

Journal Of Chemical Thermodynamics

This title is a revision of Experimental Thermodynamics Volume II, published in 1975, reflecting the significant technological developments and new methods introduced into the study of measurement of thermodynamic quantities. The editors of this volume were assigned the task of assembling an international team of distinguished experimentalists, to describe the current state of development of the techniques of measurement of the thermodynamic quantities of single phases. The resulting volume admirably fulfils this brief and contains a valuable summary of a large variety of experimental techniques applicable over a wide range of thermodynamic states with an emphasis on the precision and accuracy of the results obtained. Those interested in the art of measurements, and in particular engaged in the measurement of thermodynamic properties, will find this material invaluable for the guidance it provides towards the development of new and more accurate techniques. · Provides detailed descriptions of experimental chemical thermodynamic methods · Strong practical bias and includes both detailed working equations and figures for the experimental methods · Most comprehensive text in this field since the publication of Experimental Thermodynamics II

Issues in Specialized Chemical and Chemistry Topics: 2012 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Chemical Theory and Computation. The editors have built Issues in Specialized Chemical and Chemistry Topics: 2012 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Chemical Theory and Computation in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Specialized Chemical and Chemistry Topics: 2012 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Chemical Thermodynamics for Industry presents the latest developments in applied thermodynamics and highlights the role of thermodynamics in the chemical industry. Written by leading experts in the field, Chemical Thermodynamics for Industry covers the latest developments in traditional areas such as calorimetry, microcalorimetry, transport properties, crystallization, adsorption, electrolyte systems and transport fuels, It highlights newly established areas such as multiphase modeling, reactive distillation, non-equilibrium thermodynamics and spectro-calorimetry. It also explores new ways of treating old technologies as well as new and potentially important areas such as ionic liquids, new materials, ab-initia quantum chemistry, nano-particles, polymer recycling, clathrates and the economic value of applied thermodynamics. This book is aimed not only at those working in a specific area of chemical thermodynamics but also at the general chemist, the prospective researcher and those involved in funding chemical research.

Engineering and Chemical Thermodynamics

Chemical Education: Towards Research-based Practice

Chemical Thermodynamics of Materials

Biothermodynamics

Thermodynamics

The first IUPAC Manual of Symbols and Terminology for Physicochemical Quantities and Units (the Green Book) of which this is the direct successor, was published in 1969, with the object of 'securing clarity and precision, and wider agreement in the use of symbols, by chemists in different countries, among physicists, chemists and engineers, and by editors of scientific journals'. Subsequent revisions have taken account of many developments in the field, culminating in the major extension and revision represented by the 1988 edition under the simplified title Quantities, Units and Symbols in Physical Chemistry. This 2007, Third Edition, is a further revision of the material which reflects the experience of the contributors with the previous editions. The book has been systematically brought up to date and new sections have been added. It strives to improve the exchange of scientific information among the readers in different disciplines and across different nations. In a rapidly expanding volume of scientific literature where each discipline has a tendency to retreat into its own jargon this book attempts to provide a readable compilation of widely used terms and symbols from many sources together with brief understandable definitions. This is the definitive guide for scientists and organizations working across a multitude of disciplines requiring internationally approved

nomenclature.

This widely acclaimed text, now in its fifth edition and translated into many languages, continues to present a clear, simple and concise introduction to chemical thermodynamics. An examination of equilibrium in the everyday world of mechanical objects provides the starting point for an accessible account of the factors that determine equilibrium in chemical systems. This straightforward approach leads students to a thorough understanding of the basic principles of thermodynamics, which are then applied to a wide range of physico-chemical systems. The book also discusses the problems of non-ideal solutions and the concept of activity, and provides an introduction to the molecular basis of thermodynamics. Over five editions, the views of teachers of the subject and their students have been incorporated. The result is a little more rigour in specifying the dimensions within logarithmic expressions, the addition of more worked examples and the inclusion of a simple treatment of the molecular basis of thermodynamics. Students on courses in thermodynamics will continue to find this popular book an excellent introductory text./a

This book develops the theory of chemical thermodynamics from first principles, demonstrates its relevance across scientific and engineering disciplines, and shows how thermodynamics can be used as a practical tool for understanding natural phenomena and developing and improving technologies and products. Concepts such as internal energy, enthalpy, entropy, and Gibbs energy are explained using ideas and experiences familiar to students, and realistic examples are given so the usefulness and pervasiveness of thermodynamics becomes apparent. The worked examples illustrate key ideas and demonstrate important types of calculations, and the problems at the end of chapters are designed to reinforce important concepts and show the broad range of applications. Most can be solved using digitized data from open access databases and a spreadsheet. Answers are provided for the numerical problems. A particular theme of the book is the calculation of the equilibrium composition of systems, both reactive and non-reactive, and this includes the principles of Gibbs energy minimization. The overall approach leads to the intelligent use of thermodynamic software packages but, while these are discussed and their use demonstrated, they are not the focus of the book, the aim being to provide the necessary foundations. Another unique aspect is the inclusion of three applications chapters: heat and energy aspects of processing; the thermodynamics of metal production and recycling; and applications of electrochemistry. This book is aimed primarily at students of chemistry, chemical engineering, applied science, materials science, and metallurgy, though it will be also useful for students undertaking courses in geology and environmental science. A solutions manual is available for instructors.

Issues in Specialized Chemical and Chemistry Topics: 2011 Edition

Basic Chemical Thermodynamics (Fifth Edition)

Physical Chemistry: Thermodynamics

Issues in Specialized Chemical and Chemistry Topics: 2012 Edition

Quantities, Units and Symbols in Physical Chemistry

Originally published in 1923, this classic was revised and updated in the early 60s, adding material on solution thermodynamics, results in statistical mechanics, surfaces, gravitational and electromagnetic fields, more. 1961 second edition.

Thermodynamic Models for Chemical Engineering gives an overview of the main thermodynamic models used by engineers and in engineering researcher processes. These fall into two main families, equations of state and activity coefficient models. The book presents the state-of-the-art of purely predictive models. Presents a comprehensive overview of the main thermodynamic models Explains their theoretical base Gives detailed methods to estimate model parameters

*This book provides a concise overview of thermodynamics, and is written in a manner which makes the difficult subject matter understandable. Thermodynamics is systematic in its presentation and covers many subjects that are generally not dealt with in competing books such as: Carathéodory's approach to the Second Law, the general theory of phase transitions, the origin of phase diagrams, the treatment of matter subjected to a variety of external fields, and the subject of irreversible thermodynamics. The book provides a first-principles, postulational, self-contained description of physical and chemical processes. Designed both as a textbook and as a monograph, the book stresses the fundamental principles, the logical development of the subject matter, and the applications in a variety of disciplines. This revised edition is based on teaching experience in the classroom, and incorporates many exercises in varying degrees of sophistication. The stress laid on a didactic, logical presentation, and on the relation between theory and experiment should provide a reader with a more intuitive understanding of the basic principles. Graduate students and professional chemists in physical chemistry and inorganic chemistry, as well as graduate students and professionals in physics who wish to acquire a more sophisticated overview of thermodynamics and related subject matter will find this book extremely helpful. Key Features * Takes the reader through various steps to understanding: * Review of fundamentals **

*Development of subject matter * Applications in a variety of disciplines*

Fundamentals of Chemical Engineering Thermodynamics, SI Edition

Measurement of the Thermodynamic Properties of Single Phases

Chemical Thermodynamics: Advanced Applications

Chemical [i.e. Chemical] Thermodynamics, Nucleation, and Phase Transitions

Volume 2

Issues in Specialized Chemical and Chemistry Topics: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Specialized Chemical and Chemistry Topics. The editors have built Issues in Specialized Chemical and Chemistry Topics: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Specialized Chemical and Chemistry Topics in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Specialized Chemical and Chemistry Topics: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Chemical engineers face the challenge of learning the difficult concept and application of entropy and the 2nd Law of Thermodynamics. By following a visual approach and offering qualitative discussions of the role of molecular interactions, Koretsky helps them understand and visualize thermodynamics. Highlighted examples show how the material is applied in the real world. Expanded coverage includes biological content and examples, the Equation of State approach for both liquid and vapor phases in VLE, and the practical side of the 2nd Law.

Engineers will then be able to use this resource as the basis for more advanced concepts.

For those who want or need more detail, references are given to the sections in Principles and Applications where one could go to learn more about the development, limitations, and conditions where these equations apply. This is the only place where Advanced Applications ties back to the previous volume. Chapter 11 can serve as a review of the fundamental thermodynamic equations that are necessary for the more sophisticated applications described in the remainder of this book. This may be all that is necessary for the practicing scientist who has been away from the field for some time and needs some review. The remainder of this book applies thermodynamics to the description of a variety of problems. The topics covered are those that are probably of the most fundamental and broadest interest. Throughout the book, examples of "real" systems are used as much as possible. This is in contrast to many books where "generic" examples are used almost exclusively.-

Bulletin of Chemical Thermodynamics

Design, Develop, Analyse and Optimize

Transport and Rate Processes in Physical, Chemical and Biological Systems

Fundamentals and Its Application in Science

Nagra/PSI Chemical Thermodynamic Data Base 01/01

Natural phenomena consist of simultaneously occurring transport processes and chemical reactions. These processes may interact with each other and may lead to self-organized structures, fluctuations, instabilities, and evolutionary systems. Nonequilibrium Thermodynamics, Third Edition emphasizes the unifying role of thermodynamics in analyzing the natural phenomena. This third edition updates and expands on the first and second editions by focusing on the general balance equations for coupled processes of physical, chemical, and biological systems. The new edition contains a new chapter on stochastic approaches to include the statistical thermodynamics, mesoscopic nonequilibrium thermodynamics, fluctuation theory, information theory, and modeling the coupled biochemical systems in thermodynamic analysis. This new addition also comes with more examples and practice problems. Informs and updates on all the latest developments in the field Contributions from leading authorities and industry experts A useful text for seniors and graduate students from diverse engineering and science programs to analyze some nonequilibrium, coupled, evolutionary, stochastic, and dissipative processes Highlights fundamentals of equilibrium thermodynamics, transport processes and chemical reactions Expands the theory of nonequilibrium thermodynamics and its use in coupled transport processes and chemical reactions in physical, chemical, and biological systems Presents a unified analysis for transport and rate processes in various time and space scales Discusses stochastic approaches in thermodynamic analysis including fluctuation and information theories Has 198 fully solved examples and 287 practice problems An Instructor Resource containing the Solution Manual can be obtained from the author: ydemirel2@unl.edu

The Nagra/PSI Chemical Thermodynamic Data Base 01/01 is an encyclopedia of thermodynamic data recommended for environmental studies. The data base focuses on elements commonly found as major solutes in natural waters, and on actinides and fission products relevant for radioactive waste disposal projects. It is the official chemical thermodynamic data base used in Swiss radioactive waste disposal projects. The detailed discussion of every number recommended in this encyclopedia is the result of a multi man-year project of the Paul Scherrer Institut (PSI), a Swiss National Lab. The five authors of this work have many years of experience in research, data base development and the application of thermodynamic data in environmental studies. The data included for many elements are based on their reviews of the basic literature. The data base also includes additional data selected by the authors from recommendations of other experts in ground- water geochemistry and of the international data base project of the Nuclear Energy Agency (NEA). This report is indispensable for every scientist working in the field of environmental studies as the comprehensive source of information on the quality of the thermodynamic data governing particular problems in environmental geochemistry, especially those concerned with the fate of hazardous substances. This enables graduate students, researchers and consultants, as well as regulators and reviewers of scientific papers to assess the scientific basis of environmental modeling studies. The encyclopedia can be used as a stand-alone source of knowledge but ample references are provided for readers who wish to go beyond the level of discussion in the book. An electronic version of the data base and a data base management program is available for download at our homepage (<http://les.web.psi.ch/TDBbook.htm>).

This book is an excellent companion to Chemical Thermodynamics: Principles and Applications. Together they make a complete reference set for the practicing scientist. This volume extends the range of topics and applications to ones that are not usually covered in a beginning thermodynamics text. In a sense, the book covers a "middle ground" between the basic principles developed in a beginning thermodynamics textbook, and the very specialized applications that are a part of an ongoing research project. As such, it could prove invaluable to the practicing

scientist who needs to apply thermodynamic relationships to aid in the understanding of the chemical process under consideration. The writing style in this volume remains informal, but more technical than in Principles and Applications. It starts with Chapter 11, which summarizes the thermodynamic relationships developed in this earlier volume. For those who want or need more detail, references are given to the sections in Principles and Applications where one could go to learn more about the development, limitations, and conditions where these equations apply. This is the only place where Advanced Applications ties back to the previous volume. Chapter 11 can serve as a review of the fundamental thermodynamic equations that are necessary for the more sophisticated applications described in the remainder of this book. This may be all that is necessary for the practicing scientist who has been away from the field for some time and needs some review. The remainder of this book applies thermodynamics to the description of a variety of problems. The topics covered are those that are probably of the most fundamental and broadest interest. Throughout the book, examples of "real" systems are used as much as possible. This is in contrast to many books where "generic" examples are used almost exclusively. A complete set of references to all sources of data and to supplementary reading sources is included. Problems are given at the end of each chapter. This makes the book ideally suited for use as a textbook in an advanced topics course in chemical thermodynamics. An excellent review of thermodynamic principles and mathematical relationships along with references to the relevant sections in Principles and Applications where these equations are developed Applications of thermodynamics in a wide variety of chemical processes, including phase equilibria, chemical equilibrium, properties of mixtures, and surface chemistry Case-study approach to demonstrate the application of thermodynamics to biochemical, geochemical, and industrial processes Applications at the "cutting edge" of thermodynamics Examples and problems to assist in learning Includes a complete set of references to all literature sources
Journal of Chemical Thermodynamics (majalah).

Basic Theory and Methods

Macroscopic and Microscopic Aspects

Theory and Applications

Advanced Applications

Specialist Periodical Reports provide systematic and detailed review coverage of progress in the major areas of chemical research. Written by experts in their specialist fields the series creates a unique service for the active research chemist, supplying regular critical in-depth accounts of progress in particular areas of chemistry. For over 80 years the Royal Society of Chemistry and its predecessor, the Chemical Society, have been publishing reports charting developments in chemistry, which originally took the form of Annual Reports. However, by 1967 the whole spectrum of chemistry could no longer be contained within one volume and the series Specialist Periodical Reports was born. The Annual Reports themselves still existed but were divided into two, and subsequently three, volumes covering Inorganic, Organic and Physical Chemistry. For more general coverage of the highlights in chemistry they remain a 'must'. Since that time the SPR series has altered according to the fluctuating degree of activity in various fields of chemistry. Some titles have remained unchanged, while others have altered their emphasis along with their titles; some have been combined under a new name whereas others have had to be discontinued.

Chemical education is essential to everybody because it deals with ideas that play major roles in personal, social, and economic decisions. This book is based on three principles: that all aspects of chemical education should be associated with research; that the development of opportunities for chemical education should be both a continuous process and be linked to research; and that the professional development of all those associated with chemical education should make extensive and diverse use of that research. It is intended for: pre-service and practising chemistry teachers and lecturers; chemistry teacher educators; chemical education researchers; the designers and managers of formal chemical curricula; informal chemical educators; authors of textbooks and curriculum support materials; practising chemists and chemical technologists. It addresses: the relation between chemistry and chemical education; curricula for chemical education; teaching and learning about chemical compounds and chemical change; the development of teachers; the development of chemical education as a field of enquiry. This is mainly done in respect of the full range of formal education contexts (schools, universities, vocational colleges) but also in respect of informal education contexts (books, science centres and museums).

This book presents the selection of various high level contributions involving thermodynamics. The book goes from the fundamentals up to several applications in different scientific fields. The content of the book has been classified in six sections: Classical Thermodynamics, Statistical Thermodynamics, Property Prediction in Thermodynamics, Material and Products, Non Equilibrium and Thermodynamics in Diverse Areas. The classification of the book aims to provide to the reader the facility of finding the desired topic included in the book. It is expected that this collection of chapters will contribute to the state of the art in the thermodynamics area.

Ionic Liquids

Fullerene Research, 1994-1996

New Aspects for the Future

The Journal of Chemical Thermodynamics

Chemical Thermodynamics: Principles and Applications

Publisher Description

Volume 1: In this volume, the fundamental aspects of thermodynamics are presented. The first and second laws of thermodynamics are illustrated. The need to define

thermodynamic temperature and the nature of entropy are explained. The book explores the meaning of auxiliary thermodynamic functions, the origin, usefulness and use of partial molar quantities. Gaseous systems and phase equilibria, in systems where chemical reactions do not take place, are described.

A brand new book, FUNDAMENTALS OF CHEMICAL ENGINEERING THERMODYNAMICS makes the abstract subject of chemical engineering thermodynamics more accessible to undergraduate students. The subject is presented through a problem-solving inductive (from specific to general) learning approach, written in a conversational and approachable manner. Suitable for either a one-semester course or two-semester sequence in the subject, this book covers thermodynamics in a complete and mathematically rigorous manner, with an emphasis on solving practical engineering problems. The approach taken stresses problem-solving, and draws from best practice engineering teaching strategies. FUNDAMENTALS OF CHEMICAL ENGINEERING THERMODYNAMICS uses examples to frame the importance of the material. Each topic begins with a motivational example that is investigated in context to that topic. This framing of the material is helpful to all readers, particularly to global learners who require big picture insights, and hands-on learners who struggle with abstractions. Each worked example is fully annotated with sketches and comments on the thought process behind the solved problems. Common errors are presented and explained. Extensive margin notes add to the book accessibility as well as presenting opportunities for investigation. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Principles Characterizing Physical and Chemical Processes

Thermodynamic Models for Chemical Engineering

Selected Values for Inorganic and C1 and C2 Organic Substances in SI Units

Publ. Monthly

Principles and Applications

Practical Chemical Thermodynamics for Geoscientists covers classical chemical thermodynamics and focuses on applications to practical problems in the geosciences, environmental sciences, and planetary sciences. This book will provide a strong theoretical foundation for students, while also proving beneficial for earth and planetary scientists seeking a review of thermodynamic principles and their application to a specific problem. Strong theoretical foundation and emphasis on applications Numerous worked examples in each chapter Brief historical summaries and biographies of key thermodynamicists—including their fundamental research and discoveries Extensive references to relevant literature

The book is a follow-up to the computerized fullerene bibliography related to the 1985-1993 period. It is a well-indexed overview of the journal literature on a topic for which the 1996 Nobel Prize in Chemistry was awarded. It is an indispensable tool for any specialist interested in the literature of one of the most researched interdisciplinary topics in the sciences.

GAS HYDRATE IN WATER TREATMENT Explores current progress in the expanding field of gas hydrate-based desalination As potable water shortages continue to affect billions of people worldwide, seawater desalination and wastewater treatment have the potential to meet freshwater demands in the near future. Gas hydrate-based desalination, a process which requires CO₂ and water as solvent, has become an increasingly popular approach—desalination with hydrates is environmentally friendly and can produce cheaper desalted water than other existing conventional technologies. Gas Hydrate in Water Treatment: Technological, Economic, and Industrial Aspects provides detailed, up-to-date reference to the application of gas hydrates in wastewater and seawater desalination treatment. Edited by experienced researchers in the field, this comprehensive volume describes the fundamental aspects of desalination and summarizes the latest research on gas hydrate-based desalination. The authors address a broad range of key topics, including issues related to water scarcity, post-treatment of desalinated water using both conventional and new technologies, hydrate-based desalination methods driven by renewable energy sources, and more. Provides thorough coverage of the technological, waste brine management, economic, and renewable energy and remineralization aspects of gas hydrate-based wastewater treatment Describes the energetic, economic, and environmental impact of gas hydrate desalination Explains the core concepts of gas hydrate-based desalination to help readers evaluate the performance of existing desalination processes Discusses the advantages and challenges of hydrate-based water treatment Compares conventional and gas hydrate technologies used in water treatment Reviews the most recent research in gas hydrate-based desalination Gas Hydrate in Water Treatment: Technological, Economic, and Industrial Aspects is an essential resource for all academics, researchers, process engineers, designers, industry professionals, and advanced students in the field.

Chemical Thermodynamics

The Bases of Chemical Thermodynamics

A Computer-generated Cross-indexed Bibliography of the Journal Literature

Thermochemistry

Special Issue Honoring Professor Manuel Ribeiro Da Silva

This is a new undergraduate textbook on physical chemistry by Horia Metiu published as four separate paperback volumes. These four volumes on physical chemistry combine a clear and thorough presentation of the theoretical and mathematical aspects of the subject with examples and applications drawn from current industrial and academic research. By using the computer to solve problems that include actual experimental data, the author is able to cover the subject matter at a practical level. The books closely integrate the theoretical chemistry being taught with industrial and laboratory practice. This approach enables the student to compare theoretical projections with experimental results, thereby providing a realistic grounding for future practicing chemists and engineers. Each volume of Physical Chemistry includes Mathematica \rightarrow and Mathcad \rightarrow Workbooks on CD-ROM. Metiu's four separate volumes-Thermodynamics, Statistical Mechanics, Kinetics, and Quantum Mechanics-offer built-in flexibility by allowing the subject to be covered in any order. These textbooks can be used to teach physical chemistry without a computer, but the experience is enriched substantially for those students who do learn how to read and write Mathematica \rightarrow or Mathcad \rightarrow programs. A TI-89 scientific calculator can be used to solve most of the exercises and problems.

Chemical Thermodynamics: Principles and Applications presents a thorough development of the principles of thermodynamics--an old science to which the authors include the most modern applications,

along with those of importance in developing the science and those of historical interest. The text is written in an informal but rigorous style, including anecdotes about some of the great thermodynamicists (with some of whom the authors have had a personal relationship), and focuses on "real" systems in the discussion and figures, in contrast to the generic examples that are often used in other textbooks. The book provides a basic review of thermodynamic principles, equations, and applications of broad interest. It covers the development of thermodynamics as one of the pre-eminent examples of an exact science. A discussion of the standard state that emphasizes its significance and usefulness is also included, as well as a more rigorous and indepth treatment of thermodynamics and discussions of a wider variety of applications than are found in more broadly based physical chemistry undergraduate textbooks. Combined with its companion book, Chemical Thermodynamics: Advanced Applications, the practicing scientist will have a complete reference set detailing chemical thermodynamics. Outlines the development of the principles of thermodynamics, including the most modern applications along with those of importance in developing the science and those of historical interest Provides a basic review of thermodynamic principles, equations, and applications of broad interest Treats thermodynamics as one of the preeminent examples of an exact science Provides a more rigorous and indepth treatment of thermodynamics and discussion of a wider variety of applications than are found in more broadly based physical chemistry undergraduate textbooks Includes examples in the text and exercises and problems at the end of each chapter to assist the student in learning the subject Provides a complete set of references to all sources of data and to supplementary reading sources

A comprehensive introduction, examining both macroscopic and microscopic aspects of the subject, the book applies the theory of thermodynamics to a broad range of materials; from metals, ceramics and other inorganic materials to geological materials. Focusing on materials rather than the underlying mathematical concepts of the subject, this book will be ideal for the non-specialist requiring an introduction to the energetics and stability of materials. Macroscopic thermodynamic properties are linked to the underlying microscopic nature of the materials and trends in important properties are discussed. A unique approach covering both macroscopic and microscopic aspects of the subject Authors have worldwide reputations in this area Fills a gap in the market by featuring a wide range of real up-to-date examples and covering a large amount of materials

Thermodynamics of Sustainable Processes

Gas Hydrate in Water Treatment

Technological, Economic, and Industrial Aspects

Practical Chemical Thermodynamics for Geoscientists

The NBS Tables of Chemical Thermodynamic Properties

Concerns with ionic liquids are one of the most interesting and rapidly developing areas in modern physical chemistry, materials science, technologies, and engineering. Increasing attention has also been paid to the use of ionic liquids in the research fields of biological aspects and natural resources. This book provides the forum for dissemination and exchange of up-to-date scientific information on theoretical, generic, and applied areas of ionic liquids. It, therefore, tends to review recent progresses in ionic liquid research on fundamental properties, solvents and catalysts in organic reactions, biological applications, providing energies and fuels, biomass conversions, functional materials, and other applications. I trust that this book will provide an active source of information for research in ionic liquid science and engineering.

Reflecting the growing volume of published work in this field, researchers will find this book an invaluable source of information on current methods and applications.

Special Issue

Chemical Thermodynamics for Industry

Nonequilibrium Thermodynamics