Adsorption Treatment Of Industrial Paint Effluent For The

DAKOTA NASH

BASF Handbook on Basics of Coating Technology Elsevier
This new edition has been revised throughout, and adds several sections, including: lean manufacturing and design for the environment, low impact development and green infrastructure, green science and engineering, and sustainability. It presents strategies to reduce waste from the source of materials development through to recycling, and examines the basic concepts of the physical, chemical, and biological properties of different pollutants. It includes case studies from several industries, such as pharmaceuticals, pesticides, metals, electronics, petrochemicals, refineries, and more. It also addresses the economic considerations for each pollution prevention approach.
NexGen Technologies for Mining and Fuel Industries (Volume I and II) Springer Nature
An updated version of a respected and established text. This edition contains two completely new chapters dealing with the use of computers in the paint industry and with the increasingly important subject of health and safety. The chapter on pigments has also been re-written.
Ullmann's Encyclopedia of Industrial Chemistry William Andrew
This book reviews adsorption techniques to clean wastewater, with focus on pollution by dyes and heavy metals. Advanced adsorbents include carbon nanomaterials, biomass, cellulose, polymers, clay, composites and chelating materials.
New Trends in Removal of Heavy Metals from Industrial Wastewater Elsevier
Wastewater Treatment: Recycling, Management, and Valorization of Industrial Solid Wastes bridges the gap between the theory and applications of wastewater treatments, principles of diffusion, and the mechanism of biological and industrial treatment processes. It presents the practical applications that illustrate the treatment of several types of data, providing an overview of the characterization and treatment of wastewaters, and then examining the different biomaterials and methods for the evaluation of the treatment of biological wastewaters. Further, it considers the various types of industrial wastewater treatment, separation, and characterization of industrial wastewater. The book serves as a valuable resource for practicing engineers and students who are interested in the field of wastewater treatment. Features: Presents the latest technologies in water treatment, including nanomaterials for industrial wastewater Covers different treatments for various industrial wastewaters, including chemical and pharmaceutical waste Includes forward-thinking analysis including conclusions and recommendations for water reuse programs
Natural Polymers–Based Green Adsorbents for Water Treatment Allied Publishers
This volume discusses: (1) the treatment of hazardous sludge, wastewater, textile effluent, contaminated groundwater, laboratory waste, toxic dye, heavy metals, acid mine drainage and palm oil effluent; (2) the technologies of stabilization, solidification, natural coagulation-flocculation, river catchment control and mitigation, dredging and mining operations, and (3) the management of acid mines, laboratories, nano pollutants and plant effluents.
Urban Water Crisis and Management Elsevier
Industrial Waste Water Management

Separation Processes CRC Press
Industries use a large number of substances in their manufacturing processes and also generate solid residues, liquid effluents and gaseous emissions as wastes. These may be organic, inorganic, inert or toxic compounds but are hazardous in nature and thus need to be treated and disposed off suitably in order to maintain ecological balance of the environment. Also, wherever feasible, recovery of useful by-products, recycling of water and reuse of wastewater (with or without treatment) save resources and reduce production cost. In view of the above, the book has been written, and now updated in the second edition to discuss sources, characteristics and treatment of wastewater produced in industries such as textiles, dairy, tanneries, pulp and paper, fertilizer, pesticide, organic and inorganic chemicals, engineering and fermentation. Many flow diagrams have been included to illustrate industrial processes and to indicate the sources of wastewater. After describing treatment for individual factories, the author discusses the more advanced and economical common effluent plants. The text uses simple and straightforward language and makes the presentation attractive. This book should prove extremely useful to undergraduate students of civil and chemical engineering and postgraduate students of environmental science and engineering. Industrial design consultants will also find the book very handy. To the Greens, it may offer some of the solutions to their concerns. NEW TO THE SECOND EDITION • Includes the concept of Zero Liquid Discharge (ZLD) in Chapter 1 and provides further information in Appendix A. • Incorporates brief information about plasma gasification technique in Appendix B and advanced oxidation technique in Chapter 3. • Includes ecological aspects of pollution control and a reference on benthal load in Chapter 4. • Provides information on jute retting in Chapter 6. • Incorporates topics such as photocatalytic degradation of phenols from coke oven wastes, HCl recovery from pickling operations and e-waste handling and disposal in Chapter 13.
Ullmann's Encyclopedia of Industrial Chemistry Elsevier
Natural Polymers-Based Green Adsorbents for Water Treatment focuses on the recent development of novel polymeric adsorbents that are green and eco-friendly or biodegradable in nature. The book reviews the synthesis, properties and adsorption applications of natural and green polymer-based adsorbents. It discusses adsorption processes in biopolymer systems, remediation technologies developed to remove environmental pollutants, the usage of natural polymer-based cost-effective and green novel adsorbent materials for the removal of organic and inorganic contaminants, and the efficiency of functionalized polymers, nanosorbents, hydrogels, composites, graft copolymers in the sorption of various pollutants from the environment as well as from the industrial effluents. Researchers working on environmental remediation need a single book, where all data on natural and green adsorbents for water treatment are discussed comprehensively. Natural Polymers-Based Green Adsorbents for Water Treatment addresses this need by providing world-wide leading experts' observations and research. So, this book is a valuable reference for early-career scientist, academic researchers and graduate students in chemical engineering and material science. Presents step-by-step review of processing and modification of natural polymers and their applications in water remediation Analyzes data on natural and green adsorbents for water treatment, meanwhile provides world-wide experts' knowledge to pave the way for further research Includes extensive tables, graphs, figures, bibliographies and references to enhance key concepts
Environmental Management in India: Waste to Wealth CRC Press
New Trends in Removal of Heavy Metals from Industrial Wastewater covers the applicable technologies relating to the removal of heavy metals from wastewater and new and emerging trends in the field, both at the laboratory and industrial scale. Sections explore new environmentally friendly technologies, the principles of sustainable development, the main factors contributing to heavy metal removal from wastewater, methods and procedures, materials (especially low-cost materials originated from industrial and agricultural waste), management of wastewater containing heavy metals and wastewater valorization, recycling, environmental impact, and wastewater policies for post heavy metal removal. This book is an advanced and updated vision of existing heavy metal removal technologies with their limitations and challenges and their potential application to remove heavy metals/environmental pollutants through advancements in bioremediation. Finally, sections also cover new trends and advances in environmental bioremediation with recent developments in this field by an application of chemical/biochemical and environmental biotechnology. Outlines the fate and occurrence of heavy metals in Wastewater Treatment Plants (WWTPs) and potential approaches for their removal Describes the techniques currently available for removing heavy metals from wastewater Discusses the emerging technologies in heavy metal removal Covers biological treatments to remove heavy metals Includes the valorization of heavy metal containing wastewater
Strategies of Industrial and Hazardous Waste Management Allied Publishers
The papers in these two volumes were presented at the International Conference on "NexGen Technologies for Mining and Fuel Industries" [NxGnMiFu-2017] in New Delhi from February 15-17, 2017, organized by CSIR-Central Institute of Mining and Fuel Research, Dhanbad, India. The proceedings include the contributions from authors across the globe on the latest research on mining and fuel technologies. The major issues focused on are: Innovative Mining Technology, Rock Mechanics and Stability Analysis, Advances in Explosives and Blasting, Mine Safety and Risk Management, Computer Simulation and Mine Automation, Natural Resource Management for Sustainable Development, Environmental Impacts and Remediation, Paste Fill Technology and Waste Utilisation, Fly Ash Management, Clean Coal Initiatives, Mineral Processing and Coal Beneficiation, Quality Coal for Power Generation and Conventional and Non-conventional Fuels and Gases. This collection of contemporary articles contains unique knowledge, case studies, ideas and insights, a must-have for researchers and engineers working in the areas of mining technologies and fuel sciences.
Selected Water Resources Abstracts John Wiley & Sons
Advances in Industrial Wastewater Treatment Technologies: Removal of Contaminants and Recovery of Resources identifies emerging technologies that allow for reuse throughout the wastewater treatment cycle. In anticipation of the next generation of biological treatment technologies driven wastewater treatment plants, this book focuses on the reuse and regeneration of wastewater through an innovative and applied approach of treatment processes. The book emphasizes various aspects related to wastewater management, treatment technologies, water reuse, biosolids production and management, water quality, regulations, economics, public acceptance, risk assessment, benefits, keys for success and main constraints, and stresses the importance of an activated sludge process. Demonstrates state-of-the-art wastewater treatment technologies Highlights the importance of treatment technologies for better reuse of wastewater Discusses removal of various emerging contaminants through different processes to clean up the environment from pollution Provides an updated vision of existing treatment process strategies with their limitations and challenges and their potential applications for the removal of pollutants in the environment and from industrial effluent
Wastewater Treatment Springer Nature
This specialist book is a comprehensive practical reference work in the field of industrial powder coating. It offers a systematic and complete description of the fundamentals, applications and procedures for the safe control of processes. The methods of paint production, properties of the powder paint types, application technology and measurement and test methods are clearly presented and dealt with in detail. In addition, the pretreatment as well as the trouble-shooting in the case of paint defects and their avoidance form the focus of this book. The present edition has been completely revised and the Environment chapter has been added.
Development in Wastewater Treatment Research and Processes Elsevier
Strategies of Industrial and Hazardous Waste Management by Nelson L. Nemerow and Frank J. Agardy For years, plant engineers, engineering professors, municipal engineers, EPA personnel, and other professionals have relied on the expertise of these authors in the area of industrial and hazardous waste management. This book is full of new ideas, methods, models, data, updated information, and new case histories. This latest classic reference from Nelson Nemerow and Frank Agardy is by far the most comprehensive and useful source available on the generation, treatment, and disposal of all significant industrial and hazardous wastes. Strategies of Industrial and Hazardous Waste Management addresses the needs of its wide-ranging audience by dividing its coverage into four parts: Part I presents the basic information the industrial waste engineer needs to know about the environmental impact of various wastes, writing environmental impact statements, protecting streams from further pollution, calculating final treatments, testing treatment efficiency, and the influence of economic factors on waste treatment decisions. Part II explores theories and designs of waste treatment, and shows how waste can be reduced through proper operation of manufacturing plants. It ranges beyond the removal of suspended and colloidal solids to include coverage of neutralization, equalization and proportioning, removal of inorganic dissolved salts, and private contract collection and treatment. Also included is a novel paradigm for obtaining zero pollution in the future through environmentally balanced industrial complexes. Part III demonstrates waste management in action, using case studies from around the world to show theories and models successfully adapted and put into practice. All cases are based on the authors' actual experiences--the cases in Chapters 17, 19, 22, 23, and 24 have never been previously published. Part IV offers concise evaluations of all major liquid Industrial wastes, including their origins, characteristics, and acceptable treatments. Industries are classified into six categories: apparel, food processing, materials, chemicals, energy, and (in significantly extended coverage) non-point practices. Included are separate considerations of radioactive and hazardous (as opposed to conventional) waste. No waste-management professional should be without this essential volume. Focused on need-to-know information, common pitfalls, and practical solutions to all kinds of problems, Strategies of Industrial and Hazardous Waste Management is an answer source unlike any other.
Sustainable Materials for Sensing and Remediation of Noxious Pollutants CRC Press
As the global nature of pollution becomes increasingly obvious, successful hazardous waste treatment programs must take a total environmental control approach that encompasses all areas of pollution control. With its focus on new developments in innovative and alternative environmental technology, design criteria, effluent standards, managerial dec
Bio-Based Polymers and Composites Springer Nature
This book presents unique connectivity between waste management within the agenda 2030 of India. This book is the first publication presenting up-to-date work and knowledge about waste management and waste technologies to transfer waste to wealth in India. Besides, this book also presents the role of waste management and its contribution to achieving a sustainable development program in India, with vast implication worldwide. The main focuses of the book include waste and wealth and the associated technologies, recycling of solid waste, utilization of hazardous waste, use of nanoparticle in waste management, urban solid waste, generation of energy from organic waste, clean technologies, and use of waste in agriculture. The book is a unique source of information on the transformation of waste to wealth in India. This book is of interest to research communities in the field of waste management in India, and in similar socioeconomic countries, but also, due to the planetary implications, has global interest.
Selected Water Resources Abstracts Springer Nature
Membrane-Based Hybrid Processes for Wastewater Treatment analyzes and discusses the potential of membrane-based hybrid processes for the treatment of complex industrial wastewater, the recovery of valuable compounds, and water reutilization. In addition, recent and future trends in membrane technology are highlighted. Industrial wastewater contains a large variety of compounds, such as heavy metals, salts and nutrients, which makes its treatment challenging. Thus, the use of conventional water treatment methods is not always effective. Membrane-based hybrid processes have emerged as a promising technology to treat complex industrial wastewater. Discusses the properties, mechanisms, advantages, limitations and promising solutions of different types of membrane technologies Addresses the optimization of process parameters Describes the performance of different membranes Presents the potential of Nanotechnology to improve the treatment efficiency of wastewater treatment plants (WWTPs) Covers the application of membrane and membrane-based hybrid treatment technologies for wastewater treatment Includes forward osmosis, electrodialysis, and diffusion dialysis Considers hybrid membrane systems expanded to cover zero liquid discharge, salt recovery, and removal of trace contaminants
Industrial Waste Engineering CRC Press
Due to rapid urbanization and development, water get polluted by the noxious waste released from industrial, sewage and agricultural runoffs. Sustainable Materials for Sensing and Remediation of Noxious Pollutants covers two most widely used aspects in the field of wastewater i.e. sensing and rapid remediation with a possible solution of successful technology commercialization. Chapters include information on low cost materials as sensing and remediating agents for the rapid removal of noxious impurities from wastewater. It includes chapters on the sensing of noxious metals, low cost adsorbents for the removal of noxious impurities i.e. inorganic (metal ions) and organic (dyes). Additional chapters include future/upcoming scopes of work and one chapter on the general introduction of the field. The book content will be technical and focused for the audience like graduate students, academicians, researchers and industrial professionals. Sustainable Materials for Sensing and Remediation of Noxious Pollutants is single reference source for environmental scientists and engineers interested in low cost sensing and remediation strategies. Assists readers in developing new strategies to address the issues related to sensing and remediation activities Includes low cost materials for sensor and adsorbent development allowing professionals to make decisions based on economic considerations Provides alternatives for the development of

socioeconomically sustainable products for sensing and remediation application
EPA-600/2 PHI Learning Pvt. Ltd.
This 41st Edition presents case histories with operating data-and new research-on most topics of this major subject in today's world. This valuable Purdue Book will prove invaluable to all involved with waste treatment, providing information and data to help solve current problems. These proceedings of the May 1986 Purdue Conference include applications, research, methods and techniques, case histories, and operating data. The 91 papers include two special sections: 21 papers discuss toxic and hazardous wastes and 24 papers cover physical-biological systems. The book is further divided into papers on the following topics: (1) Pretreatment Programs and Systems; (2) Dairy Wastes; (3) Oilfield and Gas Pipeline Wastes; (4) Dye Wastes; (5) Coal, Coke and Power Plant Wastes; (6) Landfill Leachate; (7) Laws, Regulations, and Training; (8) Physical/Biological Systems; (9) Pulp and Paper Mill Wastes; (10) Plating Wastes; (11) Food Wastes; (12) Metal Wastes; and (13) Toxic and Hazardous Wastes.
Paint and Surface Coatings CRC Press
When applying human ingenuity and experience to natural resources and processes, scientists and researchers can maximize the potential of nature for human benefit. In that vein, this book explores the latest breakthroughs in natural biopolymers, green composites, and green nanocomposites, a field that is rapidly expanding. The volume looks at bio-based polymers and composites for environmental sustainability, such as in bioremediation and for wastewater treatment. It discusses natural polymers from waste products and considers the use of bio-based polymers and composites in fertilization in horticulture as well as in industry and construction, such as for recycling of concrete, for gas sensing applications for safety, for fiber-reinforced epoxy composites, etc.

Hazardous and Industrial Solid Waste Minimization Practices ASTM International
Adsorption: Fundamental Processes and Applications, Volume 33 in the Interface Science and Technology Series, discusses the great technological importance of adsorption and describes how adsorbents are used on a large scale as desiccants, catalysts, catalyst supports, in the separation of gases, the purification of liquids, pollution control, and in respiratory protection. Finally, it explores how adsorption phenomena play a vital role in many solid-state reactions and biological mechanisms, as well as stressing the importance of the widespread use of adsorption techniques in the characterization of surface properties and the texture of fine powders. Covers the fundamental aspects of adsorption process engineering Reviews the environmental impact of key aquatic pollutants Discusses and analyzes the importance of adsorption processes for water treatment Highlights opportunity areas for adsorption process intensification Edited by a world-leading researcher in interface science

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