

Crc Handbook Of Chemistry And Physics 91st Edition

Proudly serving the scientific community for over a century, this 96th edition of the CRC Handbook of Chemistry and Physics is an update of a classic reference, mirroring the growth and direction of science. This venerable work continues to be the most accessed and respected scientific reference in the world. An authoritative resource consisting of tables of data and current international recommendations on nomenclature, symbols, and units, its usefulness spans not only the physical sciences but also related areas of biology, geology, and environmental science. The 96th edition of the Handbook includes 18 new or updated tables along with other updates and expansions. A new series highlighting the achievements of some of the major historical figures in chemistry and physics was initiated with the 94th edition. This series is continued with this edition, which is focused on Lord Kelvin, Michael Faraday, John Dalton, and Robert Boyle. This series, which provides biographical information, a list of major achievements, and notable quotations attributed to each of the renowned chemists and physicists, will be continued in succeeding editions. Each edition will feature two chemists and two physicists. The 96th edition now includes a complimentary eBook with purchase of the print version. This reference puts physical property data and mathematical formulas used in labs and classrooms every day within easy reach. New Tables: Section 1: Basic Constants, Units, and Conversion Factors Descriptive Terms for Solubility Section 8: Analytical Chemistry Stationary Phases for Porous Layer Open Tubular Columns Coolants for Cryotrapping Instability of HPLC Solvents Chlorine-Bromine Combination Isotope Intensities Section 16: Health and Safety Information Materials Compatible with and Resistant to 72 Percent Perchloric Acid Relative Dose Ranges from Ionizing Radiation Updated and Expanded Tables Section 6: Fluid Properties Sublimation Pressure of Solids Vapor Pressure of Fluids at Temperatures Below 300 K Section 7: Biochemistry Structure and Functions of Some Common Drugs Section 9: Molecular Structure and Spectroscopy Bond Dissociation Energies Section 11: Nuclear and Particle Physics Summary Tables of Particle Properties Table of the Isotopes Section 14: Geophysics, Astronomy, and Acoustics Major World Earthquakes Atmospheric Concentration of Carbon Dioxide, 1958-2014 Global Temperature Trend, 1880-2014 Section 15: Practical Laboratory Data Dependence of Boiling Point on Pressure Section 16: Health and Safety Information Threshold Limits for Airborne Contaminants

Proudly serving the scientific community for over a century, this 95th edition of the CRC Handbook of Chemistry and Physics is an update of a classic reference, mirroring the growth and direction of science. This venerable work continues to be the most accessed and respected scientific reference in the world. An authoritative resource consisting of tables of data and current international recommendations on nomenclature, symbols, and units, its usefulness spans not only the physical sciences but also related areas of biology, geology, and environmental science. The 95th Edition of the Handbook includes 22 new tables and major updates and expansions. A new series highlighting the achievements of some of the major historical figures in chemistry and physics was initiated with the 94th edition. This series is continued with this edition, which is focused on Galileo Galilei, James Clerk Maxwell, Marie Sklodowska Curie, and Linus Carl Pauling. This series, which provides biographical information, a list of major achievements, and notable quotations attributed to each of the renowned chemists and physicists, will be continued in succeeding editions. Each edition will feature two chemists and two physicists. Available in traditional print format, as an eBook, and online, this reference puts physical property data and mathematical formulas used in labs and classrooms every day within easy reach. New tables: Section 8: Analytical Chemistry Figures of Merit Common Symbols Used in Gas and Liquid Chromatographic Schematic Diagrams Varieties of Hyphenated Gas Chromatography with Mass Spectrometry Section 15: Practical Laboratory Data Standard Fittings for Compressed Gas Cylinders Plug and Outlet Configurations for Common Laboratory Devices Section 16: Health and Safety Information Abbreviations Used in the Assessment and Presentation of Laboratory Hazards Incompatible Chemicals Explosion (Shock) Hazards Water-Reactive Chemicals Testing Requirements for Peroxidizable Compounds Tests for the Presence of Peroxides Pyrophoric Compounds - Compounds That Are Reactive with Air Flammability Hazards of Common Solvents Selection of Laboratory Gloves Selection of Respirator Cartridges and Filters Selection of Protective Laboratory Garments Protective Clothing Levels Chemical Fume Hoods and Biological Safety Cabinets Gas Cylinder Safety and Stamped Markings Laser Hazards in the Laboratory General Characteristics of Ionizing Radiation for the Purpose of Practical Application of Radiation Protection Radiation Safety Units Significantly updated and expanded tables: Section 1: Basic Constants, Units, and Conversion Factors Update of Standard Atomic Weights (2013) Update of Atomic Masses and Abundances Section 8: Analytical Chemistry Expansion of Abbreviations and Symbols Used in Analytical Chemistry Section 9: Molecular Structure and Spectroscopy Update of Bond Dissociation Energies Section 12: Properties of Solids Major update and Expansion of Electron Stopping Powers Section 14: Geophysics, Astronomy, and Acoustics Major Update of Interstellar Molecules Update of Atmospheric Concentration of Carbon Dioxide, 1958-2013 Update of Global Temperature Trend, 1880-2013 Section 15: Practical Laboratory Data Major update of Reference Points on the ITS-90 Temperature Scale Update of Laboratory Solvents and Other Liquid Reagents Section 16: Health and Safety Information Update of Flammability of Chemical Substances Update of Threshold Limits for Airborne Contaminants to 2013 values Appendix B: Update of Sources of Physical and Chemical Data
The CRC Handbook of Enthalpy Data of Polymer-Solvent Systems presents data that is as essential to the production, process design, and use of polymers as it is to understanding the physical behavior and intermolecular interactions in polymer solutions and in developing thermodynamic polymer models. Providing an all-encompassing collection
CRC Handbook of Chemistry and Physics Online

Data-Driven Methods and Interpretation

This student edition features over 50 new or completely revised tables, most of which are in the areas of fluid properties and properties of solids. The book also features extensive references to other compilations and databases that contain additional information.

CRC Handbook of Chemistry and Physics, 96th EditionCRC Press

Celebrating the 100th anniversary of the CRC Handbook of Chemistry and Physics, this 94th edition is an update of a classic reference, mirroring the growth and direction of science for a century. The Handbook continues to be the most accessed and respected scientific reference in the science, technical, and medical communities. An authoritative resource consisting of tables of data, its usefulness spans every discipline. Originally a 116-page pocket-sized book, known as the Rubber Handbook, the CRC Handbook of Chemistry and Physics comprises 2,600 pages of critically evaluated data. An essential resource for scientists around the world, the Handbook is now available in print, eBook, and online formats. New tables: Section 7: Biochemistry Properties of Fatty Acid Methyl and Ethyl Esters Related to Biofuels Section 8: Analytical Chemistry Gas Chromatographic Retention Indices Detectors for Liquid Chromatography Organic Analytical Reagents for the Determination of Inorganic Ions Section 12: Properties of Solids Properties of Selected Materials at Cryogenic Temperatures Significantly updated and expanded tables: Section 3: Physical Constants of Organic Compounds Expansion of Diamagnetic Susceptibility of Selected Organic Compounds Section 5: Thermochemistry, Electrochemistry, and Solution Chemistry Update of Electrochemical Series Section 6: Fluid Properties Expansion of Thermophysical Properties of Selected Fluids at Saturation Major expansion and update of Viscosity of Liquid Metals Section 7: Biochemistry Update of Properties of Fatty Acids and Their Methyl Esters Section 8: Analytical Chemistry Major expansion of Abbreviations and Symbols Used in Analytical Chemistry Section 9: Molecular Structure and Spectroscopy Update of Bond Dissociation Energies Section 11: Nuclear and Particle Physics Update of Summary Tables of Particle Properties Section 14: Geophysics, Astronomy, and Acoustics Update of Atmospheric Concentration of Carbon Dioxide, 1958-2012 Update of Global Temperature Trend, 1880-2012 Major update of Speed of Sound in Various Media Section 15: Practical Laboratory Data Update of Laboratory Solvents and Other Liquid Reagents Major update of Density of Solvents as a Function of Temperature Major update of Dependence of Boiling Point on Pressure Section 16:

Health and Safety Information Major update of Threshold Limits for Airborne Contaminants Appendix A: Major update of Mathematical Tables Appendix B: Update of Sources of Physical and Chemical Data

Handbook of Chemistry and Physics

A Ready-Reference Book of Chemical and Physical Data

Crc Handbook of Chemistry and Physics

Up-to-Date Coverage of All Chemical Engineering Topics—from the Fundamentals to the State of the Art Now in its 85th Anniversary Edition, this industry-standard resource has equipped generations of engineers and chemists with vital information, data, and insights. Thoroughly revised to reflect the latest technological advances and processes, Perry's Chemical Engineers' Handbook, Ninth Edition, provides unsurpassed coverage of every aspect of chemical engineering. You will get comprehensive details on chemical processes, reactor modeling, biological processes, biochemical and membrane separation, process and chemical plant safety, and much more. This fully updated edition covers: Unit Conversion Factors and Symbols • Physical and Chemical Data including Prediction and Correlation of Physical Properties • Mathematics including Differential and Integral Calculus, Statistics , Optimization • Thermodynamics • Heat and Mass Transfer • Fluid and Particle Dynamics •Reaction Kinetics • Process Control and Instrumentation• Process Economics • Transport and Storage of Fluids • Heat Transfer Operations and Equipment • Psychrometry, Evaporative Cooling, and Solids Drying • Distillation • Gas Absorption and Gas-Liquid System Design • Liquid-Liquid Extraction Operations and Equipment • Adsorption and Ion Exchange • Gas-Solid Operations and Equipment • Liquid-Solid Operations and Equipment • Solid-Solid Operations and Equipment •Chemical Reactors • Bio-based Reactions and Processing • Waste Management including Air, Wastewater and Solid Waste Management* Process Safety including Inherently Safer Design • Energy Resources, Conversion and Utilization* Materials of Construction

From science fair entrants to Nobel laureates, researchers around the world depend upon having access to authoritative, up-to-date data. And for nearly 90 years, they have relied on the CRC Handbook of Chemistry and Physics for that data. This year is no exception. New tables, extensive updates, and added sections mean the Handbook has once again set a new standard for reliability, utility, and thoroughness. Outstanding features of the 83rd edition: Standard Thermodynamic Properties of Chemical Substances-Thoroughly revised with new substances and updated values Ionization constants for buffers used in biological research-Definitive data that allow the correct interpretation of experiments Directory of Physical and Chemical Data Sources-A selective listing of the most reliable sources of physical and chemical properties data, including data journals, data centers, major handbooks, and Internet sites Atomic weights-Updated with the latest changes adopted by IUPAC in 2001 Other refinements and new topics include: Atomic and Molecular Polarizabilities Updated Characteristic Bond Lengths in Free Molecules New! Correction of Barometer Readings to 0°C Temperature New! Electron Affinities Updated Eutectic Temperatures of Low-Melting Alloys New! Nuclear Spins and Moments for NMR Spectroscopy Updated Permittivity of Water as a Function of Temperature and Pressure New! Sensitivity of the Human Eye to Light of Different Wavelengths New! Thermodynamic Functions and Relations New! Vapor Pressure of Mercury New! Viscosity and Density of Concentrated Hydroxide Solutions New! Viscosity of Liquid Metals New!

The CRC Handbook of Chemistry and Physics, 89th Edition continues to offer the most authoritative, up-to-date data to scientists around the world. This edition contain revisions, updates, and expansions as well as ten new tables of data on molecular structure, biochemistry, environmental issues, material properties, and more. Major revisions include newly approved fundamental physical constants, properties of fatty acids, bond dissociation energies, and molecular structures of free molecules. New tables include Energy Content of Fuels, Global Warming Potential of Greenhouse Gases, Weather-Related Scales, Index of Refraction of Gases, Molecular Internal Rotation, Atomic Radii of Elements, Composition and Properties of Various Natural Oils and Fats, Melting Curve of Mercury, Properties of Gas Clathrate Hydrates, Enthalpy of Hydration of Gases, and Properties of Graphite and Nanotubes.

CRC Handbook of Chemistry and Physics, 96th Edition

CRC Handbook of Basic Tables for Chemical Analysis

CRC handbook of chemistry and physics : a ready-reference book of chemical and physical data

Get a FREE first edition facsimile with each copy of the 85th! Researchers around the world depend upon having access to authoritative, up-to-date data. And for more than 90 years, they have relied on the CRC Handbook of Chemistry and Physics for that data. This year is no exception. New tables, extensive updates, and added sections mean the Handbook has again set a new standard for reliability, utility, and thoroughness. This edition features a Foreword by world renowned neurologist and author Oliver Sacks, a free facsimile of the 1913 first edition of the Handbook, and thumb tabs that make it easier to locate particular data. New tables in this edition include: Index of Refraction of Inorganic Crystals Upper and Lower Azeotropic Data for Binary Mixtures Critical Solution Temperatures of Polymer Solutions Density of Solvents as a Function of Temperature By popular request, several tables omitted from recent editions are back, including Coefficients of Frictionand Miscibility of Organic Solvents. Ten other sections have been substantially revised, with some, such as the Table of the Isotopes and Thermal Conductivity of Liquids, significantly expanded. The Fundamental Physical Constants section has been updated with the latest CODATA/NIST values, and the Mathematical Tables appendix now features several new sections covering topics that include orthogonal polynomials Clebsch-Gordan coefficients, and statistics.

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High Quality Science requires High Quality Data! Today, more than ever, the CRC Handbook of Chemistry and Physics is critical in ensuring that researchers, educators, and students have the highest quality data for chemical compounds and physical particles. Available both in print and online, the Handbook covers 390 chemistry, physics, and related subjects organized in easy-to-find, well-organized tables. Every year, new reported data and new scientific areas are added, making the Handbook the largest comprehensive physical science data source available anywhere. Handbook features include: All data reviewed and evaluated by subject matter experts Standardized chemical names, structures, property names, and property units Important information on subjects such as chemical and laboratory safety, and nomenclature Chemical and physical data critical for fields such as environmental science, bio-medical chemistry, organic and inorganic chemistry, materials innovation, geo- and astrophysics, and solid-state science Digital tools in our Online Edition to analyze, graph, process, and exploit our data content

A Ready-reference Book of Chemical and Physical Data

CRC Handbook of Chemistry and Physics, 94th Edition

CRC Handbook of Chemistry and Physics, 86th Edition

The latest edition of the world's most popular scientific reference features tables and reference sections on everything from the Periodic Table to the bond lengths in organometallic compounds. Featuring the latest facts and figures, the CRC Handbook of Chemistry and Physics contains all the most frequently used data in science. Topics new in the 82nd edition: Redox data on biochemical compounds Surface tension of common compounds with water as a function of concentration Viscosity of carbon dioxide Optical properties of materials such as binary semiconductors Interstellar molecules Radio frequency allocations Tables updated in the 82nd edition: Physical Constants of Inorganic Compounds-expanded by 15% Critical temperatures and pressures of fluids Solubility of organic compounds in water Atomic weights and natural abundances of isotopes-latest official recommendation from IUPAC Polymer nomenclature Threshold limits for airborne pollutants Chemical carcinogens

Researchers in chemistry, chemical engineering, pharmaceutical science, forensics, and environmental science make routine use of chemical analysis, but the information these researchers need is often scattered in different sources and difficult to access. The CRC Handbook of Basic Tables for Chemical Analysis: Data-Driven Methods and Interpretation, Fourth Edition is a one-stop reference that presents updated data in a handy format specifically designed for use when reaching a decision point in designing an analysis or interpreting results. This new edition offers expanded coverage of calibration and uncertainty, and continues to include the critical information scientists rely on to perform accurate analysis. Enhancements to the Fourth Edition: Compiles a huge array of useful and important data into a single, convenient source Explanatory text provides context for data and guidelines on applications Coalesces information from several different fields Provides information on the most useful "wet" chemistry methods as well as instrumental techniques, with an expanded discussion of laboratory safety Contains information of historical importance necessary to interpret the literature and understand current methodology. Unmatched in its coverage of the range of information scientists need in the lab, this resource will be referred to again and again by practitioners who need quick, easy access to the data that forms the basis for experimentation and analysis.

Continues to be the most accurate, reliable and current resource available on data needed by chemists, physicists and engineers. It provides wide coverage of data on properties of inorganic and organic compounds. Some of the most heavily used tables were recently updated and expanded including: Physical Properties of Inorganic Compounds; Enthalpy of Fusion; Bond Dissociation Energies; Table of the Isotopes; Inorganic Ion and Ligand Nomenclature; Chemical Carcinogens; and Global Temperature Trends for the past 150 years.

CRC Handbook of Chemistry and Physics, 90th Edition

CRC Handbook of Chemistry and Physics, 85th Edition

Handbook of Chemistry and Physics. CRC Handbook of Chemistry and Physics

Mirroring the growth and direction of science for a century, the CRC Handbook of Chemistry and Physics, now in its 91st edition, continues to be the most accessed and respected scientific reference in the world, used by students and Nobel Laureates. Available in its traditional print format, the Handbook is also available as an innovative interactive product on CD-ROM and online. This year's edition adds many new tables and major revisions ... For the electronic version of the Handbook, go to the CRC Handbook of Chemistry and Physics, CD-ROM 2010 NEW AND UPDATED TABLES FOR THIS EDITION Section 6: Fluid Properties -- New tables on thermophysical properties of selected fluids at saturation and on the dependence of liquid density on temperature and pressure -- Major updates for tables on the density of water and properties of ice and D2O -- Major update and expansion of the table on critical constants of organic compounds Section 8: Analytical Chemistry -- Major updates for tables on the ionization constants of water and heavy water Section 9: Molecular Structure and Spectroscopy -- Updates for tables on atomic radii of the elements, bond dissociation energies, and spectroscopic constants of diatomic molecules Section 10: Atomic, Molecular Structure and Spectroscopy -- Major update for the table on atomic transition probabilities (added new elements) and updates for tables on electron affinities and atomic and molecular polarizabilities Section 12: Properties of Solids -- New table on electron stopping powers of elements Section 13: Polymer Properties -- New tables on abbreviations in polymer science and on physical properties of polymers The benchmark of scientific reference since the days of Einstein, Eddington, and Planck, no book is held to a higher standard than the Handbook of Chemistry and Physics. Perpetually vetted for misspellings, miscalculations, misperceptions, and misnomers, it is republished every year, so no mistake needs to be long abided, no enhancement long awaited. The job of editing the Handbook requires not only one who is relentless, driven to perpetually push the level of accuracy one more decimal point, but also one who is humble enough and smart enough to understand that the Handbook, like science itself, is a living, changing thing, and that it is both a record of achievement and a foundation for further improvement of that record. Until this year, the Handbook has been guided through 90 editions by just four editors. The last, David Lide, guided the book through 20 editions. Perhaps most importantly, Dr. Lide guided the Handbook into the electronic age, overseeing the creation and the continual improvement of interactive web and CD versions that have now become staples in every research library of note.

Mirroring the growth and direction of science for nearly a century, the CRC Handbook of Chemistry and Physics, now in its 90th edition, adds several new tables that will be among the most accessed in the world. These include Structure and Functions of Common Drugs, Solubility Parameters of Polymers, Major World Earthquakes, and Equilibrium Constants of Selected Enzyme Reactions. It adds major updates to several more, including Threshold Limits for Airborne Contaminants, Mass Spectral Peaks of Common Organic Solvents, and Properties of the Solar System. It also adds a table of the Handbook's greatest fans: Nobel Laureates in Chemistry and Physics.

For more than 90 years, researchers around the world have relied on the CRC Handbook of Chemistry and Physics for authoritative, up-to-date data. This year will be no exception. New tables, extensive updates, and added sections mean the Handbook again sets a new standard for reliability, utility, and thoroughness. This Edition includes seven new tables: Vapor Pressure of the Metallic Elements Electrical Conductivity of Aqueous Solutions Proton Affinities Electron Inelastic Mean Free Paths Selected Properties of Semiconductor Solid Solutions Vapor Pressures (Solvent Activities) for Binary Polymer Solutions Density of Sulfuric Acid Substantial revisions and extensive updates of more than 20 tables including: NIST Atomic Transition Probability Tables Summary Tables of Particle Properties Threshold Limits for Airborne Contaminants Bond Dissociation Energy Standard Transformed Gibbs Energy of Formation for Important Biochemical Species Sources of Physical and Chemical Data appendix And more! The 86th Edition also marks a fresh look for the Handbook. A larger format and new layout makes it easier to read and a new typeface makes the tables and diagrams crystal clear.

CRC Handbook

CRC Handbook of Chemistry and Physics, 91st Edition

CRC Handbook of Chemistry and Physics, 83rd Edition

Provides chemical and physical data

Mirroring the growth and direction of science for a century, the CRC Handbook of Chemistry and Physics, now in its 92nd edition, continues to be the most accessed and respected scientific reference in the world, used by students and Nobel Laureates. Available in its traditional print format, the Handbook is also available as an innovative interactive product on DVD and online. Among a wealth of enhancements, this edition analyzes, updates, and validates molecular formulas and weights, boiling and melting points, densities, and refractive indexes in the Physical Constants of Organic Compounds Table through comparisons with critically evaluated data from the NIST Thermodynamics Research Center. New Tables: Analytical Chemistry Abbreviations Used In Analytical Chemistry Basic Instrumental Techniques of Analytical Chemistry Correlation Table for Ultraviolet Active Functionalities Detection of Outliers in Measurements Polymer Properties Second Virial Coefficients of Polymer Solutions Updated Tables: Properties of the Elements and Inorganic Compounds Update of the Melting, Boiling, Triple, and Critical Points of the Elements Fluid Properties Major update and expansion of Viscosity of Gases table Major update and expansion of Thermal Conductivity of Gases table Major update of Properties of Cryogenic Fluids Major update of Recommended Data for Vapor-Pressure Calibration Expansion of table on the Viscosity of Liquid Metals Update of Permittivity (Dielectric Constant) of Gases table Added new refrigerant R-1234yf to Thermophysical Properties of Selected Fluids at Saturation table Molecular Structure and Spectroscopy Major update of Atomic Radii of the Elements Update of Bond Dissociation Energies Update of Characteristic Bond Lengths in Free Molecules Atomic, Molecular, and Optical Physics Update of Electron Affinities Update of Atomic and Molecular Polarizabilities Nuclear and Particle Physics Major update of the Table of the Isotopes Properties of Solids Major update and expansion of the Electron Inelastic Mean Free Paths table Update of table on Semiconducting Properties of Selected Materials Geophysics, Astronomy, and Acoustics Update of the Global Temperature Trend table to include 2010 data Health and Safety Information Major update of Threshold Limits for Airborne Contaminants The Handbook is also available as an eBook.

The CRC Handbook of Chemistry and Physics, 98th Edition is an update of a classic reference. The 98th Edition contains several new features including, but not limited to - a major update to the table of isotopes, the first major compilation of high quality data of protein-ligand binding thermodynamics, and an important new collection of NMR data critical for understanding outcomes of organic syntheses. Plus, twelve lists have been updated such as, the physical properties of organic compounds and the latest experimental values of bond dissociation energies. Building on the new feature first introduced in the 94th edition, four historical figures in science will be honored on the end plates.

Perry's Chemical Engineers' Handbook, 9th Edition

CRC handbook of chemistry and physics

A Ready-reference Pocket Book of Chemical and Physical Data