Manual For Acgih Industrial Ventilation 24th Edition 2001

Environmental issues, global warming, pollution, and chemical dumping, are ever present in the news. But what about the health problems these issues pose? Frank Spellman and Melissa Stoudt identify the hazardous environmental issues and explain the science behind the dangers to our health in a clear and accessible style. They not only address the environmental issues, but also the practices that support and harm the human life and population. Lastly, they identify and offer possible solutions to controlling the factors that harm our health.

Over 2,900 total pages ... Contains the following publications: 1. NAVY SAFETY AND OCCUPATIONAL HEALTH PROGRAM MANUAL 2. NAVY SAFETY AND OCCUPATIONAL HEALTH (SOH) PROGRAM MANUAL FOR FORCES AFLOAT 3. DEPARTMENT OF THE NAVY (DON) FALL-PROTECTION GUIDE 4. Air Force Consolidated Occupational Safety Instruction 5. U.S. Army Corps of Engineers SAFETY AND HEALTH REQUIREMENTS

Over 19,000 total pages ... Public Domain U.S. Government published manual: Numerous illustrations and matrices. Published in the 1990s and after 2000. TITLES and CONTENTS: ELECTRICAL SCIENCES - Contains the following manuals: Electrical Science, Vol 1 - Electrical Science, Vol 2 - Electrical Science, Vol 3 - Electrical Science, Vol 4 - Thermodynamics, Heat Transfer, And Fluid Flow, Vol 1 - Thermodynamics, Heat Transfer, And Fluid Flow, Vol 2 - Thermodynamics, Heat Transfer, And Fluid Flow, Vol 3 - Instrumentation And Control, Vol 1 - Instrumentation And Control, Vol 2 Mathematics, Vol 1 - Mathematics, Vol 2 - Chemistry, Vol 1 - Chemistry, Vol 2 - Engineering Symbology, Prints, And Drawings, Vol 1 - Engineering Symbology, Prints, And Drawings, Vol 2 - Material Science, Vol 1 - Material Science, Vol 2 - Mechanical Science, Vol 1 - Mechanical Science, Vol 2 - Nuclear Physics And Reactor Theory, Vol 1 - Nuclear Physics And Reactor Theory, Vol 2. CLASSICAL PHYSICS - The Classical Physics Fundamentals includes information on the units used to measure physical properties; vectors, and how they are used to show the net effect of various forces; Newton's Laws of motion, and how to use these laws in force and motion applications; and the concepts of energy, work, and power, and how to measure and calculate the energy involved in various applications. * Scalar And Vector Quantities * Vector Identification * Vectors: Resultants And Components * Graphic Method Of Vector Addition * Component Addition Method * Analytical Method Of Vector Addition * Newton's Laws Of Motion * Momentum Principles * Force And Weight * Free-Body Diagrams * Force Equilibrium * Types Of Force * Energy And Work * Law Of Conservation Of Energy * Power – ELECTRICAL SCIENCE: The Electrical Science Fundamentals Handbook includes information on alternating current (AC) and direct current (DC) theory, circuits, motors, and generators; AC power and reactive components; batteries; AC and DC voltage regulators; transformers; and electrical test instruments and measuring devices. * Atom And Its Forces * Electrical Terminology * Units Of Electrical Measurement * Methods Of Producing Voltage (Electricity) * Magnetism * Magnetic Circuits * Electrical Symbols * DC Sources * DC Circuit Terminology * Basic DC Circuit Calculations * Voltage Polarity And Current Direction * Kirchhoff's Laws * DC Circuit Analysis * DC Circuit Faults * Inductance * Capacitance * Battery Terminology * Battery Theory * Battery Operations * Types Of Batteries * Battery Hazards * DC Equipment Terminology * DC Equipment Construction * DC Generator Theory * DC Generator Construction * DC Motor Theory * Types Of DC Motors * DC Motor Operation * AC Generation * AC Generation Analysis * Inductance * Capacitance * Impedance * Resonance * Power Triangle * Three-Phase Circuits * AC Generator Components * AC Generator Theory * AC Generator Operation * Voltage Regulators * AC Motor Theory * AC Motor Types * Transformer Theory * Transformer Types * Meter Movements * Voltmeters * Ammeters * Ohm Meters *

Wattmeters * Other Electrical Measuring Devices * Test Equipment * System Components And Protection Devices * Circuit Breakers * Motor Controllers * Wiring Schemes And Grounding THERMODYNAMICS, HEAT TRANSFER AND FLUID FUNDAMENTALS. The Thermodynamics, Heat Transfer, and Fluid Flow Fundamentals Handbook includes information on thermodynamics and the properties of fluids; the three modes of heat transfer - conduction, convection, and radiation; and fluid flow, and the energy relationships in fluid systems. * Thermodynamic Properties * Temperature And Pressure Measurements * Energy, Work, And Heat * Thermodynamic Systems And Processes * Change Of Phase * Property Diagrams And Steam Tables * First Law Of Thermodynamics * Second Law Of Thermodynamics * Compression Processes * Heat Transfer Terminology * Conduction Heat Transfer * Convection Heat Transfer * Radiant Heat Transfer * Heat Exchangers * Boiling Heat Transfer * Heat Generation * Decay Heat * Continuity Equation * Laminar And Turbulent Flow * Bernoulli's Equation * Head Loss * Natural Circulation * Two-Phase Fluid Flow * Centrifugal Pumps INSTRUMENTATION AND CONTROL. The Instrumentation and Control Fundamentals Handbook includes information on temperature, pressure, flow, and level detection systems; position indication systems; process control systems; and radiation detection principles. * Resistance Temperature Detectors (Rtds) * Thermocouples * Functional Uses Of Temperature Detectors * Temperature Detection Circuitry * Pressure Detectors * Pressure Detector Functional Uses * Pressure Detection Circuitry * Level Detectors * Density Compensation * Level Detection Circuitry * Head Flow Meters * Other Flow Meters * Steam Flow Detection * Flow Circuitry * Synchro Equipment * Switches * Variable Output Devices * Position Indication Circuitry * Radiation Detection Terminology * Radiation Types * Gas-Filled Detector * Detector Voltage * Proportional Counter * Proportional Counter Circuitry * Ionization Chamber * Compensated Ion Chamber * Electroscope Ionization Chamber * Geiger-Müller Detector * Scintillation Counter * Gamma Spectroscopy * Miscellaneous Detectors * Circuitry And Circuit Elements * Source Range Nuclear Instrumentation * Intermediate Range Nuclear Instrumentation * Power Range Nuclear Instrumentation * Principles Of Control Systems * Control Loop Diagrams * Two Position Control Systems * Proportional Control Systems * Reset (Integral) Control Systems * Proportional Plus Reset Control Systems * Proportional Plus Rate Control Systems * Proportional-Integral-Derivative Control Systems * Controllers * Valve Actuators MATHEMATICS The Mathematics Fundamentals Handbook includes a review of introductory mathematics and the concepts and functional use of algebra, geometry, trigonometry, and calculus. Word problems, equations, calculations, and practical exercises that require the use of each of the mathematical concepts are also presented. * Calculator Operations * Four Basic Arithmetic Operations * Averages * Fractions * Decimals * Signed Numbers * Significant Digits * Percentages * Exponents * Scientific Notation * Radicals * Algebraic Laws * Linear Equations * Quadratic Equations * Simultaneous Equations * Word Problems * Graphing * Slopes * Interpolation And Extrapolation * Basic Concepts Of Geometry * Shapes And Figures Of Plane Geometry * Solid Geometric Figures * Pythagorean Theorem * Trigonometric Functions * Radians * Statistics * Imaginary And Complex Numbers * Matrices And Determinants * Calculus CHEMISTRY The Chemistry Handbook includes information on the atomic structure of matter; chemical bonding; chemical equations; chemical interactions involved with corrosion processes; water chemistry control, including the principles of water treatment; the hazards of chemicals and gases, and basic gaseous diffusion processes. * Characteristics Of Atoms * The Periodic Table * Chemical Bonding * Chemical Equations * Acids, Bases, Salts, And Ph * Converters * Corrosion Theory * General Corrosion * Crud And Galvanic Corrosion * Specialized Corrosion * Effects Of Radiation On Water Chemistry (Synthesis) * Chemistry Parameters * Purpose Of Water Treatment * Water Treatment Processes * Dissolved Gases, Suspended Solids, And Ph Control * Water Purity * Corrosives (Acids And Alkalies) * Toxic Compound * Compressed Gases * Flammable And Combustible Liquids ENGINEERING SYMBIOLOGY, The Engineering Symbology, Prints, and Drawings Handbook includes

information on engineering fluid drawings and prints; piping and instrument drawings; major symbols and conventions; electronic diagrams and schematics; logic circuits and diagrams; and fabrication, construction, and architectural drawings. * Introduction To Print Reading * Introduction To The Types Of Drawings, Views, And Perspectives * Engineering Fluids Diagrams And Prints * Reading Engineering P&Ids * P&Id Print Reading Example * Fluid Power P&Ids * Electrical Diagrams And Schematics * Electrical Wiring And Schematic Diagram Reading Examples * Electronic Diagrams And Schematics * Examples * Engineering Logic Diagrams * Truth Tables And Exercises * Engineering Fabrication, Construction, And Architectural Drawings * Engineering Fabrication, Construction, And Architectural Drawing, Examples MATERIAL SCIENCE. The Material Science Handbook includes information on the structure and properties of metals, stress mechanisms in metals, failure modes, and the characteristics of metals that are commonly used in DOE nuclear facilities. * Bonding * Common Lattice Types * Grain Structure And Boundary * Polymorphism * Alloys * Imperfections In Metals * Stress * Strain * Young's Modulus * Stress-Strain Relationship * Physical Properties * Working Of Metals * Corrosion * Hydrogen Embrittlement * Tritium/Material Compatibility * Thermal Stress * Pressurized Thermal Shock * Brittle Fracture Mechanism * Minimum Pressurization-Temperature Curves * Heatup And Cooldown Rate Limits * Properties Considered * When Selecting Materials * Fuel Materials * Cladding And Reflectors * Control Materials * Shielding Materials * Nuclear Reactor Core Problems * Plant Material Problems * Atomic Displacement Due To Irradiation * Thermal And Displacement Spikes * Due To Irradiation * Effect Due To Neutron Capture * Radiation Effects In Organic Compounds * Reactor Use Of Aluminum MECHANICAL SCIENCE. The Mechanical Science Handbook includes information on diesel engines, heat exchangers, pumps, valves, and miscellaneous mechanical components. * Diesel Engines * Fundamentals Of The Diesel Cycle * Diesel Engine Speed, Fuel Controls, And Protection * Types Of Heat Exchangers * Heat Exchanger Applications * Centrifugal Pumps * Centrifugal Pump Operation * Positive Displacement Pumps * Valve Functions And Basic Parts * Types Of Valves * Valve Actuators * Air Compressors * Hydraulics * Boilers * Cooling Towers * Demineralizers * Pressurizers * Steam Traps * Filters And Strainers NUCLEAR PHYSICS AND REACTOR THEORY. The Nuclear Physics and Reactor Theory Handbook includes information on atomic and nuclear physics; neutron characteristics; reactor theory and nuclear parameters; and the theory of reactor operation. * Atomic Nature Of Matter * Chart Of The Nuclides * Mass Defect And Binding Energy * Modes Of Radioactive Decay * Radioactivity * Neutron Interactions * Nuclear Fission * Energy Release From Fission * Interaction Of Radiation With Matter * Neutron Sources * Nuclear Cross Sections And Neutron Flux * Reaction Rates * Neutron Moderation * Prompt And Delayed Neutrons * Neutron Flux Spectrum * Neutron Life Cycle * Reactivity * Reactivity Coefficients * Neutron Poisons * Xenon * Samarium And Other Fission Product Poisons * Control Rods * Subcritical Multiplication * Reactor Kinetics * Reactor

A thorough revision of the previous "Environmental Engineer's Mathematics Handbook," this book offers readers an unusual approach to presenting environmental math concepts, emphasizing the relationship between the principles in natural processes and environmental processes. It integrates the fundamental math operations performed by environmental pr

NEW! Now with both Imperial and Metric Values! Since its first edition in 1951, Industrial Ventilation: A Manual of Recommended Practice has been used by engineers and industrial hygienists to design and evaluate industrial ventilation systems. The 28th edition of this Manual continues this tradition. Renamed Industrial Ventilation: A Manual of Recommended Practice for Design (the Design Manual) in 2007, this new edition now includes metric table and problem solutions and addresses design aspects of industrial ventilation systems.

Portable ventilation systems provide an option for supplementing installed ventilation, as well as providing a system for

ventilation where none exists. Portable Ventilation Systems Handbook discusses the various types of portable ventilation systems currently in use, their advantages and disadvantages, and what systems works best for what function.

A groundbreaking look at how technology with a human touch is revolutionizing government and industry Human Systems Integration (HSI) is very attractive as a new integrating discipline designed to help move business and engineering cultures toward a more people-technology orientation. Over the past decade, the United States and foreign governments have developed a wide range of tools, techniques, and technologies aimed at integrating human factors into engineering systems in order to achieve important cost and performance benefits that otherwise would not have been accomplished. In order for this new discipline to be effective, however, a cultural change is needed that must start with organizational leadership. Handbook of Human Systems Integration outlines the principles and methods that can be used to help integrate people, technology, and organizations with a common objective toward designing, developing, and operating systems effectively and efficiently. Handbook of Human Systems Integration is broad in scope, covering both public and commercial processes as they interface with systems engineering processes. Emphasizing the importance of management and organization concepts as well as the technical uniqueness of HSI, Handbook of Human Systems Integration features: * More than ninety contributors, technical advisors, and reviewers from government, industry, and academia * Comprehensive coverage of the most recent HSI developments, particularly in presenting the cutting-edge tools, techniques, and methodologies utilized by each of the HSI domains * Chapters representing the governments and industries of the United Kingdom and Canada * Contributions from three services of the Department of Defense along with the Federal Aviation Administration and the National Academy of Sciences * Many chapters covering both military and nonmilitary applications * Concepts widely used by government contractors both in the United States and abroad This book will be of special interest to HSI practitioners, systems engineers, and managers, as well as government and industry decision-makers who must weigh the recommendations of all multidisciplines contributing to systems performance, safety, and costs in order to make sound systems acquisition decisions.

Industrial hygienists and ventilation engineers know the name well: W.C.L. Hemeon. Since 1955, those professionals have frequently looked to Hemeon's Plant & Process Ventilation for essential information on industrial ventilation. Hemeon's longtime influence and inspiration has now prompted D. Jeff Burton-a prolific author on industrial ventilation himself-to produce a Fourth Edition of "the classic industrial ventilation text." While retaining Hemeon's distinctive writing style, conveying practical information in vivid phrasing, Burton has added extensive new information to recognize today's technology and techniques. Essential fundamentals of ventilation covered in the book include an explanation about the dynamic properties of airborne contaminants, and the principles of dispersion mechanism and local exhaust. Advanced

applications are also examined in detail, particularly system design, dust control, and troubleshooting. Along with providing essential background on the two primary types of workplace ventilation-general and local exhaust-Hemeon's Plant & Process Ventilation also aims for mutual understanding between the health-oriented priorities of industrial hygienists, and the practical applications for maximum efficiency considered by ventilation engineers. Have a well-thumbed, dog-eared copy of Hemeon's Plant & Process Ventilation? Now is the best time to retire it in favor of this revised-and respectful-edition. Those who are new to Hemeon's approach will discover what other professionals have known more than 40 years: Hemeon offers some of the most effective ways to control environmental contaminates through proper ventilation techniques.

Do you need guidelines for choosing a substitute organic solvent that is safer to use? Do you need an effective, cheap but perhaps temporary way to reduce exposures before you can convince your employer to spend money on a long-term or more reliable solution? Do you need information about local exhaust ventilation or personal protective equipment like respirators and gloves? Industrial Hygiene Control of Airborne Chemical Hazards provides the answers to these questions and more. Science-based and quantitative, the book introduces methods for controlling exposures in diverse settings, focusing squarely on airborne chemical hazards. It bridges the gap between existing knowledge of physical principles and their modern application with a wealth of recommendations, techniques, and tools accumulated by generations of IH practitioners to control chemical hazards. Provides a unique, comprehensive tool for facing the challenges of controlling chemical hazards in the workplace. Although William Popendorf has written the book at a fundamental level, he assumes the reader has some experience in science and math, as well as in manufacturing or other work settings with chemical hazards, but is inexperienced in the selection, design, implementation, or management of chemical exposure control systems. Where the book is quantitative, of course there are lots of formulae, but in general the author avoids vague notation and long derivations.

The handbook provides ready information on the fire and chemical reactivity of commonly used chemicals. Its purpose is to provide basic information important to the safe handling of chemicals and to help provide guidance in responding to a hazardous materials incident, in particular, incidents involving reactive chemicals and materials posing fire and explosion hazards. The volume has been written for chemical handling specialists, first responders to hazardous materials incidents, and firefighters. The basic definition used for a hazard materials incident is any situation that may potentially lead to catastrophic fire or explosion, and or human exposed to a toxic chemical. This situation may result from a spill of a hazardous material, a leak from a storage vessel or shipping container, or the mixing of incompatible chemicals whereby a chemical reaction could occur resulting in the release of energy and generation of toxic and perhaps

flammable by-products. The volume provides chemical specific information, providing the reader with rigorous information on the chemical of interest. This book is a compendium of chemical specific fire and chemical reactivity data and information. More than 1,000 chemicals have been researched and organized into a reference handbook for fire specialists, chemical handling specialists, and plant safety engineers. The specific information provided for chemicals includes the flammability characteristics, recommended fire extinguishing practices, fire extinguishing agents not to be used, behavior in fires, burning characteristics, chemical reactivity with regard to water and common materials, incompatible chemical mixtures, containment and neutralization methods for spills. This reference book has been designed as a data bank for the hazardous materials handling specialist and industrial safety managers dealing with large chemical inventories. It is intended to be used by fire and loss prevention specialists and as a basis for developing procedures for safe storing and handling of chemicals. The authors have included an extensive physical properties section on chemicals, with information most pertinent to fire response situations.

A quick, easy-to-consult source of practical overviews on wide-ranging issues of concern for those responsible for the health and safety of workers This new and completely revised edition of the popular Handbook is an ideal, go-to resource for those who need to anticipate, recognize, evaluate, and control conditions that can cause injury or illness to employees in the workplace. Devised as a “how-to” guide, it offers a mix of theory and practice while adding new and timely topics to its core chapters, including prevention by design, product stewardship, statistics for safety and health, safety and health management systems, safety and health management of international operations, and EHS auditing. The new edition of Handbook of Occupational Safety and Health has been rearranged into topic sections to better categorize the flow of the chapters. Starting with a general introduction on management, it works its way up from recognition of hazards to safety evaluations and risk assessment. It continues on the health side beginning with chemical agents and ending with medical surveillance. The book also offers sections covering normal control practices, physical hazards, and management approaches (which focuses on legal issues and workers compensation). Features new chapters on current developments like management systems, prevention by design, and statistics for safety and health Written by a number of pioneers in the safety and health field Offers fast overviews that enable individuals not formally trained in occupational safety to quickly get up to speed Presents many chapters in a "how-to" format Featuring contributions from numerous experts in the field, Handbook of Occupational Safety and Health, 3rd Edition is an excellent tool for promoting and maintaining the physical, mental, and social well-being of workers in all occupations and is important to a company’s financial, moral, and legal welfare.

This handbook provides practical, technological information on the toxicological aspects of dangerously hazardous

chemicals, the design and maintenance of facilities for processing them, as well as preventive and mitigative procedures for controlling their accidental release. Key areas of industrial toxicology, including major routes of occupational exposure, and general toxic properties of selected chemicals, are discussed.

Hayes' Principles and Methods of Toxicology has long been established as a reliable reference to the concepts, methodologies, and assessments integral to toxicology. The new sixth edition has been revised and updated while maintaining the same high standards that have made this volume a benchmark resource in the field. With new authors and new chap

The Tunnel Engineering Handbook, Second Edition provides, in a single convenient volume, comprehensive coverage of the state of the art in the design, construction, and rehabilitation of tunnels. It brings together essential information on all the principal classifications of tunnels, including soft ground, hard rock, immersed tube and cut-and-cover, with comparisons of their relative advantages and suitability. The broad coverage found in the Tunnel Engineering Handbook enables engineers to address such critical questions as how tunnels are planned and laid out, how the design of tunnels depends on site and ground conditions, and which types of tunnels and construction methods are best suited to different conditions. Written by the leading engineers in the fields, this second edition features major revisions from the first, including: * Complete updating of all chapters from the first edition * Seven completely new chapters covering tunnel stabilization and lining, difficult ground, deep shafts, water conveyance tunnels, small diameter tunnels, fire life safety, tunnel rehabilitation and tunnel construction contracting *New coverage of the modern philosophy and techniques of tunnel design and tunnel construction contracting The comprehensive coverage of the Tunnel Engineering Handbook makes it an essential resource for all practicing engineers engaged in the design of tunnels and underground construction. In addition, the book contains a wealth of information that government administrators and planners and transportation officials will use in the planning and management of tunnels.

Providing vital safety information on over 1000 commerical chemicals, this work explores up-to-date data on fire and chemical compatibility, response methods for incidents involving chemical spills and fires, and personnel and worksite safety monitoring and sampling. The book includes more than 700 illustrations, structures, equations and tables, and a glossary with over 700 definitions.

The second edition of Ventilation Control of the Work Environment incorporates changes in the field of industrial hygiene since the first edition was published in 1982. Integrating feedback from students and professionals, the new edition includes problems sets for each chapter and updated information on the modeling of exhaust ventilation systems, and thus assures the continuation of the book's role as the primary industry textbook. This revised text includes a large

amount of material on HVAC systems, and has been updated to reflect the changes in the Ventilation Manual published by ACGIH. It uses both English and metric units, and each chapter concludes with a problem set.

The health effects of tobacco smoke on smokers are well defined. However, the effects on non-smokers are not so clear. Which of the many diseases, cancers, and pathologies that are certainly associated with smoking are also induced by tobacco smoke in non-smokers? What are the effects on non-smokers of smoking bans in the workplace and changes in advertising? How can we effectively curtail the effects of environmental tobacco smoke (ETS)? Environmental Tobacco Smoke brings together in one source the key observations on the nature and effects of exposure to environmental tobacco smoke. The book focuses on the pathological effects of ETS on pregnant women, newborns, youths, adults, and the elderly. In addition, it investigates ETS' contribution to the development of asthma, tobacco allergy, heart disease, and cancer. The book also examines the role of ETS in bringing about other maladies such as DNA damage, gene activation, and immunosuppression. The materials also explore the problems associated with establishing incontrovertible links between ETS and health problems in non-smokers. Environmental Tobacco Smoke also probes the role of the political and legal systems in modifying behaviors, exposure risks, and health consequences of ETS. The book also summarizes the role of antioxidant supplements in lowering ETS damage and the usefulness of animal models in refining the precision of studies. Clearly, environmental tobacco smoke poses significant health risks. It is also abundantly clear that these risks can be eliminated. It is even more obvious that, in order to establish effective prevention mechanisms, we need to define the extent of health damage attributable to ETS. Environmental Tobacco Smoke provides a plethora of information that educates us on the effects of environmental tobacco smoke on the non-smoking public and thereby equips us to eradicate the problems created by ETS.

This book provides environmental technology students with anenjoyable way to quickly master the basics of industrial hygiene.Like all the books in the critically acclaimed Preserving theLegacy series, it follows a rapid-learning modular format featuringlearning objectives, summaries, chapter-end reviews, practicequestions, and skill-building classroom activities. Throughout thetext, sidebars highlight critical concepts, and more than 90high-quality line-drawings, photographs, and diagrams help toclarify concepts covered. Author Debra Nims begins with a fascinating historical overview ofthe art and science of industrial hygiene, followed by a concisereview of key concepts and terms from biology and toxicology. Shethen offers in-depth practical coverage of: * Identifying hazards or potential hazards * Sampling and workplace evaluations * Hazard control * Toxicology, occupational health, and occupational healthstandards * Airborne hazards * Dermatoses and contact hazards * Fire and explosion hazards * Occupational noise * Radiation * Temperature extremes * Repetitive use traumas With its comprehensive coverage and quick-reference format, Basicsof Industrial

Hygiene is also a handy refresher and workingreference for practicing environmental technicians and managers.

This new standard describes fundamental good practices related to the commissioning, design, selection, installation, operation, maintenance, and testing of local exhaust ventilation (LEV) systems used for the control of employee exposure to airborne contaminants.

It is ironic that those whose job it is to save lives often find themselves injured in the course of performing their duties. In fact, according to the Bureau of Labor Statistics, healthcare workers have higher injury rates than agriculture workers, miners, and construction workers. The Handbook of Modern Hospital Safety, Second Edition covers exposure paradigms and offers solutions and models of protection for these individuals, presenting the latest science and intervention strategies that have proven successful in the scientific community. Extensively revised, this second edition explores a host of hazardous conditions that are faced by healthcare workers in today’s hospitals, including: infection and infectious diseases back injuries needlesticks workplace violence slip, trip, and fall injuries ergonomic issues electrocautery smoke toxic drugs ethylene oxide aldehydes pentamidine ribavirin In this long-awaited update to William Charney’s seminal work, experts from leading hospitals, universities, and health organizations explore these health risks and suggested preventive measures, discuss recent research and new information on technology to protect workers, cover new legislation and regulations, and provide insight into the philosophy of creating a safe hospital culture.

While invaluable for their uses in medicine as a drug delivery system or as an imaging agent in cancer detection, nanoparticles do present possible medical and environmental dangers. Due to the thousands of commercial and medical applications for engineered nanoparticles currently available or under development, guidelines for evaluating and controlling exposure to engineered nanoparticles are essential. Designed for EHS professionals working with nanoparticles, this important reference outlines the acceptable levels of exposure to nanoparticles and describes methods for evaluating and controlling worker exposure to engineered nanoparticles. With case studies on various nanoparticle exposures, the book sheds light on the toxicity of such nanoparticles as carbon nanotubes, fullerenes, TiO2, and metal nanoparticles as well as routes of exposure, such as skin and the respiratory system.