

Industrial Organic Chemicals 3rd Edition

Survey of Industrial Chemistry arose from a need for a basic text dealing with industrial chemistry for use in a one semester, three-credit senior level course taught at the University of Wisconsin-Eau Claire. This edition covers all important areas of the chemical industry, yet it is reasonable that it can be covered in 40 hours of lecture. Also an excellent resource and reference for persons working in the chemical and related industries, it has sections on all important technologies used by these industries: a one-step source to answer most questions on practical, applied chemistry. Young scientists and engineers just entering the workforce will find it especially useful as a readily available handbook to prepare them for a type of chemistry quite different than they have seen in their traditional coursework, whether graduate or undergraduate.

A presentation of developments in the electrochemistry of C60 and related compounds, electroenzymatic synthesis, conducting polymers, and electrochemical partial fluorination. It contains accounts of carbonyl compounds, anodic oxidation of oxygen-containing compounds, electrosynthesis of bioactive materials, electrolyte reductive coupling, and more.

The third edition of Chemical Fate and Transport in the Environment—winner of a 2015 Textbook Excellence Award (Texty) from The Text and Academic Authors Association—explains the fundamental principles of mass transport, chemical partitioning, and chemical/biological transformations in surface waters, in soil and groundwater, and in air. Each of these three major environmental media is introduced by descriptive overviews, followed by a presentation of the controlling physical, chemical, and biological processes. The text emphasizes intuitively based mathematical models for chemical transport and transformations in the environment, and serves both as a textbook for senior undergraduate and graduate courses in environmental science and engineering, and as a standard reference for environmental practitioners. Winner of a 2015 Texty Award from the Text and Academic Authors Association Includes many worked examples as well as extensive exercises at the end of each chapter Illustrates the interconnections and similarities among environmental media through its coverage of surface waters, the subsurface, and the atmosphere Written and organized concisely to map to a single-semester course Discusses and builds upon fundamental concepts, ensuring that the material is accessible to readers who do not have an extensive background in environmental science

Now in its 3rd Edition, Industrial Catalysis offers all relevant information on catalytic processes in industry, including many recent examples. Perfectly suited for self-study, it is the ideal companion for scientists who want to get into the field or refresh existing knowledge. The updated edition covers the full range of industrial aspects, from catalyst development and testing to process examples and catalyst recycling. The book is characterized by its practical relevance, expressed by a selection of over 40 examples of catalytic processes in industry. In addition, new chapters on catalytic processes with renewable materials and polymerization catalysis have been included. Existing chapters have been carefully revised and supported by new subchapters, for example, on metathesis reactions, refinery processes, petrochemistry and new reactor concepts. "I found the book accesible, readable and interesting - both as a refresher and as an introduction to new topics - and a convenient first reference on current industrial catalytic practise and processes." Excerpt from a book review for the second edition by P. C. H. Mitchell, Applied Organometallic Chemistry (2007)

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

Any research that uses new organic chemicals, or ones that are not commercially available, will at some time require the synthesis of such compounds. Therefore, organic synthesis is important in many areas of both applied and academic research, from chemistry to biology, biochemistry, and materials science. The third edition of a bestseller, Advanced Practical Organic Chemistry is a guide that explains the basic techniques of organic chemistry, presenting the necessary information for readers to carry out widely used modern organic synthesis reactions. This book is written for advanced undergraduate and graduate students as well as industrial organic chemists, particularly those involved in pharmaceutical, agrochemical, and other areas of fine chemical research. It provides the novice or nonspecialist with the often difficult-to-find information on reagent properties needed to perform general techniques. With over 80 years combined experience training and developing organic research chemists in industry and academia, the authors offer sufficient guidance for researchers to perform reactions under conditions that give the highest chance of success, including the appropriate precautions to take and proper experimental protocols. The text also covers the following topics: Record keeping and equipment Solvent purification and reagent preparation Using gases and working with vacuum pumps Purification, including crystallization and distillation Small-scale and large-scale reactions Characterization, including NMR spectra, melting point and boiling point, and microanalysis Efficient ways to find information in the chemical literature With fully updated text and all newly drawn figures, the third edition provides a powerful tool for building the knowledge on the most up-to-date techniques commonly used in organic synthesis.

Hydrogen is believed to be the energy source of the future, enabling zero-emission and efficient production of power. This comprehensive publication presents a broad spectrum of various chemical aspects of hydrogen storage. The authors also address global climate change issues, carbon dioxide sequestration problems and CO₂-based hydrogen storage.

Standard medicinal chemistry courses and texts are organized by classes of drugs with an emphasis on descriptions of their biological and pharmacological effects. This book represents a new approach based on physical organic chemical principles and reaction mechanisms that allow the reader to extrapolate to many related classes of drug molecules. The Second Edition reflects the significant changes in the drug industry over the past decade, and includes chapter problems and other elements that make the book more useful for course instruction. New edition includes new chapter problems and exercises to help students learn, plus extensive references and illustrations Clearly presents an organic chemist's perspective of how drugs are designed and function, incorporating the extensive changes in the drug industry over the past ten years Well-respected author has published over 200 articles, earned 21 patents, and invented a drug that is under consideration for commercialization

Now in its fifth edition, the book has been updated to include more detailed descriptions of new or more commonly used techniques since the last edition as well as remove those that are no longer used, procedures which have been developed recently, ionization constants (pK_a values) and also more detail about the trivial names of compounds. In addition to having two general chapters on purification procedures, this book provides details of the physical properties and purification procedures, taken from literature, of a very extensive number of organic, inorganic and biochemical compounds which are commercially available. This is the only complete source that covers the purification of laboratory chemicals that are commercially available in this manner and format. * Complete update of this valuable, well-known reference * Provides purification procedures of commercially available chemicals and biochemicals * Includes an extremely useful compilation of ionisation constants

The Second Edition of the Wiley Guide to Chemical Incompatibilities provides chemists, technicians, and engineers with a thorough, lightning-quick resource to use during experimental preparation and in the event of an emergency. Includes: Hard-to-find data on over 11,000 chemical compounds 2,000 more chemical listings than the First Edition Alphabetical organization providing concise incompatibility profiles

for thousands of commonly used commercial chemicals CAS Numbers to eliminate confusion among similar synonym names. A glossary of general chemical terms This expanded Second Edition, set out in a convenient, easy-to-use format, is an essential guide for all safety, first-response, and plant management professionals working with chemical materials.

Environmental Organic Chemistry focuses on environmental factors that govern the processes that determine the fate of organic chemicals in natural and engineered systems. The information discovered is then applied to quantitatively assessing the environmental behaviour of organic chemicals. Now in its 2nd edition this book takes a more holistic view on physical-chemical properties of organic compounds. It includes new topics that address aspects of gas/solid partitioning, bioaccumulation, and transformations in the atmosphere. Structures chapters into basic and sophisticated sections Contains illustrative examples, problems and case studies Examines the fundamental aspects of organic, physical and inorganic chemistry - applied to environmentally relevant problems Addresses problems and case studies in one volume

The bestselling resource on industrial chemical assessment just got better. A practical guide to biological monitoring for industrial chemical exposure assessment, the THIRD EDITION of INDUSTRIAL CHEMICAL EXPOSURE: GUIDELINES FOR BIOLOGICAL MONITORING has been completely revised to include the latest developments in the field. In addition to an update of each chapter, major revisions have been made to take into consideration new information available since the publication of the second edition. SEE WHAT'S NEW IN THE THIRD EDITION: Major changes to the sections on lead, benzene, trichloroethylene, and dimethylformamide Fourteen completely new topics: bromine, molybdenum, perchlorate, platinum, n-heptane, ethene, 1,3-butadiene trimethylbenzene, naphthalene, terpenes, acrylamide, pesticides, tetrahydrofuran, methyl tertiarybutyl ether, n-nitrosodiethylamine Discussion of the metabolic fate of chemicals Increased information on the threshold of adverse effects levels Development of biological monitoring methods for assessing the internal dose of additional chemicals This authoritative book summarizes what is known about biological monitoring for inorganic, organic and organometallic substances. It provides a summary table with practical recommendations, giving you quick and easy access to the data. With INDUSTRIAL CHEMICAL EXPOSURE: GUIDELINES FOR BIOLOGICAL MONITORING you will understand the objectives of biological monitoring, the types of biological monitoring methods, their advantages and limitations, as well as practical aspects that must be considered before initiating a biological monitoring program.

This book presents key aspects of organic synthesis – stereochemistry, functional group transformations, bond formation, synthesis planning, mechanisms, and spectroscopy – and a guide to literature searching in a reader-friendly manner. • Helps students understand the skills and basics they need to move from introductory to graduate organic chemistry classes • Balances synthetic and physical organic chemistry in a way accessible to students • Features extensive end-of-chapter problems • Updates include new examples and discussion of online resources now common for literature searches • Adds sections on protecting groups and green chemistry along with a rewritten chapter surveying organic spectroscopy

This volume provides in-depth coverage of environmental pollution sources, waste characteristics, control technologies, management strategies, facility innovations, process alternatives, costs, case histories, effluent standards, and future trends in waste treatment processes. It delineates methodologies, technologies, and the regional and global effects of important pollution control practices. It focuses on specific industrial and manufacturing wastes and their remediation. Topics include: heavy metals, electronics, chemical, and textile manufacturing.

"Compatible with standard taper miniscale, 14/10 standard taper microscale, Williamson microscale. Supports guided inquiry"--Cover.

This text of applied chemistry considers the interface between chemistry and chemical engineering, using examples of some of the important processes in industry. Integrated with this is detailed consideration of measures which may be taken for avoidance or control of potential emissions. This new emphasis in applied chemistry has been developed through eight years of experience gained from working in industry in research, development and environmental control fields, plus twelve years of teaching here using this approach. It is aimed primarily towards science and engineering students as well as to environmentalists and practising professionals with responsibilities or an interest in this interface. By providing the appropriate process information back to back with emissions and control data, the potential for process fine-tuning is improved for both raw material efficiency and emission control objectives. This approach also emphasizes integral process changes rather than add-on units for emission control. Add-on units have their place, when rapid action on an urgent emission problem is required, or when control simply is not feasible by process integral changes alone. Obviously fundamental process changes for emission containment are best conceived at the design stage. However, at whatever stage process modifications are installed, this approach to control should appeal to the industrialist in particular, in that something more substantial than decreased emissions may be gained.

Despite the advances in understanding the phenomena that occur on a catalyst surface, much of the successful catalyst development and use continues to be half science and half art. The art resides in the practical knowledge of experts in the development and use of commercial catalysts-it comes with experience. Now the background needed to nurture it

'Ideal for getting an overview of applied organic chemistry' This bestselling standard, now in its 3rd completely revised English edition, is an excellent source of technological and economic information on the most important precursors and intermediates used in the chemical industry. Right and left columns containing synopsis of the main text and statistical data, and numerous fold-out flow diagrams ensure optimal didactic presentation of complex chemical processes. The translation into eight languages, the four German and three English editions clearly evidence the popularity of this book. '... it is where I look first to get a quick overview of the manufacturing process of a product... Weissermel/Arpe has been serving me for years as an indispensable reference work.' (Berichte der Bunsengesellschaft für Physikalische Chemie) 'Whether student or scientist, theorist or practitioner - everybody interested in industrial organic chemistry will appreciate this work.' (farbe + lack) '...it should be ready to hand to every chemist or process engineer involved directly or indirectly with industrial organic chemistry. It should be in the hand of every higher-graduate student, especially if chemical technology is not part of the study, like in many college universities...' (Tenside-Surfactants-Detergents)

This reference provides concise descriptions of those chemical processes that are known by special names which are not obvious or self-explanatory. Containing 2,600 entries, this second edition includes information on the many new processes developed and commercialized, as well as new information on old processes. Encyclopedic Dictionary of Named Processes in Chemical Technology presents a heterogeneous collection of names- inventors, companies, institutions, places, acronyms, abbreviations, and obvious corruptions-of the chemical nomenclature. The author has tailored the entries to reflect importance and topicality. Generally, the processes in current use have the longest entries, however, he also devotes more space to some obsolete processes that hold particular technical interest or historical significance. The appendix is an index to product names, enabling readers to identify processes used for making particular products.

Since the third edition of this reference was completed, there have been major changes in the global chemical industry. With less emphasis on new processes for making basic chemicals and more emphasis on pollution prevention and waste disposal, petrochemical processes are giving way to biochemical processes. These changes are reflected in the new processes being developed, many of which have their own names. In addition, niche improvements are still being made in petrochemistry, and some of these processes have new names as well. Gathering and defining a large portion of special named processes that may fall outside standard chemical texts or be scattered among industry manuals, Encyclopedic Dictionary of Named Processes in Chemical Technology, Fourth Edition provides a single-source

reference on an extensive array of named processes. It provides concise descriptions of those processes in chemical technology that are known by special names that are not self-explanatory. While overviews of the chemical technology industry are present in other books, most of the names defined within this volume are unique to this compilation. This reference includes named processes in current commercial use around the world, processes that have been or are being piloted on a substantial scale, and even obsolete processes that have been important in the past. The length of the dictionary entries reflects their importance and topicality. The text includes references that document the origins of the processes and review the latest developments. Written by a highly experienced and respected author, this user-friendly text is presented in a practical dictionary format that is useful for a broad audience including industrial chemists and engineers.

Natural Products in the Chemical Industry is not a conventional textbook, but rather an invitation to join an entertaining journey that takes you into the fascinating world of natural products. This book features diverse compound classes from a number of areas: colourants, fragrances and flavourings, amino acids, pharmaceuticals, hormones, vitamins and agrochemicals. Whether you are a teacher or a scholar, an undergraduate or graduate student, a professional chemist in industry or academia, or someone just interested in natural sciences, this book allows you to be inspired and entertained by facts and information along with enjoyable anecdotes, historical, economic, political, biological and social considerations. Experts in the field can have a pleasurable time cruising through captivating synthesis methods, which enable the generation of complex molecules on industrial scale. This book · deals with the manufacturing of larger quantities of complex molecules (asymmetric and heterocyclic compounds, polycyclic structures, macrocycles and small rings) · displays all reaction schemes in colour, which makes them easy to read · highlights aesthetics and elegance in modern industrial organic chemistry

In the nearly 10 years since the publication of the bestselling first edition of Introduction to Green Chemistry, interest in green chemistry and clean processes has grown so much that topics, such as fluorinated biphasic catalysis, metal organic frameworks, and process intensification, barely mentioned in the first edition, have become major areas of research. In addition, government funding has ramped up the development of fuel cells and biofuels. It reflects the evolving focus from pollution remediation to pollution prevention. Copiously illustrated with over 800 figures, this second edition provides an update from the frontiers of the field. New and expanded research topics: Metal-organic frameworks Solid acids for alkylation of isobutene by butanes Carbon molecular sieves Mixed micro- and mesoporous solids Organocatalysis Process intensification and gas phase enzymatic reactions Hydrogen storage for fuel cells Reactive distillation Catalysts in action on an atomic scale Updated and expanded current events topics: Industry resistance to inherently safer chemistry Nuclear power Removal of mercury from vaccines Removal of mercury and lead from primary explosives Biofuels Uses for surplus glycerol New hard materials to reduce wear Electronic waste Smart growth The book covers traditional green chemistry topics, including catalysis, benign solvents, and alternative feedstocks. It also discusses relevant but less frequently covered topics with chapters such as Chemistry of Longer Wear and Population and the Environment. This coverage highlights the importance of chemistry to everyday life and demonstrates the benefits the expanded exploitation of green chemistry can have for society.

The definitive guide to the principles and practice of experimental organic chemistry - fully updated and now featuring more than 100 experiments The latest edition of this popular guide to experimental organic chemistry takes students from their first day in the laboratory right through to complex research procedures. All sections have been updated to reflect new techniques, equipment and technologies, and the text has been revised with an even sharper focus on practical skills and procedures. The first half of the book is devoted to safe laboratory practice as well as purification and analytical techniques; particularly spectroscopic analysis. The second half contains step-by-step experimental procedures, each one illustrating a basic principle, or important reaction type. Tried and tested over almost three decades, over 100 validated experiments are graded according to their complexity and all are chosen to highlight important chemical transformations and to teach key experimental skills. New sections cover updated health and safety guidelines, additional spectroscopic techniques, electronic notebooks and record keeping, and techniques, such as semi-automated chromatography and enabling technologies such as the use of microwave and flow chemistry. New experiments include transition metal-catalysed cross-coupling, organocatalysis, asymmetric synthesis, flow chemistry, and microwave-assisted synthesis. Key aspects of this third edition include: Detailed descriptions of the correct use of common apparatus used in the organic laboratory Outlines of practical skills that all chemistry students must learn Highlights of aspects of health and safety in the laboratory, both in the first section and throughout the experimental procedures Four new sections reflecting advances in techniques and technologies, from electronic databases and information retrieval to semi-automated chromatography More than 100 validated experiments of graded complexity from introductory to research level A user-friendly experiment directory An instructor manual and PowerPoint slides of the figures in the book available on a companion website A comprehensive guide to contemporary organic chemistry laboratory principles, procedures, protocols, tools and techniques, Experimental Organic Chemistry, Third Edition is both an essential laboratory textbook for students of chemistry at all levels, and a handy bench reference for experienced chemists.

The book describes practical procedures for the destruction of hazardous chemicals and biological agents in the laboratory in which they are used. The book is a continuation and expansion of "Destruction of Hazardous Chemicals in the Laboratory." It follows the same general approach as the first and second editions but includes a number of new chapters including one on using advanced oxidation techniques as a general means of degrading chemicals. All the monographs from the second edition are incorporated in this volume and are revised and extended as necessary. A number of new monographs describing procedures for the destruction of hazardous chemicals have also been added. The destruction of many pharmaceuticals is also described in this book. This subject has become of increasing importance with recent reports of the detection of pharmaceuticals in the water supply. Finally a new addition is the chapter "General Methods for the Destruction of Hazardous Chemicals in the Laboratory." This chapter describes recent advanced oxidation methods that should be generally applicable to all organic compounds. The methods use commonly available laboratory equipment and reagents.

Publisher Description

The Handbook of Data on Common Organic Compounds provides physical property data, spectral data, and chemical structures for approximately 12,000 common organic compounds. These compounds encompass the most commonly used both in industry and laboratories, as well as those found on various lists of regulatory concern. A clear, easy-to-read format and three indexes- CAS Registry Number, Molecular Formula, and Name/Synonym-enhance the Handbook's usability and help make it a bestselling resource relied upon by researchers, chemists, and students around the world.

Comprehensive Natural Products III, Third Edition, updates and complements the previous two editions, including recent advances in cofactor chemistry, structural diversity of natural products and secondary metabolites, enzymes and enzyme mechanisms and new bioinformatics tools. Natural products research is a dynamic discipline at the intersection of chemistry and biology concerned with isolation, identification, structure elucidation, and chemical characteristics of naturally occurring compounds such as pheromones, carbohydrates, nucleic acids and enzymes. This book reviews the accumulated efforts of chemical and biological research to understand living organisms and their distinctive effects on health and medicine and to stimulate new ideas among the established natural products community. Provides readers with an in-depth review of current natural products research and a critical insight into the future direction of the field Bridges the gap in knowledge by covering developments in the field since the second edition published in 2010 Split into 7 sections on key topics to allow students, researchers and professionals to find relevant information quickly and easily Ensures that the knowledge within is easily understood by and applicable to a large audience

The first edition of this book achieved considerable success due to its ease of use and practical approach, and to the clear writing style of the authors. The preparation of organic compounds is still central to many disciplines, from the most applied to the highly academic and, more than ever is not limited to chemists. With an emphasis on the most up-to-date techniques commonly used in organic syntheses, this book draws on the extensive experience of the authors and their association with some of the world's leading laboratories of synthetic organic chemistry. In this new edition, all the figures have been re-drawn to bring them up to the highest possible standard, and the text has been revised to bring it up to date. Written primarily for postgraduate, advanced undergraduate and industrial organic chemists, particularly those involved in pharmaceutical, agrochemical and other areas of fine chemical research, the book is also a source of reference for biochemists, biologists, genetic engineers, material scientists and polymer researchers.

Substantially revising and updating the classic reference in the field, this handbook offers a valuable overview and myriad details on current chemical processes, products, and practices. No other source offers as much data on the chemistry, engineering, economics, and infrastructure of the industry. The Handbook serves a spectrum of individuals, from those who are directly involved in the chemical industry to others in related industries and activities. It provides not only the underlying science and technology for important industry sectors, but also broad coverage of critical supporting topics. Industrial processes and products can be much enhanced through observing the tenets and applying the methodologies found in chapters on Green Engineering and Chemistry (specifically, biomass conversion), Practical Catalysis, and Environmental Measurements; as well as expanded treatment of Safety, chemistry plant security, and Emergency Preparedness. Understanding these factors allows them to be part of the total process and helps achieve optimum results in, for example, process development, review, and modification. Important topics in the energy field, namely nuclear, coal, natural gas, and petroleum, are covered in individual chapters. Other new chapters include energy conversion, energy storage, emerging nanoscience and technology. Updated sections include more material on biomass conversion, as well as three chapters covering biotechnology topics, namely, Industrial Biotechnology, Industrial Enzymes, and Industrial Production of Therapeutic Proteins.

This well-established textbook on biocatalysis provides a basis for undergraduate and graduate courses in modern organic chemistry, as well as a condensed introduction into this field. After a basic introduction into the use of biocatalysts—principles of stereoselective transformations, enzyme properties and kinetics—the different types of reactions are explained according to the 'reaction principle', such as hydrolysis, reduction, oxidation, C–C bond formation, etc. Special techniques, such as the use of enzymes in organic solvents, immobilization techniques, artificial enzymes and the design of cascade-reactions are treated in a separate section. A final chapter deals with the basic rules for the safe and practical handling of biocatalysts. The use of biocatalysts, employed either as isolated enzymes or whole microbial cells, offers a remarkable arsenal of highly selective transformations for state-of-the-art synthetic organic chemistry. Over the last two decades, this methodology has become an indispensable tool for asymmetric synthesis, not only at the academic level, but also on an industrial scale. In this 7th edition new topics have been introduced which include alcohol and amine oxidases, amine dehydrogenases, imine reductases, haloalkane dehalogenases, ATP-independent phosphorylation, Michael-additions and cascade reactions. This new edition also emphasizes the use of enzymes in industrial biotransformations with practical examples.

An essential introduction to the organic chemicals industry—in the context of globalization, advances in technology, and environmental concerns Providing 95 percent of the 500 billion pounds of organic chemicals produced in the world, the petroleum and natural gas industries are responsible for products that ensure our present quality of life. Products as diverse as gasoline, plastics, detergents, fibers, pesticides, tires, lipstick, shampoo, and sunscreens are based on seven raw materials derived from petroleum and natural gas. In an updated and expanded Third Edition, Industrial Organic Chemicals examines why each of these chemical building blocks—ethylene, propylene, C4 olefins (butenes and butadiene), benzene toluene, the xylenes, and methane—is preferred over another in the context of an environmental issue or manufacturing process, as well as their individual chemistry, derivatives, method of manufacture, uses, and economic significance. The new edition details the seismic shifts in the world's chemistry industry away from the United States, Western Europe and Japan, transforming the Middle East and Asia-Pacific region, especially China, into major players. The book also details: The impact of globalization on the patterns of worldwide transportation of chemicals, including methods of shipping chemicals The technological advances in the area of polymerization and catalysis, including catalyst design and single-site catalysts Chemicals for electronics, with much new material on conducting polymers, photovoltaic cells, and related materials The discovery of vast reserves of shale gas and shale oil, altering long-term predictions of resource depletion in the United States and other countries Commercial and market aspects of the chemical industry, with coverage of emerging new companies such as INEOS, Formosa Plastics, LyondellBasell, and SABIC With expanded coverage on the vital role of green chemistry, renewables, chemicals and fuels on issues of sustainability and climate change, Industrial Organic Chemicals offers an unparalleled examination of what is at the heart of this multi-billion dollar industry, how globalization has transformed it, and its ever growing role in preserving the Earth and its resources.

Written by an author with over 38 years of experience in the chemical and petrochemical process industry, this handbook will present an analysis of the process steps used to produce industrial hydrocarbons from various raw materials. It is the first book to offer a thorough analysis of external factors effecting production such as: cost, availability and environmental legislation. An A-Z list of raw materials and their properties are presented along with a commentary regarding their cost and availability. Specific processing operations described in the book include: distillation, thermal cracking and coking, catalytic methods, hydroprocesses, thermal and catalytic reforming, isomerization, alkylation processes, polymerization processes, solvent processes, water removal, fractionation and acid gas removal. Flow diagrams and descriptions of more than 250 leading-edge process technologies An analysis of chemical reactions and process steps that are required to produce chemicals from various raw materials Properties, availability and environmental impact of various raw materials used in hydrocarbon processing

'Everything there is to know about organic pigments' Revised and updated, this highly acclaimed work, now in its third edition, remains the most comprehensive source of information available on synthetic organic pigments. The book provides up-to-date information on synthesis, reaction mechanisms, physical and chemical properties, test methods, and applications of all industrially produced organic pigments

of the world market. Standardized methods have been used to obtain the data thus facilitating comparison between pigments. Chemists, engineers, colorists, and technicians are sure to find this book invaluable. 'Presentation throughout is of the highest quality and the volume must now become the standard reference text in this important area of colouring matters.' Dyes and Pigments 'This is a very wide-ranging reference work ... it would be difficult to find a topic in this field not covered by this book.' Ecochem

[Copyright: 491179673ee7bc49bc9add06ac3c8e5e](#)