Air Pollution And Environmental Chemistry

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LIZETH MADDEN

Environmental Chemistry in Society Springer Science & Business Media
Environmental Chemistry concerns with the broad interpretation on what environmental chemistry is and discusses chemistry in relation to environmental topics. The book is divided into seven parts. Part I discusses the origins of different elements and interstellar molecules; the development of the earth; and the chemical evolution of life. Part II talks about energy and its theoretical treatment; the origin, development, and problems related to fossil fuels; and the developing energy sources, including storage, distribution, and conservation. Part III discusses the air; the structure and properties of the atmosphere; and air pollution in relation to different industries and transportation. Mineral resources and solid wastes are tackled in Part IV, and the principles and treatment of water are explained in Part V. Part VI discusses the sustenance of life, amino acids, and the control of toxins, and Part VII studies the relationship of science, ethics, and ecology. The text is good for those in the field of chemistry and wish to understand the importance of their field to the environment, and for environmentalists and ecologists who want to know the relationship of chemistry with their studies.
The Handbook of Environmental Chemistry: Air pollution I. K. International Pvt Ltd
Textbook of Environmental Chemistry has been designed to provide fundamental knowledge of the principles related to environment and its chemistry so as to meet the challenging requirements of students as well as teachers of Environmental Sciences, Environmental Chemistry and Environmental Studies at graduate, postgraduate, polytechnic, and engineering levels at all Indian Universities. This book is also useful for the students and professors of general science. The book explores biological resources and their relationship with physical and chemical aspects of the environment. Due emphasis has been given to the regional as well as global environmental problems like water, air, soil and noise pollution, their types and sources, effects on the ecosystem. Key Features " The book deals with principles and chemical reactions that govern the behaviour of water, air and soil environement. " The book emphasizes on the origin of various pollutants and their control. " New and current fields of environmental science Green Chemistry, Environmental Biotechnology, Polymers for Environment. " It covers environmental impact, planning and laws to help readers understand how policies and plans are formulated to protect our environment. " Environmental pollution abatement engineering and technology has been discussed in-depth
Environmental Chemistry Royal Society of Chemistry
Environmental Chemistry is a relatively young science. Interest in this subject, however, is growing very rapidly and, although no agreement has been reached as yet about the exact content and limits of this interdisciplinary subject, there appears to be increasing interest in seeing environmental topics which are based on chemistry embodied in this subject. One of the first objectives of Environmental Chemistry must be the study of the environment and of natural chemical processes which occur in the environment. A major purpose of this series on Environmental Chemistry, therefore, is to present a reasonably uniform view of various aspects of the chemistry of the environment and chemical reactions occurring in the environment. The industrial activities of man have given a new dimension to Environmental Chemistry. We have now synthesized and described over five million chemical compounds and chemical industry produces about one hundred and fifty million tons of synthetic chemicals annually. We ship billions of tons of oil per year and through mining operations and other geophysical modifications, large quantities of inorganic and organic materials are released from their natural deposits. Cities and metropolitan areas of up to 15 million inhabitants produce large quantities of waste in relatively small and confined areas. Much of the chemical products and waste products of modern society are released into the environment either during production, storage, transport, use or ultimate disposal. These released materials participate in natural cycles and reactions and frequently lead to interference and disturbance of natural systems.
Air Pollution Springer
This second edition offers a comprehensive overview of the priority indoor air pollutants, such as volatile organic compounds, indoor particles and fibres, combustion products and other chemical agents that may affect health. It includes updated reviews with a focus on emission processes and on the large variety of volatile organic pollutants. It also introduces new topics, such as reflections on the shift in human health from infection-related diseases to chronic illnesses and the significance of indoor chemical exposure. The authors provide insights into different cultural settings and their consequences for indoor air quality. Further, the book briefly discusses building certification as a market-oriented tool to improve energy efficiency and indoor air quality in the building sector. It appeals to public health specialists; scientists; graduate students in the field of environmental sciences; decision makers in government, regulatory bodies and the construction industry; and facility managers.
Air Composition and Chemistry Springer Science & Business Media
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Indoor Air Pollution Royal Society of Chemistry

Fundamentals of Environmental and Toxicological Chemistry: Sustainable Science, Fourth Edition covers university-level environmental chemistry, with toxicological chemistry integrated throughout the book. This new edition of a bestseller provides an updated text with an increased emphasis on sustainability and green chemistry. It is organized based on the five spheres of Earth’s environment: (1) the hydrosphere (water), (2) the atmosphere (air), (3) the geosphere (solid Earth), (4) the biosphere (life), and (5) the anthrosphere (the part of the environment made and used by humans). The first chapter defines environmental chemistry and each of the five environmental spheres. The second chapter presents the basics of toxicological chemistry and its relationship to environmental chemistry. Subsequent chapters are grouped by sphere, beginning with the hydrosphere and its environmental chemistry, water pollution, sustainability, and water as nature’s most renewable resource. Chapters then describe the atmosphere, its structure and importance for protecting life on Earth, air pollutants, and the sustainability of atmospheric quality. The author explains the nature of the geosphere and discusses soil for growing food as well as geosphere sustainability. He also describes the biosphere and its sustainability. The final sphere described is the anthrosphere. The text explains human influence on the environment, including climate, pollution in and by the anthrosphere, and means of sustaining this sphere. It also discusses renewable, nonpolluting energy and introduces workplace monitoring. For readers needing additional basic chemistry background, the book includes two chapters on general chemistry and organic chemistry. This updated edition includes three new chapters, new examples and figures, and many new homework problems.

Indoor Air Pollution Royal Society of Chemistry

Planet Earth : rocks, life, and history -- The Earth's atmosphere -- Global warming and climate change -- Chemistry of the troposphere -- Chemistry of the stratosphere -- Analysis of air and air pollutants -- Water resources -- Water pollution and water treatment -- Analysis of water and wastewater -- Fossil fuels : our major source of energy -- Nuclear power -- Energy sources for the future -- Inorganic metals in the environment -- Organic chemicals in the environment -- Insecticides, herbicides, and insect control -- Toxicology -- Asbestos -- The disposal of dangerous wastes.

Environmental Chemistry for a Sustainable World Springer

This 2nd edition of Understanding Our Environment has been reworked and greatly updated, providing a modern introductory level text for students of pollution and environmental chemistry. The book describes the basic concepts in relation to the chemistry of the atmosphere, freshwaters, oceans and soils, as well as the ways in which pollutants behave in these media (exemplified by case studies based upon topical environmental problems). It also examines the transfer of pollutants between different environmental compartments, the monitoring of the environment, the ecological and human health effects of chemical pollution, economics and regulatory control. Again case studies are used throughout. This unique introductory text is essential reading for students on undergraduate and first year postgraduate courses dealing with pollution and environmental chemistry, as well as for scientists and engineers in industry, public service and consultancy who require a basic understanding of environmental processes.

Environmental Chemistry Springer Science & Business Media

This volume offers a comprehensive overview of advanced research in the field of environmental green chemistry for air, soil and water pollutants, and presents emerging technologies on the chemical treatment of polluted sites and wastes. The 15 chapters, prepared by internationally respected experts, address the following topics: (1) monitoring of indoor and outdoor air pollutants; (2) atmospheric degradation processes and formation mechanisms of secondary pollutants; (3) the environmental assessment and impacts of soils polluted by heavy metals and hydrocarbons; (4) sustainable and emerging technologies for the chemical treatment of organic and animal wastes and wastewaters; (5) photocatalytic CO2 conversion methods for the mitigation of greenhouse effects; and (6) non-conventional methods in green chemistry synthesis. Lastly, the authors outline the future perspectives of each topic. Given its multidisciplinary approach, combining environmental analysis and engineering, the book offers a valuable resource for all researchers and students interested in environmental chemistry and engineering.

Advanced Environmental Chemistry PHI Learning Pvt. Ltd.

Rising concern in recent years over the possible adverse environmental consequences of the use of chemicals has led to a steady increase in national activity towards greater regulation, as well as voluntary agreements with manufacturers for risk management of certain products. This book begins by reviewing the current framework of legislation for the regulation of chemicals in the UK and then reports expert views on both the current situation and possible future developments. Subsequent chapters consider some of the scientific and technical issues, including the evaluation of the risks which chemicals can pose to human life and the environment, and the problems relating to evaluating the risks associated with metals in the environment. Finally, the predictive methods used to model the behaviour of organic chemicals within the environment are described. Highly topical, and with authoritative contributions from international experts, this book covers both the scientific underpinning and the legislative and practical issues of this emotive subject. The detailed coverage of a topic that affects many sectors of industry and society will make it popular with a wide audience of individuals from government organisations, industry or academic research, particularly those in environmental chemistry sectors.

Air Quality in Urban Environments Macmillan Higher Education

The Handbook of Environmental Chemistry provides the compilation of today's knowledge of processes in the natural environment and the behavior and impact of pollutants. It provides a valuable source for environmental managers, decision-makers, and scientists. Volume 5A is dedicated to water pollution.

Air Pollution Jones & Bartlett Learning

Time-activity diaries kept by members of the general public indicate that on average people spend around 90% of their time indoors, this is associated with considerable exposure to air pollutants. Given its importance as a source of air pollution exposure, increasing attention is being given to pollution of the

indoor environment. This volume will consider both chemical and biological pollutants in the indoor atmosphere from their sources to chemical and physical transformations, human exposure and potential effects on human health.

The Handbook of Environmental Chemistry Royal Society of Chemistry

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Air Pollution and Health Royal Society of Chemistry

"This excellent and most reasonably priced guide is essential reading and a valuable reference source" (The ROSPA Occupational Safety Health Jnl. March 2002) The Essential Guide to Environmental Chemistry outlines the problems and issues facing the environmental chemist throughout the ecosystem. Presented as a ?pocket-atlas?, this useful guide provides a concise overview of environmental pollution in air, water and soil as well as strategies for environmental analysis. Unique format with text and illustrations on facing pages Clear, full colour schematic diagrams making up 50% of the book A ?must-have? for undergraduates/graduates in this field

The Handbook of Environmental Chemistry Cambridge University Press

Everyone can benefit from having some understanding of environmental science and the chemistry underlying issues such as global warming, ozone depletion, energy sources, air pollution, water pollution, and waste disposal. Environmental Chemistry in Society, Second Edition presents environmental science to the non-science student, specifically focus

Environmental Chemistry Krishna Prakashan Media

Global warming. Renewable energy. Hazardous waste. Air Pollution. These and other environmental topics are being discussed and debated more vigorously than ever. Colin Baird and Michael Cann's Environmental Chemistry is the only textbook that explores the chemical processes and properties underlying these crucial issues at an accessible, introductory level. With authoritative coverage that balances soil, water, and air chemistry, the new edition again focuses on the environmental impacts of chemical production and experimentation, offering additional "green chemistry" sections and new case studies, plus updated coverage of energy production (especially biofuels), the generation and disposal of CO2, and innovative ways to combat climate change.

ENVIRONMENTAL CHEMISTRY, Second Edition Springer

Air pollution is an alarming problem, not only in terms of air quality, but also in relation to health issues. Toxic air pollutant concentrations produce harmful impacts on plant health and human health. Further, though there are various sources of air pollution, anthropogenic and biogenic sources are becoming increasingly problematic. A number of control methods have been applied to reduce the air pollutant concentrations so that their global environmental burden on plants as well as humans can be mitigated. However, as confirmed in numerous reports and studies, their concentrations continue to be very high and everyday cases related to air pollution have become exponentially high not only in developing countries but also in developed countries. In plants, toxic air quality has various adverse effects, including biochemical and physiological disorders, chronic diseases and/or lower yields. In humans, air pollutants affect the body’s metabolism and immune system, lungs and central nervous system. This book provides an essential overview of air pollution, its impacts on plant and human health, and potential control strategies. The respective chapters cover general monitoring and characterization techniques for air pollutants, air quality modelling applications, plant and human health effects, risk assessment, and air pollution control policy. Given its scope, the book offers a valuable and unique resource for students of Environmental Science, Biological Science, Medical Science and Agriculture; and for environmental consultants, researchers and other professionals whose work involves air quality, plant and human related research.

The Handbook of environmental chemistry Springer Nature

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Environmental Chemistry John Wiley & Sons

The management of air quality is currently at the forefront of international debate. With authors drawn from international experts in their respective fields, Air Quality Management provides comprehensive coverage of the air quality management issue. There are chapters on improving air quality in the UK, the construction of emissions inventories and the design and

operation of air monitoring networks. Validation of air pollution models, requiring source receptor modelling, is described, as is the use of geochemical or biological tolerances known as critical loads to determine the maximum allowable inputs of pollutants to the terrestrial environment. The first European Auto-Oil Study, which was sponsored by the European Commission in order to identify the most cost-effective means of meeting air quality targets, is included as a case study. There is also reference to the successes and problems of air pollution control in California, the US state which has pioneered the promotion of vigorous air pollution control measures. Air Quality Management provides a vital source of material for all those involved in the field, whether as a student, industrialist, consultant, or government agency with responsibility in this area.

Indoor Air Pollution Springer Science & Business Media
Discusses current research and advances in the field of environmental chemistry, including atmospheric chemistry, the chemistry of water pollution, and green chemistry.