resources are being discovered every year across North America and one of those new resources comes from the development of deep shale formations, typically located many thousands of feet below the surface of the Earth in tight, low permeability formations. Deep Shale Oil and Gas provides an introduction to shale gas resources as well as offer a basic understanding of the geomechanical properties of shale, the need for hydraulic fracturing, and an indication of shale gas processing. The book also examines the issues regarding the nature of shale gas development, the potential environmental impacts, and the ability of the current regulatory structure to deal with these issues. Deep Shale Oil and Gas delivers a useful reference that today’s petroleum and natural gas engineer can use to make informed decisions about meeting and managing the challenges they may face in the development of these resources. Clarifies all the basic information needed to quickly understand today’s deeper shale oil and gas industry, horizontal drilling, fracture fluids chemicals needed, and completions Addresses critical coverage on water treatment in shale, and important and evolving technology. Practical handbook with real-world case shale plays discussed, especially the up-and-coming deeper areas of shale development.

Handbook of Natural Gas Transmission and Processing

Volume I deals with the origins of process gases and describes recovery, properties and composition. It covers as well the shale gas, the production from hydrocarbon rich deep shale formations, being one of the most quickly expanding trends in onshore domestic gas exploration. Vol. 2: Composition and Processing of Gas Streams. Vol. 3: Uses of Gas and Effects.

Fundamentals of Oil & Gas Industry For Beginners

Offering indispensable insight from experts in the field, Fundamentals of Natural Gas Processing, Third Edition provides an introduction to the gas industry and the processes required to convert wellhead gas into valuable natural gas and hydrocarbon liquids products including LNG. The authors compile information from the literature, meeting proceedings, short courses, and their own work experiences to give an accurate picture of where gas processing technology stands today as well as to highlight relatively new technologies that could become important in the future. The third edition of this bestselling text features updates on North American gas processing and changing gas treating requirements due to
shale gas production. It covers the international nature of natural gas trade, LNG, economics, and more. To help non-engineers understand technical issues, the first 5 chapters present an overview of the basic engineering concepts applicable throughout the gas, oil, and chemical industries. The following 15 chapters address natural gas processing, with a focus on gas plant processes and technologies. The book contains 2 appendices. The first contains an updated glossary of gas processing terminology. The second is available only online and contains useful conversion factors and physical properties data. Aimed at students as well as natural gas processing professionals, this edition includes both discussion questions and exercises designed to reinforce important concepts, making this book suitable as a textbook in upper-level or graduate engineering courses.

**Clothate Hydrates of Natural Gases**

This book consists of the latest in sustainable membrane technology for use in energy, water, and the environment. Many innovative ideas are presented, including sections on rapidly growing activities in the ASEAN and Middle East regions, which are fast emerging as next-generation research centers of membrane technologies, owing to their need of water and natural gas production technology. Topics covered include new membrane material and membrane development, as well as membrane applications for gas and vapor separation, water treatment, environmental applications, energy, food processing, and industrial purposes.


As the cleanest source of fossil energy with the most advantageous CO2 footprint, natural gas continues to increase its share in the global energy market. This book provides state-of-the-art contributions in the area of gas processing. Special emphasis is given to Liquidified Natural Gas (LNG); the book also covers the following gas processing applications in parallel sessions: * Natural Gas processing and treatment * Gas To Power and water * Gas To Liquid (GTL) * Gas To Petrochemicals, including olefins, ammonia and methanol * Provides a state-of-the-art review of gas processing technologies * Covers design, operating tools, and methodologies * Includes case studies and practical applications

**Proceedings of the 1st Annual Gas Processing Symposium**

Modeling, Control, and Optimization of Natural Gas Processing Plants presents the latest on the evolution of the natural gas industry, shining a light on the unique challenges plant managers and owners face when looking for ways to optimize plant performance and efficiency, including topics such as the various feed gas compositions, temperatures, pressures, and throughput capacities that keep them looking for better decision support tools. The book delivers the first reference focused strictly on the fast-growing natural gas markets. Whether you are trying to magnify your plants existing capabilities or are designing a new facility to handle more feedstock options, this reference guides you by combining modeling control and optimization strategies with the latest developments within the natural gas industry, including the very latest in algorithms, software, and real-world case studies. Helps users adapt their natural gas plant quickly with optimization strategies and advanced control methods. Presents real-world application for gas process operations with software and algorithm comparisons and practical case studies. Provides coverage on multivariable control and optimization on existing equipment. Allows plant managers and owners the tools they need to maximize the value of the natural gas produced

**Errichtung, Betrieb und Erweiterung einer 1 MW-Versuchs anlage zur Erforschung des Carbonate Looping-Verfahrens zur Abtrennung von CO2 aus Rauchgasen**

**Natural Gas Processing**

Is natural gas the ‘bridge’ to our low-carbon future? In power generation, industrial processes, parts of the transportation sector, and for domestic use, natural gas still has the potential to play a greater role in various energy transition pathways around the world. But such a future is by no means certain. In this book, Michael Bradshaw and Tim Boersma offer a sober and balanced assessment of the place of natural gas in the global energy mix today, and the uncertainties that cloud our understanding of what that role may look like in the future. They argue that natural gas has become prominent in recent decades, spurred by two revolutions: the first has been the rise of unconventional natural gas production, and the second the coming of age of the market for liquefied natural gas (LNG). However, a third revolution is required to secure natural gas’ long-term role in various energy transition pathways, as countries are increasingly pushing to address air quality concerns and curb greenhouse gas emissions. This revolution has to take place as politicians, citizens, investors and shareholders are becoming increasingly vocal about the need to improve the environmental footprint of the fuel, while simultaneously, and perhaps paradoxically, demand for it continues to grow, in a world where geopolitical challenges seem to be mounting.

**Prediction, and Inhibition of Natural Gas Hydrates**

Presents fundamental concepts and workable practices for processing natural gas. Designed to aid the gas plant employee who deals regularly with the problems of processing and treating. Chapters include fluid fundamentals, oil absorption, fractionation, dehydration, instrumentation, cryogenics, gas and product treating, and sulfur recovery. Issued in cooperation with the American Petroleum Institute and the Gas Processors Association.

**Monoethylene Glycol as Hydrate Inhibitor in Offshore Natural Gas Processing**

A comprehensive review of the current status and challenges for natural gas and shale gas production, treatment and monetization technologies Natural Gas Processing from Midstream to Downstream presents an international perspective on the production and monetization of shale gas and natural gas. The authors review techno-economic assessments of the midstream and downstream natural gas processing technologies. Comprehensive in scope, the text offers insights into the current status and the challenges facing the advancement of the midstream natural gas treatments. Treatments covered include processes for dehdration and natural gas pipeline transportation. The authors highlight the downstream processes including physical treatment and chemical conversion of both direct and indirect conversion. The book also contains an important overview of natural gas monetization processes and the potential for shale gas to play a role in the future of the energy market, specifically for the production of ultra-clean fuels and value-added chemicals. This vital resource: Provides fundamental chemical engineering aspects of natural gas technologies Covers topics related to upstream, midstream and downstream natural gas treatment and processing Contains well-integrated coverage of several technologies and processes for treatment and production of natural gas Highlights the economic factors and risks facing the monetization technologies Discusses supply chain, environmental and safety issues associated with the emerging shale gas industry. Identifies future trends in educational and research
opportunities, directions and emerging opportunities in natural gas monetization. Includes contributions from leading researchers in academia and industry. Written for Industrial scientists, academic researchers and government agencies working on developing and sustaining state-of-the-art technologies in gas and fuels production and processing. Natural Gas Processing from Midstream to Downstream provides a broad overview of the current status and challenges for natural gas production, treatment and monetization technologies.

**Fundamentals of Natural Gas Processing, Third Edition**

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 advice 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.

**Fundamentals of Natural Gas Processing**

**Sustainable Strategies for the Upgrading of Natural Gas: Fundamentals, Challenges, and Opportunities**

Offering indispensable insight from experts in the field, Fundamentals of Natural Gas Processing, Second Edition provides an introduction to the gas industry and the processes required to convert wellhead gas into valuable natural gas and hydrocarbon liquids products. The authors compile information from the literature, meeting proceedings, and the

**Modeling, Control, and Optimization of Natural Gas Processing Plants**

**Process Modeling, Control and Optimization in Gas Processing Industry**

A comprehensive resource to the origin, properties, and analysis of natural gas and its constituents. Handbook of Natural Gas Analysis is a comprehensive guide that includes information on the origin and analysis of natural gas, the standard test methods, and procedures that help with the predictability of gas composition and behavior during gas cleaning operations and use. The author—a noted expert on the topic—also explores the properties and behavior of the various components of natural gas and gas condensate. All chapters are written as stand-alone chapters and they cover a wealth of topics including history and uses; origin and production; composition and properties; recovery, storage, and transportation; properties and analysis of gas stream and gas condensate. The text is designed to help with the identification of quality criteria appropriate analysis and testing that fall under the umbrella of ASTM International. ASTM is an organization that is recognized globally across borders, disciplines and industries and works to improve performance in manufacturing and materials. Important guide: Contains detailed information on natural gas and its constituents. Offers an analysis of methane, gas hydrates, ethane, propane, butane, and gas condensate. Includes information on the behavior of natural gas to aid in the planning for recovery, storage, transportation, and use. Covers the test methods that are applicable to natural gas and its constituents. Written in accessible and easy-to-understand terms. Written for scientists, engineers, analytical chemists who work with natural gas as well as other scientists and engineers in the industry. Handbook of Natural Gas Analysis offers a guide to the analysis, standard test methods, and procedures that aid in the predictability of gas composition and behavior during gas cleaning operations and use.

**Fundamentals of Natural Gas Conditioning**

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