

Mass Spectra Of Fluorocarbons Nist

Analytical Applications of Fourier Transform Ion Cyclotron Resonance Mass Spectrometry

NIST Technical Note

Toxicity Review

Encyclopedia of Polymer Science and Technology, Concise

Publications of the National Institute of Standards and Technology ... Catalog

Energetics of Gaseous Ions

A Precision Calorimeter for the Measurement of Heats of Combustion

Handbook of GC/MS

Clay-Polymer Nanocomposites

Methane Series

Fundamentals of Plasma Chemistry

World Index of Plastics Standards

Metal-Fluorocarbon Based Energetic Materials

Thermophysical Properties of Freons

Guide to NIST

Guide to NIST (National Institute of Standards and Technology)

Including Bottom Sediments and Sludges. (1923)

NIST Special Publication

Surface and Thin Film Analysis

Handbook of the Thermodynamics of Organic Compounds

Advances in Atomic, Molecular, and Optical Physics

Standardization in Spectrophotometry and Luminescence Measurements

Interpretation of Mass Spectra

Gaseous Dielectrics X

Capillary Gas Chromatography in Essential Oil Analysis

FT-ICR/MS

Heat Capacities and Entropies of Organic Compounds in the Condensed Phase

Iodotrifluoromethane

Inventory of Energy Research and Development, 1973-1975

National Institute of Standards and Technology

Dangerous Properties of Industrial Materials Report

Nonthermal Plasma Chemistry and Physics

Fundamentals and Applications

Mass Spectrometry

Standard Methods for the Examination of Water and Wastewater

Based on Invited Papers and Discussion

Low Temperature Materials and Mechanisms

Proceedings of a Workshop Seminar Held at the National Bureau of Standards, Gaithersburg, Maryland, November 19-20, 1975

A Compendium of Principles, Instrumentation, and Applications

Mass Spectra Of Fluorocarbons Nist

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YAZMIN MATTHEWS

Analytical Applications of Fourier Transform Ion Cyclotron Resonance Mass Spectrometry National Academies Press

Contributing authors emphasize ways in which FT-ICR provides superior information to that of other types of mass spectrometers as well as where it may be less informative. Comprehensive chapters cover its history and offer a descriptive explanation of the theory involved in Fourier transform detection and analysis. Annotation copyrighted by Book News, Inc., Portland, OR

NIST Technical Note John Wiley & Sons

The compact, affordable reference, revised and updated *The Encyclopedia of Polymer Science and Technology, Concise Third Edition* provides the key information from the complete, twelve-volume Mark's Encyclopedia in an affordable, condensed format. Completely revised and updated, this user-friendly desk reference offers quick access to all areas of polymer science, including important advances in nanotechnology, imaging and analytical techniques, controlled polymer architecture, biomimetics, and more, all in one volume. Like the twelve-volume full edition, the *Encyclopedia of Polymer Science and Technology, Concise Third Edition* provides both SI and common units, carefully selected key references for each article, and hundreds of tables, charts, figures, and graphs.

Toxicity Review Amer Inst of Physics

Clay-Polymer Nanocomposites is a complete summary of the existing knowledge on this topic, from the basic concepts of synthesis and design to their applications in timely topics such as high-performance composites, environment, and energy issues. This book covers many aspects of synthesis such as in-situ polymerization within the interlamellar spacing of the clays or by reaction of pristine or pre-modified clays with reactive polymers and prepolymers. Indeed, nanocomposites can be prepared at industrial scale by melt mixing. Regardless the synthesis method, much is said in this book about the importance of the clay pre-modification step, which is demonstrated to be effective, on many occasions, in obtaining exfoliated nanocomposites. Clay-Polymer Nanocomposites reports the background to numerous characterization methods including solid state NMR, neutron scattering, diffraction and vibrational techniques as well as surface analytical methods, namely XPS, inverse gas chromatography and nitrogen adsorption to probe surface composition, wetting and textural/structural properties. Although not described in dedicated chapters, numerous X-ray diffraction patterns of clay-polymer nanocomposites and reference materials are displayed to account for the effects of intercalation and exfoliations of layered aluminosilicates. Finally, multiscale molecular simulation protocols are presenting for predicting morphologies and properties of nanostructured polymer systems with industrial relevance. As far as applications are concerned, Clay-Polymer Nanocomposites examines structural composites such as clay-epoxy and clay-biopolymers, the use of clay-polymer nanocomposites as reactive nanocomposite fillers, catalytic clay-(conductive) polymers and similar nanocomposites for the uptake of hazardous compounds or for controlled drug release, antibacterial applications, energy storage, and more. The most comprehensive coverage of the state of the art in clay-polymer nanocomposites, from synthesis and design to opportunities and applications Covers the various methods of characterization of clay-polymer nanocomposites - including spectroscopy, thermal

analyses, and X-ray diffraction Includes a discussion of a range of application areas, including biomedicine, energy storage, biofouling resistance, and more

Encyclopedia of Polymer Science and Technology, Concise Elsevier

This book discusses fragmentation mechanisms of molecules under mass spectrometry conditions and the resulting peaks observed in ESI-MS/MS experiments. The underlying principles are used to understand everything from small molecules to biological poly-peptides collision induced dissociation. In a theoretical approach, gas phase reactivity of molecular ions is coupled with chemical dynamics simulations.

CRC Press

This exciting new book details all aspects of a major class of pyrolants and elucidates the progress that has been made in the field, covering both the chemistry and applications of these compounds. Written by a pre-eminent authority on the subject from the NATO Munitions Safety Information Analysis Center (MSIAC), it begins with a historical overview of the development of these materials, followed by a thorough discussion of their ignition, combustion and radiative properties. The next section explores the multiple facets of their military and civilian applications, as well as industrial synthetic techniques. The critical importance of the associated hazards, namely sensitivity, stability and aging, are discussed in detail, and the book is rounded off by an examination of the future of this vital and expanding field. The result is a complete guide to the chemistry, manufacture, applications and required safety precautions of pyrolants for both the military and chemical industries. From the preface: "... This book fills a void in the collection of pyrotechnic literature... it will make an excellent reference book that all researchers of pyrolants and energetics must have..." Dr. Bernard E. Douda, Dr. Sara Pliskin, NAVSEA Crane, IN, USA

Publications of the National Institute of Standards and Technology ... Catalog Walter de Gruyter GmbH & Co KG

This series, established in 1965, is concerned with recent developments in the general area of atomic, molecular, and optical physics. The field is in a state of rapid growth, as new experimental and theoretical techniques are used on many old and new problems. Topics covered also include related applied areas, such as atmospheric science, astrophysics, surface physics, and laser physics. Articles are written by distinguished experts who are active in their research fields. The articles contain both relevant review material as well as detailed descriptions of important recent developments.

Energetics of Gaseous Ions Amer Inst of Physics

This book addresses the growing interest in low temperature technologies. Since the subject of low temperature materials and mechanisms is multidisciplinary, the chapters reflect the broadest possible perspective of the field. Leading experts in the specific subject area address the various related science and engineering chemistry, material science, electrical engineering, mechanical engineering, metallurgy, and physics.

A Precision Calorimeter for the Measurement of Heats of Combustion CRC Press

ONE OF A FOUR-BOOK COLLECTION SPOTLIGHTING CLASSIC ARTICLES Landmark research findings and reviews in aluminum reduction technology Highlighting some of the most important findings and insights reported over the past five decades, this volume features many of the best original research papers and reviews on aluminum reduction technology published from 1963 to 2011. Papers have been organized into seven themes: 1. Fundamentals 2. Modeling 3. Design 4. Operations 5. Control 6. Environmental 7. Alternative processes The first six themes deal with conventional Hall-Héroult electrolytic reduction technology, whereas the last theme features papers dedicated to nonconventional processes. Each section begins with a brief introduction and ends with a list of recommended articles for further reading, enabling researchers to explore each subject in greater depth. The papers for this volume were selected from among some 1,500 Light Metals articles. Selection was based on a rigorous review process. Among the papers, readers will find breakthroughs in science as well as papers that have had a major impact on technology. In addition, there are expert reviews summarizing our understanding of key topics at the time of publication. From basic research to advanced applications, the articles published in this volume collectively represent a complete overview of aluminum reduction technology. It will enable students, scientists, and engineers to trace the history of aluminum reduction technology and bring themselves up to date with the current state of the technology.

Handbook of GC/MS CRC Press

This book brings together data from Czechoslovakia on vapor pressures, data from England on critical properties, and data from America on physical properties of organic and organometallic compounds to provide a basic reference book for engineers and scientists involved with research and design in the chemical and petroleum industries. We would like to acknowledge Jaroslav Dykyj, Milan Repas, and Josef Svo boda of Czechoslovakia for providing the material on Antoine constants and Douglas Ambrose of the University of London for providing the material on critical properties. Stanislaw Malanowski pointed out and made available the sources of data from Eastern Europe. Richard Stephenson translated and correlated the data in tabular form. We would like to thank Dr. Matej Andras of the Slovenska Literarna Agentura for granting permission to use the data from Czechoslovakia and Dr. Marjan Bace of Elsevier Science Publishing Co., Inc., who encouraged preparation of this manuscript and handled the publishing arrangements. Particular thanks go to Mary Stephenson for typing the entire camera-ready copy. Richard M. Stephenson University of Connecticut Storrs, Connecticut Stanislaw Malanowski Institute of Physical Chemistry Warsaw, Poland vii Introduction All scientific and engineering calculations are dependent on the availability of thermodynamic and physical property data for the materials or systems in question. This dependency is particularly true in engineering design, which relies almost exclusively on computers for accurate data to produce meaningful final designs.

Clay-Polymer Nanocomposites Springer Science & Business Media

The most important advantage [of this text] is that it has not only been written for the practitioner, but also the analyst who wishes to familiarize himself with any or all the aspects of GC/MS' - AFS - Advances In Food Sciences. This is an updated edition of its bestselling predecessor, Handbook of GC/MS: Fundamentals and Applications that offers broad coverage of the subject, from sample preparation to the evaluation of MS-Data. This edition boasts several new chapters, including Automated Solvent Extraction (ASE), Hyphenation with Isotope Ratio MS, and the TOF-technique

Methane Series John Wiley & Sons

This introduction to thermodynamics discusses typical phase diagrams features and presents the wide range of techniques such as Differential Scanning Calorimetry, Thermogravimetry and others. In the last part the author brings many examples for typical practical problems often solved by thermal analysis. As an instructive guideline for practitioners the work reveals the connection between experimental data and theoretical model and

vice versa.

Fundamentals of Plasma Chemistry CRC Press

Introduction to essential oil analysis. some aspects of essential oil preparation. considerations on the selection of capillary columns for essential oil analysis. microtechniques in essential oil analysis. headscape versus classical analysis. Fingerprints in essential oil analysis. industrial quality control of essential oil by capillary GC. Retention indices in essential oil analysis. Possibilities and results of dual channel analysis of essential oils with fused silica capillary columns. GC- mass spectrometry of essential oils: positive ion and negative ion and negative ion chemical ionization techniques, computer matching techniques. Examples of artefact formation by chromatographic techniques. Possibilities, limitations, and future developments in GC-FTIR analysis of essential oils. Possibilities of multidimensional GC in essential oils.

World Index of Plastics Standards Springer Science & Business Media

In addition to introducing the basics of plasma physics, Nonthermal Plasma Chemistry and Physics is a comprehensive presentation of recent developments in the rapidly growing field of nonthermal plasma chemistry. The book offers a detailed discussion of the fundamentals of plasma chemical reactions and modeling, nonthermal plasma sources, relevant diagnostic techniques, and selected applications. Elucidating interconnections and trends, the book focuses on basic principles and illustrations across a broad field of applications. Expert contributors address environmental aspects of plasma chemistry. The book also includes selected plasma conditions and specific applications in volume plasma chemistry and treatment of material surfaces such as plasma etching in microelectronics, chemical modification of polymer surfaces and deposition of functional thin films. Designed for students of plasma physics, Nonthermal Plasma Chemistry and Physics is a concise resource also for specialists in this and related fields of research.

Metal-Fluorocarbon Based Energetic Materials Wiley-VCH

This book covers one of the most important areas in analytical sciences, extraction techniques for organic compounds in environmental and related matrices. This text discusses all of the key stages for analysing a sample for organic compounds from the initial sampling protocols, the range of different extraction techniques for solid, liquid and air samples through to the final chromatographic analysis. The topics covered include: Initial steps for solid, aqueous and air sampling. Extraction techniques for aqueous samples, including LLE, purge and trap, SPE, SPME, SBSE, SDME, membrane microextraction and MPES. Extraction techniques for solid samples, including Soxhlet, 'Soxtec', Shake-flask, sonication, PFE, MAE, SFE and MSPD. Extraction techniques for air sampling, including whole air, enrichment approaches and desorption techniques. Pre-concentration approaches for post-extraction. Practical aspects for chromatographic analysis (GC and HPLC) of organic compounds. Quality assurance aspects of analysis. Health and safety considerations. Key features include: Up-to-date information on the latest development in extraction techniques for organic compounds in environmental and food matrices. Ideal for use as a self-study guide, as the basis of a taught course or guided reading for new 'early-career' researchers. Includes a guide for the reader to other sources of information. Extraction Techniques in Analytical Sciences is suitable for undergraduate and postgraduate students, as well as providing an invaluable starting point for individuals undertaking applied research in the fields of analytical, bioanalytical, environmental and food sciences. The Analytical Techniques in the Sciences series of books provides coverage of all of the major analytical techniques and their application in the most important areas of physical, life and materials science. Each text is presented in an open learning/distance learning style, in which the learning objectives are clearly identified. the reader's understanding of the material is constantly evaluated by the use of self-assessment and discussion questions.

Thermophysical Properties of Freons John Wiley & Sons

Mass Spectrometry is an ideal textbook for students and professionals as well as newcomers to the field. Starting from the very first principles of gas-phase ion chemistry and isotopic properties, the textbook takes the reader through the design of mass analyzers and ionization methods all the way to mass spectral interpretation and coupling techniques. Step-by-step, the reader learns how mass spectrometry works and what it can do. The book comprises a balanced mixture of practice-oriented information and theoretical background. It features a clear layout and a wealth of high-quality figures. Exercises and solutions are located on the Springer Global Web.

Guide to NIST DIANE Publishing

State Committee on Standards of the Council of Ministers of the USSR

Guide to NIST (National Institute of Standards and Technology) NIST Technical Note Nonthermal Plasma Chemistry and Physics

The U.S. military is considering using a compound called iodotrifluoromethane (CF3I) for fire suppression to replace previously-used compounds (halons) that are being phased out because they deplete the ozone layer. This report reviews available toxicological data on CF3I and evaluates the scientific basis of the U.S. Army's proposed exposure limit of 2,000 parts per million (ppm). The report recommends that CF3I be used for fire suppression in normally unoccupied spaces because of its potential to cause cardiac sensitization in test animals. The report also recommends that further genotoxicity testing be conducted (testing for changes in genetic material), and that CF3I be assessed for its potential to cause cancer. Should the Army decide to use CF3I, information should be collected and evaluated on how much of the chemical or any of its degradation products might be released and how often.

Including Bottom Sediments and Sludges. (1923) Elsevier

The book contains a broad and in depth review by leading world experts of the progress and the problems of current interest in gaseous dielectrics and their use, especially as insulators in high-voltage equipment and substations. Recent advances in superconductivity for power transmission and in plasma technology are also included. The fundamental, applied and industrial research described in the book allows the electric power industry to transmit and distribute electrical energy in more efficient, safe and environmentally acceptable ways.

NIST Special Publication CRC Press

Surveying and comparing all techniques relevant for practical applications in surface and thin film analysis, this second edition of a bestseller is a vital guide to this hot topic in nano- and surface technology. This new book has been revised and updated and is divided into four parts - electron, ion, and photon detection, as well as scanning probe microscopy. New chapters have been added to cover such techniques as SNOM, FIM, atom probe

(AP), and sum frequency generation (SFG). Appendices with a summary and comparison of techniques and a list of equipment suppliers make this book a rapid reference for materials scientists, analytical chemists, and those working in the biotechnological industry. From a Review of the First Edition (edited by Bubert and Jenett) "... a useful resource..." (Journal of the American Chemical Society)

Surface and Thin Film Analysis John Wiley & Sons

Established by Congress in 1901, the National Bureau of Standards (NBS), now the National Institute of Standards and Technology (NIST), has a long and distinguished history as the custodian and disseminator of the United States' standards of physical measurement. Having reached its centennial anniversary, the NBS/NIST reflects on and celebrates its first century with this book describing some of its seminal contributions to science and technology. Within these pages are 102 vignettes that describe some of the Institute's classic publications. Each vignette relates the context in which

the publication appeared, its impact on science, technology, and the general public, and brief details about the lives and work of the authors. The groundbreaking works depicted include: A breakthrough paper on laser-cooling of atoms below the Doppler limit, which led to the award of the 1997 Nobel Prize for Physics to William D. Phillips The official report on the development of the radio proximity fuse, one of the most important new weapons of World War II The 1932 paper reporting the discovery of deuterium in experiments that led to Harold Urey's 1934 Nobel Prize for Chemistry A review of the development of the SEAC, the first digital computer to employ stored programs and the first to process images in digital form The first paper demonstrating that parity is not conserved in nuclear physics, a result that shattered a fundamental concept of theoretical physics and led to a Nobel Prize for T. D. Lee and C. Y. Yang "Observation of Bose-Einstein Condensation in a Dilute Atomic Vapor," a 1995 paper that has already opened vast new areas of research A landmark contribution to the field of protein crystallography by Wlodawer and coworkers on the use of joint x-ray and neutron diffraction to determine the structure of proteins

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