

Chlorinated Solvents A Forensic Evaluation

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Environmental Forensics Robert D Morrison 2014-07-01 This publication includes peer-reviewed manuscripts from the 2013 International Network of Environmental Forensics (INEF) Conference held at Pennsylvania State College, USA. INEF is an organization founded by environmental forensic scientists for the express purpose of sharing and disseminating environmental forensic information to the international scientific community. This professionally edited book is the third of a series of INEF conference publications chronicling the current state of the art in environmental forensics. Since the first INEF conference held in Qingdao, China in 2008, significant advances in the state of the art in environmental forensics have occurred, especially in the fields of compound specific isotope analysis (CSIA), biological and petroleum hydrocarbon pattern recognition and the use of advanced multivariate techniques for interpreting environmental forensics data. Of note in these proceedings is the application of environmental forensic techniques to examine contaminant issues associated with hydrofracking which has received considerable international attention in the past several years. Providing an update on the advancement and refinement of environmental forensic techniques, this book is aimed at scientists, regulators, academics and consultants from throughout the world.

Environmental Forensics R E Hester 2008-06-27 'Environmental forensics' is a combination of analytical and environmental chemistry, which is useful in the court room context. It therefore involves field analytical studies and both data interpretation and modelling connected with the attribution of pollution events to their causes. Recent decades have seen a burgeoning of legislation designed to protect the environment and, as the costs of environmental damage and clean-up are considerable, not only are there prosecutions by regulatory agencies, but the courts are also used as a means of adjudication of civil damage claims relating to environmental causes or environmental degradation. As a result is the increasing number of prosecutions of companies who have breached regulations for environmental protection and in civil claims relating to harm caused by excessive pollutant releases to the environment. Such cases can become extremely protracted as expert witnesses provide their sometimes conflicting interpretations of environmental measurement data and their meaning. It is in this context that environmental forensics is developing as a specialism, leading to greater formalisation of investigative methods which should lead to more definitive findings and less scope for experts to disagree. Now a significant subject in its own right, at least one journal devoted to the field and a number of degree courses have sprung up. As a result of the topicality and rapid growth of the subject area, is the publication of this book - the 26th volume in the highly acclaimed Issues in Environmental Science and Technology Series. This volume contains authoritative articles by a number of the leading practitioners across the globe in the environmental forensics field and aims to cover some of the main techniques and areas to which environmental forensics are being applied. The content is comprehensive and describes a number of the key areas within environmental forensics - topics covered by the authors include: - Source identification issues - Microbial techniques - Metal contamination and methods of assigning liability - The use of isotopes to determine sources and their applications - Molecular biological methods - Hydrocarbon fingerprinting techniques - Oil

chemistry and key compound identification - The emerging role of environmental forensics in groundwater pollution Additionally, the volume considers specific pollutants and long-lived pollutants of groundwater such as halocarbons which have presented particular problems and which are described in some depth, as well as the way in which chemical degradation processes can lead to compositional changes which provide valuable information. The book provides a comprehensive overview of many of the key areas of environmental forensics written by some of the leading experts in the field. It will be both of specialist use to those seeking expert insights into the field and its capabilities as well as of more general interest to those involved in both environmental analytical science and environmental law.

EPA Publications Bibliography 1997

Forensic Hydrology 2007

Contaminated Soil, Sediment & Water 2001

Annual Meeting Association of Engineering Geologists 2000

Proceedings of the International Symposium on the Forensic Aspects of Controlled Substances 1989 "March 28-April 1, 1988, Forensic Science Research and Training Center, FBI Academy, Quantico, Virginia."--T.p.

Environmental Investigation and Remediation Thomas K.G. Mohr 2020-01-02 Filled with updated information, equations, tables, figures, and citations, Environmental Investigation and Remediation: 1,4-Dioxane and Other Solvent Stabilizers, Second Edition provides the full range of information on 1,4-dioxane. It offers passive and active remediation strategies and treatment technologies for 1,4-dioxane in groundwater and provides the technical resources to help readers choose the best methods for their particular situation. This new edition includes all new information on remediation costs and reflects the latest research in the field. It includes new practical case studies to illustrate the concepts presented, including 1,4-dioxane occurrence in Long Island and the Cape Fear watershed in North Carolina. Features: Fully updated throughout to reflect the most recent research on 1,4-dioxane Describes the nature and extent of 1,4-dioxane releases, their regulation, and their remediation in a variety of geologic settings Examines 1,4-dioxane analytical chemistry, its many industrial uses, and 1,4-dioxane occurrence as a byproduct in production of many products Provides ample site data for recent and relevant remediation case studies, and a review of the widely varying regulatory landscape for 1,4-dioxane cleanup levels and drinking water limits Discusses the importance of accounting for contaminant archeology in investigating contaminated sites, and leveraging solvent stabilizers in forensic investigations While written primarily for practicing professionals, such as environmental consultants and attorneys, water utility engineers, and laboratory managers, the book will also appeal to researchers and academics as well. This new edition serves as a highly useful reference on the occurrence, sampling and analysis, and remedial investigation and design for 1,4-dioxane and related contaminants.

The National Directory of Expert Witnesses 2003

Attorneys' Textbook of Medicine Roscoe Nelson Gray 1949

Bibliography of Agriculture 1996

Clinical Laboratory Reference 1995 Laboratory products and services currently available in the United States. Product information section arranged alphabetically by companies. Entries include description and ordering information. Indexes by manufactures; brand names; and test, equipment, and services. Product photograph section.

Environmental Investigation and Remediation Thomas K.G. Mohr 2019-12-23 Filled with updated information, equations, tables, figures, and citations, *Environmental Investigation and Remediation: 1,4-Dioxane and Other Solvent Stabilizers, Second Edition* provides the full range of information on 1,4-dioxane. It offers passive and active remediation strategies and treatment technologies for 1,4-dioxane in groundwater and provides the technical resources to help readers choose the best methods for their particular situation. This new edition includes all new information on remediation costs and reflects the latest research in the field. It includes new practical case studies to illustrate the concepts presented, including 1,4-dioxane occurrence in Long Island and the Cape Fear watershed in North Carolina. Features: Fully updated throughout to reflect the most recent research on 1,4-dioxane Describes the nature and extent of 1,4-dioxane releases, their regulation, and their remediation in a variety of geologic settings Examines 1,4-dioxane analytical chemistry, its many industrial uses, and 1,4-dioxane occurrence as a byproduct in production of many products Provides ample site data for recent and relevant remediation case studies, and a review of the widely varying regulatory landscape for 1,4-dioxane cleanup levels and drinking water limits Discusses the importance of accounting for contaminant archeology in investigating contaminated sites, and leveraging solvent stabilizers in forensic investigations While written primarily for practicing professionals, such as environmental consultants and attorneys, water utility engineers, and laboratory managers, the book will also appeal to researchers and academics as well. This new edition serves as a highly useful reference on the occurrence, sampling and analysis, and remedial investigation and design for 1,4-dioxane and related contaminants.

Introduction to Environmental Forensics Brian L. Murphy 2014-07-30 The third edition of *Introduction to Environmental Forensics* is a state-of-the-art reference for the practicing environmental forensics consultant, regulator, student, academic, and scientist, with topics including compound-specific isotope analysis (CSIA), advanced multivariate statistical techniques, surrogate approaches for contaminant source identification and age dating, dendroecology, hydrofracking, releases from underground storage tanks and piping, and contaminant-transport modeling for forensic applications. Recognized international forensic scientists were selected to author chapters in their specific areas of expertise and case studies are included to illustrate the application of these methods in actual environmental forensic investigations. This edition provides updates on advances in various techniques and introduces several new topics. Provides a comprehensive review of all aspects of environmental forensics Coverage ranges from emerging statistical methods to state-of-the-art analytical techniques, such as gas chromatography-combustion-isotope ratio mass spectrometry and polytopic vector analysis Numerous examples and case studies are provided to illustrate the application of these forensic techniques in environmental investigations

Environmental Forensics Gwen O'Sullivan 2015-07-06 This publication is based on peer-reviewed manuscripts from the 2014 International Network of Environmental Forensics (INEF) Conference held at St John's College, Cambridge. INEF is an organization founded by environmental forensic scientists for the express purpose of sharing and disseminating environmental forensic information to the international scientific community. Providing a wide range of up to date topics on the advancement and refinement of environmental forensic techniques, this book ensures the reader gets a good understanding of the scope of environmental forensics. Aimed at scientists, regulators, academics and consultants throughout the world, this professionally edited book is the fourth of a series of INEF conference publications chronicling the current state of the art in environmental forensics.

Casarett & Doull's Toxicology: The Basic Science of Poisons, Eighth Edition Louis J.

Casarett 2013-06-19 Casarett and Doull's has set the standard for toxicology reference texts for years, and is the market leading title to this day. It serves the general toxicology market, and is to the field what Goodman and Gilman is to pharmacology. The books are often purchased together, and form a knock-out punch along with our DiPiro textbook; combined, these three titles produce millions of dollars in revenue and more than 100,000 in unit sales. Casarett & Doull's is, in other words, one part of a triad that forms the best pharmacology/pharmacy/toxicology collection in all of medical publishing

Risk, Regulatory, and Monitoring Considerations Godage B. Wickramanayake 2000 - Regulatory Perspectives and Decision-Making- Advances in Site Characterization- Environmental Data Management, Geostatistics, and GIS- Advances in Analytical and Detection Techniques- Risk-Based Analyses for Remediation- Human Health/Ecological Risk Assessment- Technical Impracticability- Long-Term Monitoring and Optimization- Innovative Monitoring and Control Systems.

Environmental Forensics Robert D. Morrison 1999-09-29 Offering state-of-the-art techniques for both attorneys and environmental scientists, *Environmental Forensics: Principles and Applications* discusses non-chemical methods such as corrosion modeling, inventory reconciliation, and aerial photography interpretation. The book also covers chemical fingerprinting used to identify the origin and age of a contaminant release- relevant techniques include the use of radioactive isotope analysis, degradation modeling based on half-lives, and fuel additives such as MTBE. *Environmental Forensics* provides case study examples of environmental trial exhibits. It covers misused techniques that can bias the scientific validity of a trial exhibit, such as scale exaggeration, use of statistical manipulation, data contouring, and selective presentation. Detailed information is provided for identifying and interpreting those portions of environmental reports that are "target rich" sources of scientific biases. These include the identification of false positive, false negative and the intentional manipulation of environmental data that occurs primarily in the sample collection process.

1, 1, 1-Trichloroethane R. J. Fielder 1984

Chlorinated Solvents Robert D Morrison 2015-11-09 Environmental forensics is emerging and evolving into a recognized scientific discipline with numerous applications, especially regarding chlorinated solvents. This unique book provides the reader with a concise compilation of information regarding the use of environmental forensic techniques for age dating and identification of the source of a chlorinated solvent release. Concentrating on the five commonly encountered chlorinated solvents (perchloroethylene, trichloroethylene, methyl chloroform, carbon tetrachloride and CFC-113), forensic opportunities applicable to each are presented including the use of stabilizers, manufacturing impurities, surrogate chemicals and physical measurements and degradation products as diagnostic indicators. Detailed historical chronology of the applications of the solvents and specific chapters devoted to dry cleaning and vapor degreasing equipment are included as are generic forensic approaches. Forming a basis for further ideas in the evolution of environmental forensic techniques, *Chlorinated Solvents* will be an indispensable reference tool for researchers, regulators and analysts in the field.

GC Applications Library, 1959 to 1975 Varian Associates 1977

Index to Legal Periodicals & Books 2002

Spring Meeting American Geophysical Union. Meeting 1996

Toxicological Profile for 1,1,1-trichloroethane 1995

Tabellen zur Strukturaufklärung organischer Verbindungen Ernö Pretsch 2013-03-14 Für die 3. Auflage des bewährten Tabellenwerkes zur Strukturaufklärung organischer Verbindungen wurden die Kapitel über Kernresonanz-, Infrarot- und Massenspektroskopie erweitert und auf den neuesten Stand gebracht. Für Studenten der Chemie und benachbarter Gebiete ist das Werk ein unverzichtbares Nachschlagewerk in den Praktika zur Spektroskopie und Strukturaufklärung.

Toxicological Profile for Methylene Chloride 2000

Environmental Forensics Fundamentals Ioana Gloria Petrisor 2014-07-14 A Practical Guide to

Environmental Crime Scene Investigations Releasing contaminants into the environment—whether deliberate or unintentional—can be thought of as a crime against the environment. The role of environmental forensics is to identify and prevent environmental pollution, or crimes. Environmental Forensics Fundamentals: A Practical Guide examines this growing field, and provides environmental professionals looking to specialize in environmental forensics with the materials they need to effectively investigate and solve crimes against the environment. Pointing the Finger at Environmental Crime Environmental forensics uses "fingerprinting" techniques in order to assess and analyze contamination sites. Fingerprinting can reveal the source of contamination, as well as how, where, and when the contamination was released. This handy guidebook outlines the proven techniques, applications, and resources needed to efficiently investigate environmental crimes and become successful in this emerging field. Learn the Basics from a Single Source Divided into three main parts, the first part of the book examines the role of evidence in forensic investigations and court proceedings. It highlights general forensic concepts and offers guidelines for obtaining defensible evidence. The second part details environmental forensic investigative techniques. It includes a step-by-step guide that enables the reader to apply the techniques in practice. The final section covers strategy building. It presents real case studies, as well as key principles and concepts for strategy building, and addresses the most common challenges faced in environmental forensics. Environmental Forensics Fundamentals: A Practical Guide provides information on cutting-edge scientific techniques that investigate the source and age of environmental pollution and solve environmental crimes. It examines the principles behind each main forensic technique. It also offers guidance on what to look for in order to successfully apply the techniques and interpret results. In addition, the author provides relevant sources where more information can be found.

California Water Law & Policy 2001

Current Law Index 1996

Environmental Reports and Remediation Plans Randall L. Erickson 1995 The ability to perform a critical review for an environmental report is an essential skill required by US lawyers and consultants. This study explains what to look for in these reports and how to interpret them. It provides definitions and explains terminology, shows how to determine if the report is accurate, and describes how to identify improper assumptions. It also illustrates how to tell if a report meets legal requirements such as evidentiary standards.

Environmental Forensics Robert D Morrison 2010-08-06 This publication includes peer-reviewed manuscripts from the 2009 International Network of Environmental Forensics (INEF) held in Calgary, Canada on August 31 through September 1, 2009. INEF is an organization founded by environmental forensic scientists for the express purpose of sharing and disseminating environmental forensic information to the international scientific community. Environmental forensic information presented at the Calgary conference included topics on contaminant age dating, chemical biomarkers, environmental statistics, the interpretation of forensic data, emerging analytical techniques used in forensic investigations, legal sampling and strategies, petroleum hydrocarbon fingerprinting and diagnostic markers used to age date chlorinated solvents. All of these topics were presented in the context of using these techniques to ultimately identify the origin and age of contaminants released into the environment. This professionally edited book is the first of a series of conference publications chronicling the current state of the art in environmental forensics. The intent of this publication and subsequent INEF conference volumes is to compile a library of state of the art scientific articles dealing with environmental forensic topics.

WHO Guidelines for Indoor Air Quality World Health Organization 2010 This book presents WHO guidelines for the protection of public health from risks due to a number of chemicals commonly present in indoor air. The substances considered in this review, i.e. benzene, carbon monoxide, formaldehyde, naphthalene, nitrogen dioxide, polycyclic aromatic hydrocarbons (especially benzo[a]pyrene), radon, trichloroethylene and tetrachloroethylene, have indoor sources, are known in respect of their hazardousness to health and are often found indoors in concentrations of health concern. The guidelines are targeted at public health professionals involved in preventing health risks of environmental exposures, as well as specialists and authorities involved in the design and use of buildings, indoor materials and products. They provide a scientific basis for legally enforceable standards.

Encyclopedia of Geology 2020-12-16 Encyclopedia of Geology, Second Edition presents in six volumes state-of-the-art reviews on the various aspects of geologic research, all of which have moved on considerably since the writing of the first edition. New areas of discussion include extinctions, origins of life, plate tectonics and its influence on faunal provinces, new types of mineral and hydrocarbon deposits, new methods of dating rocks, and geological processes. Users will find this to be a fundamental resource for teachers and students of geology, as well as researchers and non-geology professionals seeking up-to-date reviews of geologic research. Provides a comprehensive and accessible one-stop shop for information on the subject of geology, explaining methodologies and technical jargon used in the field Highlights connections between geology and other physical and biological sciences, tackling research problems that span multiple fields Fills a critical gap of information in a field that has seen significant progress in past years Presents an ideal reference for a wide range of scientists in earth and environmental areas of study

Directory American Consulting Engineers Council 2000

Handbook of Complex Environmental Remediation Problems Jay Lehr 2001-12-21 A-Z guide to hazardous waste clean-up Offering the time-saving guidance of leading specialists in the field, Handbook of Complex Environmental Remediation Problems introduces you to today's best methods of cleaning up hazardous waste. This comprehensive tool from Jay Lehr, Marve Hyman, Tyler Gass and William Seevers gives you a comprehensive review of every current engineering solution, and provides expert help with waste minimization and pollution prevention. Featuring both US and international applications, the Handbook is a vital on-the-job tool for environmental engineers, safety engineers, industrial hygienists, chemical engineers, civil engineers, and any other engineer or manager responsible for clean-up-- and regulators who must evaluate the results of these programs. You'll find in-depth discussion of : surfacewater groundwater soils' solid waste hazardous waste oil spills hazardous contaminants in the marine environment and discharges in the atmosphere remediation of radioactive and mixed waste remediation of hazardous waste from mineral mining and oil well drilling more

Is All Research Created Equal? Pamela Mary Franklin 2002

Southwest Hydrology 2006

Chemical Abstracts 2002

Environmental Litigation 2006

Environmental Forensics Fundamentals Ioana Gloria Petrisor 2014-07-14 A Practical Guide to Environmental Crime Scene Investigations Releasing contaminants into the environment—whether deliberate or unintentional—can be thought of as a crime against the environment. The role of environmental forensics is to identify and prevent environmental pollution, or crimes. Environmental Forensics Fundamentals: A Practical Guide