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COHEN LEVY

Papers Presented at the ... Meeting Astm International
Potentiometric Water Analysis Second Edition Derek Midgley and Kenneth Torrance, National Power plc, Technology and Environmental Centre, Leatherhead, Surrey, UK This volume is a thoroughly revised and updated version of the very successful first edition. It provides, in one single volume, a comprehensive survey of the theoretical and practical aspects of potentiometry and ion-selective electrodes applied to the analysis of water. The first part of the book describes the basic theory of electrodes, the statistical treatment of results, titrimetric methods and general guidance on procedures. Useful information is given on the types of electrodes available, together with the apparatus required for laboratory and industrial use. For this second edition, the authors include details on microprocessor-based instruments, new electrodes and techniques that have recently been developed, as well as updating the variations on established procedures and their performance characteristics. The second part of the book gives detailed analytical methods for identifying a variety of determinands. Worked examples with discussions of sources of error and likely accuracy are also included. The book is designed to give sufficiently detailed procedures so that the reader can use the methods without recourse to the primary literature. With its emphasis on the practical aspects of potentiometric water analysis, this book will be a valuable tool for analysts working in the field.
Environmental Toxicology and Chemistry IWA Publishing
This book describes potentiometric methods for determining stability constants and explains how these constants can be used to describe metal ion speciation in complex environmental and biological systems. It also provides three original computer programs on a disk for calculating stability constants and for using stability constants to calculate concentrations of molecular species in solution. The author gives examples of calculations for simple metal chelates, for metal complexes of large organic molecules, and for mixtures containing several metal ions and complexing agents in aqueous solution. They also describe common errors in calculating stability constants and how to avoid them. This carefully revised second edition is now even more useful to the reader, and, in particular, to those who make use of the program disk. Each program has been revised to improve speed, control, and error trapping.
Mine Wastes John Wiley & Sons
This practical manual is devised for organic chemists and biochemists who, in the course of their researches and without previous experience, need to determine an ionization constant. We are gratified that earlier editions were much used for this purpose and that they also proved adequate for the in service training of technicians and technical officers to provide a Department with a pK service. The features of previous editions that gave this wide appeal have been retained, but the subject matter has been revised, extended, and brought up to date. We present two new chapters, one of which describes the determination of the stability constants of the complexes which organic ligands form with metal cations. The other describes the use of more recently introduced techniques for the determination of ionization constants, such as Raman and nuclear magnetic resonance spectroscopy, thermometric titrations, and paper electro phoresis. Chapter 1 gives enhanced help in choosing between alternative methods for determining ionization constants. The two chapters on potentiometric methods have been extensively revised in the light of newer understanding of electrode processes and of the present state of the art in instrumen tation.
Refractory Organic Substances in the Environment The American Oil Chemists Society
The Karl Fischer titration is used in many different ways following its publication in 1935 and further applications are continually being explored. At the present time we are experiencing another phase of expansion, as shown by the development of new titration equipment and new reagents. KF equipment increasingly incorporates microprocessors which enable the course of a titration to be programmed thus sim plifying the titration. Coulometric titrators allow water determinations in the micro gram-range: the KF titration has become a micro-method. The new pyridine-free re agents make its application significantly more pleasant and open up further possibili ties on account of their accuracy. To make the approach to Karl Fischer titrations easier, we have summarized the present knowledge in this monograph and we have complemented it with our own studies and practical experience. As this book should remain "readable", we have tried to keep the fundamentals to a minimum. Historical developments are only mentioned if they seem to be necessary for understanding the KF reaction. The ap plications are described more fully. Specific details which may interest a particular reader can be found in the original publications cited. The referenced literature is in chronological order as the year of publication may also prove informative. Thus, [6902] for example denotes 69 for 1969 being the year of publication and 02 is a non-recurring progressive number. The referenced litera ture includes summaries which we hope will be of help to find the "right" publica tion easily.
The Determination of Ionization Constants Springer Science & Business Media
Electroanalysis as a representative of the wet-chemical methods has many advantages, such as: selectivity and sensitivity, nothwithstanding its inexpensive equipment; ample choice of possibilities and direct accessibility, especially to electronic and hence automatic control even at distance; automated data treatment; and simple insertion, if desirable, into a process-regulation loop. There may be circumstances in which an electroanalytical method, as a consequence of the additional chemicals required, has disadvantages in comparison with instrumental techniques of analysis; however the above-mentioned advantages often make electroanalysis the preferred approach for chemical control in industrial and environmental studies. This book provides the reader with a full understanding of what electroanalysis can do in these fields. It presents on the one hand a systematic treatment of the subject and its commonly used techniques on a more explanatory basis, and on the other it illustrates the practical applications of these techniques in chemical control in industry, health and environment. As such control today requires the increasing introduction of automation and computerization, electroanalysis with its direct input and/or output of electrical signals often has advantages over other techniques especially because recent progress in electronics and computerization have greatly stimulated new developments in the electroanalysis techniques themselves. Part A looks systematically at electroanalysis while more attention is paid in Part B to electroanalysis in non-aqueous media in view of its growing importance. The subject is rounded off in Part C by some insight into and examples of applications to automated chemical control.
Australian Journal of Soil Research Springer
The papers in this volume were presented at the 1991 London International Chlorine Symposium held at the intercontinental Hotel from 5th-7th June. This was the sixth symposium in a series organized by the Electrochemical Technology Group of the SCI and held in London at intervals of three years. A continued high level of interest in the proceedings was demonstrated by offers of 40 papers, and of these 26 were selected for inclusion in the programme. The conference intention was to reflect the developments in chlorine technology hardware and software and to address the economic, political, environmental and safety issues which are increasingly impacting on the chlorine industry as the millennium approaches. In the event the five sessions were broadly based on the following topic areas: Chlorine and the Environment Membranes 1 Membranes 2 Chlorine Safety Electrodes/Electrode Reactions Not unexpectedly, the importance of membrane technology to the industry was reflected by the inclusion of 9 papers. However, the traditional diaphragm,

mercury and chlorate cell technologies were also represented. The academic base of the organizing body was underlined by the selection of papers from the Universities of Milan and Calgary, and by the opening and closing remarks of the Chairman of the SCI Electrochemical Technology Group, Frank Goodridge, Professor Emeritus of Newcastle University. The opportunity was taken to present the SCI Castner Medal to Dr H. Miyake of Asahi Glass Co. Ltd for his work on the design and development of Flemion electrodes.

Introduction to Surfactant Analysis John Wiley & Sons

Today's best practice in environmental mine-waste management requires a thorough understanding of the wastes produced. The knowledge of mine wastes represents a new interdisciplinary science and this book provides an introductory, descriptive and analytic overview of the wastes produced in the mineral industry. It describes the characterization, prediction, monitoring, disposal and treatment as well as environmental impacts. Intended for undergraduate courses, it systematically builds the reader’s understanding and knowledge of the wastes produced, their physical and chemical characteristics, and how to deal responsibly with them on a short and long-term basis. The text employs 22 case studies spanning the world’s mineral industry that elucidate best practice and specific challenges in mine-waste management and site rehabilitation.

Modern Chlor-alkali Technology Springer Science & Business Media

The IWA Task Group for Mathematical Modelling of Anaerobic Digestion Processes was created with the aim to produce a generic model and common platform for dynamic simulations of a variety of anaerobic processes. This book presents the outcome of this undertaking and is the result of four years collaborative work by a number of international experts from various fields of anaerobic process technology. The purpose of this approach is to provide a unified basis for anaerobic digestion modelling. It is hoped this will promote increased application of modelling and simulation as a tool for research, design, operation and optimisation of anaerobic processes worldwide. This model was developed on the basis of the extensive but often disparate work in modelling and simulation of anaerobic digestion systems over the last twenty years. In developing ADM1, the Task Group have tried to establish common nomenclature, units and model structure, consistent with existing anaerobic modelling literature and the popular activated sludge models (See Activated Sludge Models ASM1, ASM2, ASM2d and ASM3, IWA Publishing, 2000, ISBN: 1900222248). As such, it is intended to promote widespread application of simulation from domestic (wastewater and sludge) treatment systems to specialised industrial applications. Outputs from the model include common process variables such gas flow and composition, pH, separate organic acids, and ammonium. The structure has been devised to encourage specific extensions or modifications where required, but still maintain a common platform. During development the model has been successfully tested on a range of systems from full-scale waste sludge digestion to laboratory-scale thermophilic high-rate UASB reactors. The model structure is presented in a readily applicable matrix format for implementation in many available differential equation solvers. It is expected that the model will be available as part of commercial wastewater simulation packages. ADM1 will be a valuable information source for practising engineers working in water treatment (both domestic and industrial) as well as academic researchers and students in Environmental Engineering and Science, Civil and Sanitary Engineering, Biotechnology, and Chemical and Process Engineering departments. Contents Introduction Nomenclature, State Variables and Expressions Biochemical Processes Physicochemical Processes Model Implementation in a Single Stage CSTR Suggested Biochemical Parameter Values, Sensitivity and Estimation Conclusions References Appendix A: Review of Parameters Appendix B: Supplementary Matrix Information Appendix C: Integration with the ASM Appendix D: Estimating Stoichiometric Coefficients for Fermentation Scientific & Technical Report No.13

Potentiometric Water Analysis Springer Science & Business Media

Hydrometallurgy '94 contains the 78 papers that were presented at the international symposium organized by the Institution of Mining and Metallurgy and the Society of Chemical Industry and held in Cambridge, England, in July 1994. In the papers specific attention is paid to the concept of sustainable development and the associated ideas of cleaner technology, recycling and waste minimization that have particular relevance to the extractiona nd processing of metals and other mineral products. The papers, by authors from 30 contries, are grouped under the headings: Hydrometallurgy and Sustainable Development; Materials Production and the Environment; Fundamentals; Leaching; Bioprocessing; Gold Solution Purification; Effluent Treatment; Processes; and Recycling.

Sediments and Toxic Substances Wiley-VCH

Designed to provide a comprehensive, step-by-step approach to organic process research and development in the pharmaceutical, fine chemical, and agricultural chemical industries, this book describes the steps taken, following synthesis and evaluation, to bring key compounds to market in a cost-effective manner. It describes hands-on, step-by-step, approaches to solving process development problems, including route, reagent, and solvent selection; optimising catalytic reactions; chiral syntheses; and "green chemistry." Second Edition highlights: . Reflects the current thinking in chemical process R&D for small molecules . Retains similar structure and orientation to the first edition. . Contains approx. 85% new material . Primarily new examples (work-up and prospective considerations for pilot plant and manufacturing scale-up) . Some new/expanded topics (e.g. green chemistry, genotoxins, enzymatic processes) . Replaces the first edition, although the first edition contains useful older examples that readers may refer to Provides insights into generating rugged, practical, cost-effective processes for the chemical preparation of "small molecules" Breaks down process optimization into route, reagent and solvent selection, development of reaction conditions, workup, crystallizations and more Presents guidelines for implementing and troubleshooting processes

Water Determination by Karl Fischer Titration Springer Science & Business Media

This book contains plenary papers and selected poster presentations from the AOCS-sponsored World Conference held in Montreux, Switzerland.

Cellulose Chemistry and Technology DIANE Publishing

The MRS Symposium Proceeding series is an internationally recognised reference suitable for researchers and practitioners.

Acta Hydrochimica Et Hydrobiologica Springer Science & Business Media

The analysis of surfactants presents many problems to the analyst. This book has been written by an experienced team of surfactant analysts, to give practical help in this difficult field. Readers will find the accessible text and clear description of methods, along with extensive references, an invaluable aid in their work.

Metal Speciation in the Environment Springer Science & Business Media

The history of mining is replete with controversy of which much is related to environmental damage and consequent community outrage. Over recent decades, this has led to increased pressure to improve the environmental and social performance of mining operations, particularly in developing countries. The industry has responded by embracing the ideals of sustainability and corporate social responsibility. Mining and the Environment identifies and discusses the wide range of social and environmental issues pertaining to mining, with particular reference to mining in developing countries, from where many of the project examples and case studies have been selected. Following an introductory overview of pressing issues, the book illustrates how environmental and social impact assessment, such as defined in "The Equator Principles", integrates with the mining lifecycle and how environmental and social management aims to eliminate the negative and accentuate the positive mining impacts. Practical approaches are provided for managing issues ranging from land acquisition and resettlement of Indigenous peoples, to the technical aspects of acid rock drainage and mine waste management. Moreover, thorough analyses of ways and means of sharing non-transitory mining benefits with host communities are presented to allow mining to provide sustainable benefits for the affected communities. This second edition of Mining and the Environment includes new chapters on Health Impact Assessment, Biodiversity and Gender Issues, all of which have become more important since the first edition appeared a decade ago. The wide coverage of issues and the many real-life case studies make this practice-oriented book a reference and key reading. It is intended for environmental consultants, engineers, regulators and operators in the field and for students to use as a course textbook. As much of the matter applies to the extractive industries as a whole, it will also serve environmental professionals in the oil and gas industries. Karlheinz Spitz and John Trudinger both have multiple years of experience in the assessment of mining projects around the world. The combination of their expertise and knowledge about social, economic, and environmental performance of mining and mine waste management has resulted in this in-depth coverage of the requirements for responsible and sustainable mining.

Modern Chlor-Alkali Technology Springer Science & Business Media

Refractory organic substances (ROS) are an essential part of the biogeochemical carbon cycle. Wherever there is life on earth, there will also be ROS in the form of poorly biodegradable leftovers of organisms and as a source for new life. Furthermore, it is now beyond doubt that ROS are closely related to the carbon intensity identified as one of the driving forces in the dynamics of green house gas emission, such that ROS play a key role in sustainable development. 'Refractory Organic Substances in the Environment' provides the results of six years of top-priority research, funded by the Deutsche Forschungsgemeinschaft (DFG). This research program investigated the structure and function of ROS in different parts of the environment, from a chemical, physical, biological, and soil scientific point of view. It included the first systematic study of a set of reference samples from Central Europe, originating from a bog lake, soil seepage water, groundwater, and from the wastewaters of a brown coal processing plant and a secondary effluent. Thus, this work not only highlights the structural features obtained from the application of advanced analytical tools, but also the function in anthropogenically influenced aquatic systems and soils. Of special interest to students and researchers in life sciences.

Determination and Use of Stability Constants Springer Science & Business Media

Proceedings of the NATO Advanced Study Institute on Metal Speciation in the Environmental held in Cesme, Turkey, October 9-20, 1989

Research & Development Academic Press

Summarizes the essential elements of all analytical tests used to characterize petroleum products. The 350 plus entries are alphabetically arranged by chemical and physical properties, such as apparent viscosity, density, metal analysis, sulfur determination, vapor pressure, and water. Each entry co

Proceedings of the Twenty-sixth International Horticultural Congress Elsevier

This second edition laboratory manual was written to accompany Food Analysis, Fourth Edition, ISBN 978-1-4419-1477-4, by the same author. The 21 laboratory exercises in the manual cover 20 of the 32 chapters in the textbook. Many of the laboratory exercises have multiple sections to cover several methods of analysis for a particular food component of characteristic. Most of the laboratory exercises include the following: introduction, reading assignment, objective, principle of method, chemicals, reagents, precautions and waste disposal, supplies, equipment, procedure, data and calculations, questions, and references. This laboratory manual is ideal for the laboratory portion of undergraduate courses in food analysis.

Karl Fischer Titration John Wiley & Sons

Validation describes the procedures used to analyze pharmaceutical products so that the data generated will comply with the requirements of regulatory bodies of the US, Canada, Europe and Japan. Calibration of Instruments describes the process of fixing, checking or correcting the graduations of instruments so that they comply with those regulatory bodies. This book provides a thorough explanation of both the fundamental and practical aspects of biopharmaceutical and bioanalytical methods validation. It teaches the proper procedures for using the tools and analysis methods in a regulated lab setting. Readers will learn the appropriate procedures for calibration of laboratory instrumentation and validation of analytical methods of analysis. These procedures must be executed properly in all regulated laboratories, including pharmaceutical and biopharmaceutical laboratories, clinical testing laboratories (hospitals, medical offices) and in food and cosmetic testing laboratories.

Guide to ASTM Test Methods for the Analysis of Petroleum Products and Lubricants Springer Science & Business Media

In modern sediment research on contaminants five aspects are discussed which, in an overlapping succession, also reflect develop ment of knowledge on particle-associated pollutants during the past twenty-five years: (1) identification of sources and their distribution; (2) evaluation of solid/solution relations; (3) study of transfer mecha nisms to biological systems; (4) assessment of environment impact; and (5) selection and further development of remedial measures, in par ticular, of dredged materials. Scientific research and practical develop ment are still expanding in all these individual aspects. Similar to other waste materials, management of contaminated sed iments requires a holistic approach. This means that assessment of biogeochemical reactions, interfacial processes and transfer mecha nisms as well as the prognosis of long-term borderline conditions, in particular of capacity-controlling properties, should be an integrated part of the wider management scheme, i.e., the analytical and experi mental parameters should always be related to potential remediation options for a specific sediment problem. The underlying coordinated project, which was funded by the German Federal Ministry for Science and Technology (now the Federal Ministry for Education, Science, Research and Technology) provided excellent opportunities for multidisciplinary effort, bringing together biologists, chemists, engineers, geologists and other researchers. During its active phase, the group attracted much interest nationally and internationally. The group members highly appreciate the manifold contacts and invitations during the past five years.