

Download File Sulphonation Technology In The Detergent Industry

Free Download Pdf

The Complete Technology Book on Detergents (2nd Revised Edition) **Sulphonation Technology in the Detergent Industry** **Sulphonation Technology in the Detergent Industry Information Sources on the Soap and Detergent Industry Soap and Detergent Industry Handbook on Soaps, Detergents & Acid Slurry (3rd Revised Edition)** **The Modern Soap and Detergent Industry, Including Glycerol Manufacture: Theory and practice of soap making** [Information Sources on the Soap and Detergent Industry](#) **The Modern Soap and Detergent Industry, Including Glycerol Manufacture: Theory and practice of soap making** [New Horizons](#) **Biodegradable** [The modern soap and detergent industry v 2: the manufacture of special soaps and detergent compositions](#) [Liquid Detergents](#) [The modern soap and detergent industry v 1: theory and practice of soap making](#) [Handbook of Detergents, Part E](#) **The Modern Soap and Detergent Industry, Including Glycerol Manufacture** [Liquid Detergents](#) **The Modern Soap and Detergent Industry, Including Glycerol Manufacture** *Market Research Report on DETERGENT INDUSTRY IN INDIA- Market Size, Opportunities, Comparative Financial Analysis, Demand-Supply Scenario, Outlook and Forecasts Upto 2017* **Investment Opportunities for SME's in Indian Detergent Industry (Why to Invest, Core Project Financials, Potential Buyers, Market Size & Analysis)** **5th World Conference on Detergents Proceedings of the 4th World Conference on Detergents** [Handbook of Detergents, Part F](#) **Laundry Detergents** **The Modern Soap and Detergent Industry, Including Glycerol Manufacture** [Handbook of Detergents - 6 Volume Set](#) **Modern Technology of Soaps, Detergents & Toiletries (with Formulae & Project Profiles)** **4th Revised Edition** **Microbes in Agriculture and Environmental Development** **Phosphates in Detergents and the Eutrophication of America's Waters** [Second World Conference on Detergents](#) **Proceedings of the 3rd World Conference on Detergents** **Phosphates in Detergents and the Eutrophication of America's Waters** [Powdered Detergents](#) [Handbook of Industrial and Hazardous Wastes Treatment](#) **Phosphates in Detergents and the Eutrophication of America's Waters** **Phosphates and Phosphate Substitutes in Detergent** [Handbook of Detergents, Part B](#) [Handbook of Detergents, Part A](#) **U.S. Industrial Outlook** [How to Formulate and Compound Industrial Detergents](#)

This book is about Sulph(on)ation Technology in its technical entirety, aiming at superiority in final product quality, raw material utilisation, sustained plant reliability and safety, minimisation of liquid effluent and gaseous emissions; it is about the total quality of the operation. It will be of value to engineers and chemists who are, or will be, involved in the

practical daily operation of sulphonation plants or R&D activities. The book can also be used as a tool for the teacher in preparing final year projects in a chemical engineering curriculum. The book covers sulphonation of alkylbenzenes, primary alcohols, alcohol ethers, alpha-olefins and fatty acid methyl esters, with a strong emphasis on the sulphur-based S~air sulphonation technology. The first part deals with raw material specifications, hazards, storage, handling and physical properties. In the following section the process chemistry is discussed, indicating main chemical reactions, undesired parallel and consecutive reactions, exothermal heat effects and all other process chemistry data that are relevant for process selection and equipment design. The section about the actual process equipment from the various plant equipment suppliers (Ballestra, Chemithon, Mazzoni, Meccaniche Modeme and Lion Corp.) takes into account the chemical reaction engineering aspects derived from the sulphonation technology processing chemistry. Product quality, product storage and handling, product safety and physical properties are the contents of the next section. The effluent handling and exhaust gas treatment of the SO₂ air sulphonation technology are further discussed in detail. With contributions from experts and pioneers, this set provides readers with the tools they need to answer the need for sustainable development faced by the industry. The six volumes constitute a shift from the traditional, mostly theoretical focus of most resources to the practical application of advances in research and development. With con Presenting effective, practicable strategies modeled from ultramodern technologies and framed by the critical insights of 78 field experts, this vastly expanded Second Edition offers 32 chapters of industry- and waste-specific analyses and treatment methods for industrial and hazardous waste materials-from explosive wastes to landfill leachate to wastes produced by the pharmaceutical and food industries. Key additional chapters cover means of monitoring waste on site, pollution prevention, and site remediation. Including a timely evaluation of the role of biotechnology in contemporary industrial waste management, the Handbook reveals sound approaches and sophisticated technologies for treating textile, rubber, and timber wastes dairy, meat, and seafood industry wastes bakery and soft drink wastes palm and olive oil wastes pesticide and livestock wastes pulp and paper wastes phosphate wastes detergent wastes photographic wastes refinery and metal plating wastes power industry wastes This state-of-the-art Second Edition is required reading for pollution control, environmental, chemical, civil, sanitary, and industrial engineers; environmental scientists; regulatory health officials; and upper-level undergraduate and graduate students in these disciplines. The Indian detergent industry is about three decades old. An interesting and unique feature of detergent industry in India is the existence of

non power operated units which do not use any electrical power for the production of detergent powder. But the production technology of detergents have been changed involving high technique in process control, more skilled personnel and requiring large input. There are various forms of detergents; liquid detergents, paste detergents, solid detergents etc. Whether in liquid or in powdered forms, present detergent products are complex mixtures of several ingredients including performance additives such as bleaches, bleach activators etc. The scope and spectrum of methods and techniques applied in detergent analysis have changed significantly during the last decade.. The book outlines features and experimental parameters for many essential procedures, and emphasizes the latest techniques and methods. This book emphasizes practical aspects of detergent production with latest development and other special products based on synthetic surfactants. This book basically deals with the builders, additives and components of detergents, recent developments in surfactant, manufacture of active Ingredients for detergents, manufacture of finished detergents, application and formulation of detergents, packaging of detergents, analysis of detergents, machinery photographs with their suppliers, directory of raw material suppliers etc.. This is an attempt to fill the need of those desirous of starting detergent industry in small scale sector and necessarily contains analytical methods for testing and evaluation of raw as well as final products. Presents industry reviews including a section of "trends and forecasts," complete with tables and graphs for industry analysis. An Examination of Detergent Applications The fifth volume in a six volume project penned by detergent industry experts, this segment deals with the various applications of detergent formulations - surfactants, builders, sequestering/chelating agents - as well as other components. These applications are discussed with respect to the scope of their domestic, institutional, or industrial usages. Special focus is given to technological advancement, health and environmental concerns, and the rapid changes occurring in the field within the past several years. With each chapter providing the special access of a pioneering researcher, this text offers an insider's look at the most current advances. This sixth part of the multi-volume Handbook of Detergents focuses on the production of surfactants, builders and other key components of detergent formulations, including the various multi-dimensional aspects and implications on detergent formulations and applications domestically, institutionally, in industry and agriculture, with all the environmental consequences involved. Thus, Part F constitutes a comprehensive treatise of the multi-dimensional issues relating to this industry production technology, emphasizing the alignment of scientific knowledge and up-to-date technological and technical know-how with the relevant contemporary applied practice. An international effort and industry-

academia collaboration, this volume features expert contributions, focusing on the contemporary state-of-the-art concerning the many facets of the production of detergents and surfactants. Thus, the Handbook of Detergents, Part F - Production, deals with the production of anionic, cationic, nonionic, and amphoteric surfactants, key builders, bleaching and whitening agents, enzymes and other components of detergent formulations in different contexts, gauges and related concerns, and discusses various technological procedures of production processes involving the components of surfactants and detergents. The second installment of the multivolume Handbook of Detergents deals with the potential environmental impact of detergents as a result of their production, formulation, usage, consumption, and disposal. This volume forms a comprehensive treatise on the multidimensional issues involved and emphasizes the alignment of scientific knowledge with the This book contains plenary papers and selected poster presentations from the AOCS-sponsored World Conference held in Montreux, Switzerland. These proceedings document a conference that has become the forum not only for the dissemination of new technical developments, reviews of markets and consumer habits across the globe, but also for communicating "policy" by the major players in the industry. This monograph provides a comprehensive survey of the parameters involved in textile washing, in particular the action of detergents. The authors describe the physical and chemical principles of the washing process, as well as the composition, production and action of household and industrial detergents. Furthermore, products and processes in use not only in Europe but also in Japan and the USA are surveyed. A special chapter is devoted to modern methods of detergent analysis. Throughout the book particular emphasis is laid on ecological and toxicological aspects. A discussion of the economic importance of detergents and relevant information about textile types and washing machines complete the book. This publication is not only intended for specialists in industry and academia, it will also give environmental consultants, journalists and other interested readers insight into the complex field of laundry detergents. Synthetic detergents rapidly replaced soap for most domestic cleaning purposes after World War II. Concurrently, great billows of foam began passing undegraded through sewage treatment plants into receiving waters, which were often sources for domestic water supplies. The detergent industry quickly learned that many surface-active agents--the active ingredients of synthetic detergents and the producers of foam--were not readily biodegradable. The most popular surface-active agent was alkyl benzene sulfonate (ABS). Industrialized societies had developed satisfactory sewage processes to treat domestic wastes, but even the most advanced treatment facilities proved incapable of degrading ABS. Biodegradable examines the development of synthetic detergents and the unanticipated pollution of surface waters and groundwaters by this new technology, as well as the social, political, and industrial responses that resulted in correction of the problem. Public and governmental pressure in the United States, the United Kingdom, and the Federal

Republic of Germany led to the international detergent industry's finding a biodegradable substitute for ABS, namely, linear alkyl sulfonate (LAS). Its use from the mid-1960s solved the foaming pollution problem. The three countries responded to the problem very differently. West Germany almost immediately legislated that only those detergents that were more than eighty percent biodegradable could be sold. The U.S. government allowed the detergent industry to seek a solution while the Department of Health, Education, and Welfare monitored the industry's progress. In the U.K. the government created committees and required industry to cooperate with them to find a solution. Biodegradable not only examines problems resulting from a new technology but also compares and contrasts different societies' methods of dealing with these problems. The Market Research Report on DETERGENT INDUSTRY IN INDIA- Market Size, Opportunities, Comparative Financial Analysis, Demand-Supply Scenario, Outlook and Forecasts Upto 2017 released by Niir Project Consultancy Services, provides a comprehensive analysis of the detergent sector in India. The report covers industry aspects like overview & outlook of the industry, demand-supply scenario, opportunities & challenges in the sector and competitive landscape of the industry with market shares of the key players. The report also provides company profiles of players like Hindustan Unilever Ltd (HUL), Nirma Ltd and Rohit Surfactants Pvt Ltd (RSPL). Procter & Gamble (P&G) is also a key player in the laundry detergent sector in India. The report embarks the analysis with elucidating the overview of the laundry detergent industry with classification and history of detergents in India. The report then moves ahead with the demand supply analysis of the sector. It covers data details of total laundry detergent demand in India and synthetic detergent demand in India with forecasted numbers till 2017. It also states the past data of detergent sales volume of key players in the segment. Similarly supply side analysis enumerates production of detergent in India with forecasts upto 2017, past data of detergent production by key players as well as future projects announced by them. The next segment of the report examines the growth opportunities and challenges existing for the industry. Opportunities like growing disposable incomes & Indian middle class, growing washing machine penetration in the nation and low per capita consumption of detergents, exist for the sector whereas the industry faces challenges in the form of raw material price fluctuations and environmental hazards of using detergents. This section is followed by key player information segment which give insights like key player profiles, market shares and Herfindahl-Hirschman Index. It also shares vital information like shareholding pattern and financial summary of the key companies. The segment further includes in-depth comparative analysis of HUL and Nirma Ltd. It compares the two companies' performance in the detergent segment and provides details like detergent brands owned by the companies, detergent segment sales & sales contribution, segment profit, assets & liabilities and segment capital expenditure over 2009-13. Also, the data mentioned above is graphically presented to

enhance the understanding of comparative analysis of the two companies. The report further gives a peer group analysis of all the players operating in the fabric wash segment. It covers contact information like address of registered office and director's name, key financials like plant location, raw material consumption and financial comparison covering balance sheet, profit & loss account and financial ratios. Gradual shift experienced by the sector from mass segment to premium and super premium segment will bring another round of growth for the household detergents sector. The detergent sector in the laundry care industry has grown from INR 57 billion in 2003 to INR 130 billion in 2011, registering a growth of ~11% during the period. We estimate the industry to reach levels of INR 241 billion by 2017. Reasons for Buying this Report: • This research report helps you get a detail picture of the industry by providing overview of the industry along with the market structure, classification and opportunities for the sector • This report helps to understand the present status of the industry by providing a scrutiny of the demand- supply situation with forecasts • Report provides analysis and in-depth financial comparison of major players/competitors • The report provides in-depth analysis of the two major players of the segment- HUL and Nirma Ltd, which will help highlight the performance of the companies in the detergent segment • The report provides forecasts of key parameters which helps to anticipate the industry performance Our Approach: • Our research reports broadly cover Indian markets, present analysis, outlook and forecast for a period of five years. • The market forecasts are developed on the basis of secondary research and are cross-validated through interactions with the industry players • We use reliable sources of information and databases. And information from such sources is processed by us and included in the report The collection of essays in Microbes in Agriculture and Environmental Development explores the applications of microbes for the improvement of environmental quality and agricultural productivity through inoculants and enzymes. These are useful for the conservation and restoration of degraded natural and agricultural ecosystems, crop yield extension, soil health improvement, and other aspects of agriculture and the environment. It discusses the effective use of microbial technology, wastewater treatment, and recycling of agricultural and industrial wastes. It provides detailed accounts of recent trends in microbial application in plant growth promotion, soil fertility, microbial biomass and diversity, and environmental sustainability through bioremediation, biodegradation, and biosorption processes Features: Discusses microbes and their applications for sustainable agriculture and environmental protection in agro-environmental circumstances Presents innovative and eco-friendly approaches for the remediation of contaminated soil and wastewater Focuses on green technologies and sustainability Includes chapters on sustainable agriculture development through increasing soil fertility, physico-chemical properties and soil microbial biomass in nutrient-deprived soils Defines the role of microbial bio formulation-based consortia in the productivity

improvement of agricultural crops It will be an invaluable addition to the bookshelves of researchers and graduate students in agriculture and environmental engineering, soil science; microbiology, sustainable agriculture, and ecosystems. Dr. Chhatarpal Singh is presently the President of Agro Environmental Development Society (AEDS), Majhra Ghat, Rampur, Uttar Pradesh, India. Dr. Tiwari is currently working in the field of methanotrophs ecology (methane oxidizing bacteria), which is sole entity responsible for the oxidation of potent greenhouse gas CH₄. Dr. Jay Shankar Singh is presently working as a faculty member in the Department of Environmental Microbiology at Babasaheb Bhimrao Ambedkar University in Lucknow, India. Dr. Ajar Nath Yadav is currently serving as an assistant professor in the Department of Biotechnology, Akal College of Agriculture, Eternal University, Baru Sahib, Himachal Pradesh, India. How to formulate, compound, and manufacture industrial detergents. Contains 300 formulas to review and study, along with the author's detailed notes on each one. There has been consistent rise in Indian toiletries Industry. Novelty in ideas and marketing seems to be the major subject matter of the Indian soap industry. With increasing popularity there has been increase in potential competitors but it still has the opportunity of further exploitation. The soaps, detergent and toiletries product industry is vivacious, varied, creative and tricky, and has the prospective to provide a gratifying career. Since these are basic requirements throughout the world undoubtedly the toiletries industry is one of the fastest growing and most profitable markets in international arena has been for the past many years. Total quality management has its importance in managing every industry so is its importance and relevance in Oils, Soaps, and Detergents Industries. Featured as one of best seller the book modern technology of soaps, detergent and toiletries is another resourceful book written by P. K. Chattopadhyay. The author is highly experienced consultant to cosmetics and toiletries industries. The book contains the formulae of diverse types of soaps, detergents (cake, powder and liquid) toiletries, methodical testing method, quality control of complete products, packing criterion of cosmetics and toiletries along with project profiles, machinery photographs and addresses of raw material, plant and machinery suppliers. The book contains detail chapter on: Principal Groups of Synthetic Detergents Classification, Detergent Bar, Washing Soap: Laundry Soap Formulation, tooth paste, after shave lotion, Hair Shampoo, Fundamentals of Science, Testing of Finished Goods, Finished Product Quality Control Procedures, Natural Essential Oils in India : A Perspective, Essential Oils in India and Trade Summary and Conclusion, etc. Basic information in entering a market and the opportunities and requirements of the potential sector has been the best way to penetrate in a market. How and what if properly answered can take you to a long way. The first hand information on different types of toiletries product have been properly dealt in the book and can be very useful for those looking for entrepreneurship opportunity in the soap industry. Novelty in ideas and marketing seems to be the major subject matter of the Indian

soap industry. The soaps, detergent and acid slurry product industry are vivacious, varied, creative and tricky, and have the prospective to provide a gratifying career. Soaps and detergents are used frequently in our daily life. We use them to wash our hands and clean our clothes without ever really paying attention to how they work. Beneath the plain white surface of a bar of soap lie an intriguing history and a powerful chemistry. It has been said that amount of soap and detergent consumed in a country is a reliable measure of its civilizations. There was a time when these products were luxury; now it is a necessity. Acid slurry is a sulphonation product made by sulphonation of linear alkyl benzene by oleum or SO₃ or sulphuric acid or combinations of above. It is used in manufacturing of various detergents. The Soap and Detergent industry is profoundly lucrative with splendid market potential as well as bright future scope. In order to meet the requirement of market demand, many more new units are recommended to be established on small and cottage scale. Soaps and detergents are very similar in their chemical properties. However, there is a significant difference between them; soaps are produced from natural products, and detergents are synthetic, or manmade. The market is expected to grow at rates ranging from under 4% to around 4.5%. These are very modest rates considering that the lifestyles not only of urbanites, but even of well off rural folks are changing at a very high pace. The analysts are expecting the industry to continue to grow in both the industrialized as well as developing nations. The present book has been written keeping in view the basic difficulties of the entrepreneurs. Nominal investment is required for this industry which comprises simple method of processing for manufacturing of various types of soaps, detergents and acid slurry. The book contains chapters on: acid slurry, detergent manufacturing, detergents of various types, principal groups of synthetic detergents, inorganic components of detergents, synthesis of detergents, liquid detergents, packaging of soaps and detergent and many more such chapters. The enclosure also contains a list of suppliers of raw material (overseas) and list of plant and machinery suppliers (overseas). Fundamental information in venturing a market and the opportunity and prerequisite of the potential sector has been the superlative way to make a way into in a market. How and what if correctly taken care can take you to a long way. The first hand information on different types of soaps, detergent and acid slurry products have been properly dealt in the book and can be very useful for those looking for entrepreneurship opportunity in the said industry. The research report titled Investment Opportunities for SME's in Indian Detergent Industry (Why to Invest, Core Project Financials, Potential Buyers, Market Size & Analysis) released by Niir Project Consultancy Services aims at providing all the critical data required by any entrepreneur vying to venture into detergent segment in India. While expanding a current business or while venturing into new business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line. And before diversifying/venturing into any product, they wish to study the following aspects of the

identified product: • Good Present/Future Demand • Export-Import Market Potential • Raw Material & Manpower Availability • Project Costs and Payback Period We at NPCSC, through our reliable expertise in the project consultancy and market research field, have identified detergent project, in the laundry care segment, which satisfies all the above mentioned requirements and has high growth potential in the Indian markets. And through this report we aim to help you make sound and informed business decision. The report contains all the data which will help an entrepreneur find answers to questions like: • Why I should invest in detergent project? • Who are the customers of the product? • What will drive the growth of the product? • What are the costs involved? • What will be the market potential? The report first focuses on enhancing the basic knowledge of the entrepreneur about the main product detergent, by elucidating details like product definition, its uses and applications, detergent segmentation as well as an overall overview of the detergent sector in India. The report then helps an entrepreneur identify the target customer group of its product. It includes customer group information together with forecasts of key customer data. It further helps in making sound investment decision by listing and then elaborating on factors that will contribute to the growth of detergent consumption in India and also talks about the foreign trade of detergent along with the list of top importing and top exporting countries. Report includes graphical representation and forecasts of key data discussed in the above mentioned segment. It further explicates the growth potential of the product by analyzing the past market size of the detergent sector as well as forecasting it till 2017. The report includes other market data like key players in the detergent segment along with their contact information and recent developments & announcements in the Indian fabric wash segment. It also includes key information on excise and custom duty norms prevalent in the detergent segment together with BIS standards for the product. In the next segment, the report provides glimpse of key project details for both detergent powder plant and liquid detergent plant. It includes crucial information like raw material requirements, list of machinery and manufacturing process for both the above mentioned plants. Core project financials like plant capacity, costs involved in setting up of project, working capital requirements, projected revenue and profit are further listed in the report. Players like HUL, Nirma Ltd and RSPL dominate the household detergent category. Reasons for buying the report: • This report helps you to identify a profitable project for investing or diversifying into by throwing light to crucial areas like industry size, demand of the product and reasons for investing in the product • This report provides vital information on the product like its definition, characteristics and segmentation • This report helps you market and place the product correctly by identifying the target customer group of the product • This report helps you understand the viability of the project by disclosing details like raw materials required, manufacturing process, project costs and snapshot of other project financials • The report provides a glimpse of important government policies, legislation and

taxes applicable on the product • The report provides forecasts of key parameters which helps to anticipate the industry performance and make sound business decisions Our Approach: • Our research reports broadly cover Indian markets, present analysis, outlook and forecast for a period of five years. • The market forecasts are developed on the basis of secondary research and are cross-validated through interactions with the industry players • We use reliable sources of information and databases. And information from such sources is processed by us and included in the report This book is about Sulph(on)ation Technology in its technical entirety, aiming at superiority in final product quality, raw material utilisation, sustained plant reliability and safety, minimisation of liquid effluent and gaseous emissions; it is about the total quality of the operation. It will be of value to engineers and chemists who are, or will be, involved in the practical daily operation of sulphonation plants or R&D activities. The book can also be used as a tool for the teacher in preparing final year projects in a chemical engineering curriculum. The book covers sulphonation of alkylbenzenes, primary alcohols, alcohol ethers, alpha-olefins and fatty acid methyl esters, with a strong emphasis on the sulphur-based S₂O₈ sulphonation technology. The first part deals with raw material specifications, hazards, storage, handling and physical properties. In the following section the process chemistry is discussed, indicating main chemical reactions, undesired parallel and consecutive reactions, exothermal heat effects and all other process chemistry data that are relevant for process selection and equipment design. The section about the actual process equipment from the various plant equipment suppliers (Ballestra, Chemithon, Mazzoni, Meccaniche Modeme and Lion Corp.) takes into account the chemical reaction engineering aspects derived from the sulphonation technology processing chemistry. Product quality, product storage and handling, product safety and physical properties are the contents of the next section. The effluent handling and exhaust gas treatment of the

S₂O₈ sulphonation technology are further discussed in detail. A bestseller in its first edition, *Liquid Detergents, Second Edition* captures the most significant advances since 1996, maintaining its reputation as a first-stop reference in all fundamental theories, practical applications, and manufacturing aspects of liquid detergents. Featuring new material and updates in every chapter, the book expands its coverage of emulsions to include nanoemulsions, adds new data to elucidate the rheology of current commercial detergent raw materials as compared to finished products, and offers a more complete theoretical treatment of the aggregation in non-aqueous solvents. The book now covers all rheology modifiers and thickeners for detergent applications, antibacterial and sensorial light-duty liquid products, color/fabric care and wrinkle reduction in heavy-duty liquid detergents, and household cleaning wipes in specialty liquid household surface cleaners. Rewriting the chapters on the latest improvements and growing benefits in fabric softeners, liquid hand soaps and body washes, and shampoos and conditioners, the latter contains extensive summaries of patents for various new products and technologies. The final chapter, dedicated to the manufacturing of liquid detergents, offers a discussion on continuous vs. batch processes and micro-contamination. The most comprehensive guide of its kind, *Liquid Detergents, Second Edition*, is a balanced and practical reference that will continue to inspire students, researchers, chemists, and product developers in detergent industry, surfactant science and industrial chemistry. First published in 2003. Routledge is an imprint of Taylor & Francis, an informal company. A bestseller in its first edition, *Liquid Detergents, Second Edition* captures the most significant advances since 1996, maintaining its reputation as a first-stop reference in all fundamental theories, practical applications, and manufacturing aspects of liquid detergents. Featuring new material and updates in every chapter, the book expands its coverage of emulsions to include nanoemulsions, adds new

data to elucidate the rheology of current commercial detergent raw materials as compared to finished products, and offers a more complete theoretical treatment of the aggregation in non-aqueous solvents. The book now covers all rheology modifiers and thickeners for detergent applications, antibacterial and sensorial light-duty liquid products, color/fabric care and wrinkle reduction in heavy-duty liquid detergents, and household cleaning wipes in specialty liquid household surface cleaners. Rewriting the chapters on the latest improvements and growing benefits in fabric softeners, liquid hand soaps and body washes, and shampoos and conditioners, the latter contains extensive summaries of patents for various new products and technologies. The final chapter, dedicated to the manufacturing of liquid detergents, offers a discussion on continuous vs. batch processes and micro-contamination. The most comprehensive guide of its kind, *Liquid Detergents, Second Edition*, is a balanced and practical reference that will continue to inspire students, researchers, chemists, and product developers in detergent industry, surfactant science and industrial chemistry. Facilitating the development of important processes that yield increased detergency performance from smaller dosages, this work examines up-to-date and emerging process and chemical technologies used in the formulation of compact powdered detergents. It provides a survey of technological developments fundamental to powder compaction, such as the replacement of traditional phosphate builders and the introduction of insoluble zeolites as particle process aids. Part A of this handbook describes the raw materials and potential interactions of detergent products before, during and after use, focusing on the development and mechanisms of action of cleaning components. The text presents the basic physicochemical concepts necessary to formulate new, safer and more effective detergent products.

educationfairaz.com