Aseptic Designed For Critical Aseptic Processing

This Open access book offers updated and revised information on vessel health and preservation (VHP), a model concept first published in poster form in 2008 and in JVA in 2012, which has received a great deal of attention, especially in the US, UK and Australia. The book presents a model and a new way of thinking applied to vascular access and administration of intravenous treatment, and shows how establishing and maintaining a route of access to the bloodstream is essential for patients in acute care today. Until now, little thought has been given to an intentional process to guide selection, insertion and management of vascular access devices (VADs) and by default actions are based on crisis management when a quickly selected VAD fails. The book details how VHP establishes a framework or pathway model for each step of the patient experience, intentionally guiding, improving and eliminating risk when possible. The evidence points to the fact that reducing fragmentation, establishing a pathway, and teaching the process to all stakeholders reduces complications with intravenous therapy, improves efficiency and diminishes cost. As such this book appeals to bedside nurses, physicians and other health professionals.

Aseptic Processing and Packaging of Food explains how aseptic processing and packaging first began and traces its fascinating progression over the last fifty years. It explores current technologies, discusses why they are used today, and explains why certain basic approaches

to critical operations, such as pumping, heat exchange, fluid flow, and controls, must be applied. Commercially used heating and holding concepts are also explained, with emphasis on avoiding problems. This unique book states the technique and method of choice for accurate flow control (timing). It includes an explanation of secondary flow and describes its use to solve many of the heat exchange and fluid flow problems associated with particle-containing products. It also discusses the manufacturers of aseptic packaging equipment, exploring the types of products they produce and the advantages and disadvantages of their product design. Aseptic Processing and Packaging of Food fills in many of the information gaps left by other sources - a must-have reference for anyone working in this area.

A must have for any nurse wanting to expand their knowledge in this area of wound care. Wound Care Nursing 3rd edition introduces a person-centred approach to wound care practice across the lifespan. The books is fully illustrated with colour photographs and illustrations throughout, and including extensive case studies to demonstrate the practical applications of the most recent research in this area. New content covering pressure ulcers, incontinence associated dermatitis, venous leg ulcers and palliative wound care. Uniquely it uses a lifespan perspective addressing the care of wounds in all patients from birth to old age. All chapters have been fully updated to reflect the current evidence base. Nursing theory is used throughout instead of a traditional medical approach, making the material more applicable to nursing practice. Links current nursing

theory to practice using extensive case studies. High quality full colour photographs and illustrations throughout.

Keywords: conservative particle design, critical particle, time-temperature history, validation, multiphase aseptic processing.

The emerging technology of aseptic processing of particulate foods promises lower packaging costs and higher food quality and safety. The process, however, has yet to be regulated, and the majority of the innovative research performed in the past decade remains uncollected. Aseptic Processing of Foods Containing Solid Particulates fills this void, providing students and industry professionals a reference on how the continuous sterilization of particulate foods may be accomplished. The fundamental challenge of the method is simple: how to determine the temperature within a freely flowing solid piece (particle) entrained in a viscous fluid stream, considering that the fluid and solid must achieve uniform composition at outlet, and that the solid is of significant size. Aseptic Processing thoroughly incorporates the three disciplines intimately involved with this question: engineering, microbiology, and statistics. Drawing on a pair of landmark conferences, the text details critical experiments conducted with an eye toward developing uniform parameters for operation. Specific topics covered include: -Flow and residence time distributions of solid-liquid mixtures -Fluid-solid convective heat transfer -Statistical design and analysis and microbiological validation -Hazard analysis and critical control point evaluation of a multiphase food

product aseptic system -The filing process for FDA approval An indispensable companion to the work and studies of engineers and university personnel, Aseptic Processing of Foods Containing Solid Particulates brings the level of scholarship equal to the level of enthusiasm for this potentially groundbreaking system.

No other area of regulatory compliance receives more attention and scrutiny by regulatory authorities than the regulation of sterile products, for obvious reasons. With the increasing number of potent products, particularly the new line of small protein products, joining the long list of proven sterile products, the technology of manufacturing ster

Relying on practical examples from the authors' experience, this book provides a thorough and modern approach to controlling and monitoring microbial contaminations during the manufacturing of non-sterile pharmaceuticals. Offers a comprehensive guidance for non-sterile pharmaceuticals microbiological QA/QC Presents the latest developments in both regulatory expectations and technical advancements Provides guidance on statistical tools for risk assessment and trending of microbiological data Describes strategy and practical examples from the authors' experience in globalized pharmaceutical companies and expert networks Offers a comprehensive guidance for non-sterile pharmaceuticals microbiological QA/QC Presents the latest developments in both regulatory expectations and technical advancements Provides guidance on statistical tools for risk assessment and trending of microbiological data Describes strategy and practical

examples from the authors' experience in globalized pharmaceutical companies and expert networks
Covering aseptic technique and how to prepare sterile products, this book ensures safety, accuracy, and correctness of medications. Reflecting American Society of Health System Pharmacists (ASHP) competencies, this book provides principles and guidelines, laboratory exercises, and hands-on practice with actual institutional orders. Written by expert pharmacy technician educator, this book also provides checklists that map to ASHP competencies.
Assurance of Sterility for Sensitive Combination Products and Materials: New Paradigms for the Next Generation of Medical Devices and Pharmaceuticals discusses the medical device industry and existing challenges regarding the exciting new world of sensitive combination products (SCPs) and their terminal sterilization. This book reassesses the current assumptions to assure the patient's best interests are met in the development of increasingly rigorous sterilization methods used to counteract MRSA and other 'super-bugs'. In addition, the book discusses the special challenges faced with implantable medical devices, sterilization requirements and further methods needed for material selection and the design process. This book is unique in taking a holistic, end-to-end approach to sterilization, with a particular focus on materials selection and product design. Introduces sterilization principles at the material selection and design stages Addresses the industry need for new sterilization processes for new medical devices and biomaterials Provides guidance to select the

appropriate sterilization technique for newly developed sensitive combination products Examines forward thinking tactics for matching new developments in material compatibility with possible regulatory and QSR strategies

In spite of intensive investments and investigations carried out in the last decade, many aspects of the stem cell physiology, technology and regulation remain to be fully defined. After the enthusiasm that characterized the first decade of the discovery that when given the right cue, stem cells could repair all the different tissues in the body; it is now time to start a serious and coordinated action to define how to govern the stem cell potential and to exploit it for clinical applications. This can be achieved only with shared research programs involving investigators from all over the world and making the results available to all. The Disputationes Workshop series (http://disputationes.info) is an international initiative aimed at disseminating stem cell related cutting edge knowledge among scientists, healthcare workers, students and policy makers. The present book gathers together some of the ideas discussed during the third and fourth Disputationes Workshops held in Florence (Italy) and Aalborg (Denmark), respectively. The aim of this book is to preserve those ideas in order to contribute to the general discussion on organ repair and to bolster a fundamental scientific and technological leap forwards the treatment of otherwise incurable diseases.

A detailed guide to the operation and quality assurance of UK hospital aseptic preparation services This new edition of Quality Assurance of Aseptic Preparation

Services provides information and up to date national guidance on unlicensed aseptic preparation. Although it is primarily intended for the use of non-licensed UK hospital pharmacies, it will also be of use in licensed units and other countries and institutions. Aseptic services include the preparation of parenteral nutrition solutions (PN), cytotoxics, radiopharmaceuticals, additives for parenteral administration and intrathecals Since the publication of the Breckenridge report in 1976, which recommended that drug additions to intravenous (IV) infusions should be made in hospital pharmacy departments and not on wards, there has been a substantial increase in hospital pharmacy departments providing aseptic preparation services

Advanced Aseptic Processing TechnologyCRC Press

Thermal processing remains one of the most important processes in the food industry. Now in its second edition, Thermal Food Processing: New Technologies and Quality Issues continues to explore the latest developments in the field. Assembling the work of a worldwide panel of experts, this volume highlights topics vital to the food industry today an

With each edition, ACCCN's Critical Care Nursing has built on its highly respected reputation. Its contributors aim to encourage and challenge practising critical care nurses and students to develop world-class critical care nursing skills in order to ensure delivery of the highest quality care. Endorsed by the Australian College of Critical Care Nurses (ACCCN), this 3rd edition presents the expertise of foremost critical care leaders and features the most recent evidence-based research and

up-to-date advances in clinical practice, technology, procedures and standards. Expanded to reflect the universal core elements of critical care nursing practice authors, Aitken, Marshall and Chaboyer, have retained the specific information that captures the unique elements of contemporary critical care nursing in Australia, New Zealand and other similar practice environments. Structured in three sections, ACCCN's Critical Care Nursing, 3rd Edition addresses all aspects of critical care nursing, including patient care and organisational issues, while highlighting some of the unique and complex aspects of specialty critical care nursing practice, such as paediatric considerations, trauma management and organ donation. Presented in three sections: - Scope of Critical Care - Principles and Practice of Critical Care - Speciality Practice Focus on concepts that underpin practice - essential physical, psychological, social and cultural care New case studies elaborate on relevant care topics Research vignettes explore a range of topics Practice tips highlight areas of care particularly relevant to daily clinical practice Learning activities support knowledge, reflective learning and understanding Additional case studies with answers available on evolve NEW chapter on Postanaesthesia recovery Revised coverage of metabolic and nutritional considerations for the critically ill patient Aligned with the NEW ACCCN Standards for Practice

In aseptic processing, food is stored at ambient temperatures in sterilized containers free of spoilage organisms and pathogens. The results of this food technology come in all shapes and sizes, from the

consumer packages of milk on the shelves of the supermarket to the huge containers full of orange juice transported around the world by cargo ships. Over the last couple of decades, aseptic bulk storage and distribution has revolutionized the global food trade. For example, more than 90 percent of the approximately 24 million tons of fresh tomatoes harvested globally each year are aseptically processed and packaged for year-round remanufacture into various food products. The technology has also been applied to bring potable water and emergency food aid to survivors of the 2004 tsunami in Southeast Asia and the victims of Hurricane Katrina in 2005, as well as to other crisis situations worldwide. The construction of new aseptic facilities continues around the world, and an up-to-date understanding of the technology is essential for a new generation of food scientists and engineers alike. The contributors to this important textbook discuss all aspects of aseptic processing and packaging, focusing on the areas that most influence the success or failure of the process. Fully updated, this new edition covers all areas of chemistry, microbiology, engineering, packaging, and regulations as they relate to aseptic processing.

This practical book provides detailed guidance on all aspects of clean room airflow, the mechanics of airflow, and how microbial contamination is carried. Ljungqvist and Reinmüller draw on years of experience in clean room design and operation. The book contains maps of the effect of human interference on unidirectional airflow and the potential for contamination. Particle challenge test methods and tracer gas detection methods are

explained, and the impact and interpretation of the results obtained from these test methods are discussed. Topics include: o Dispersion of Airborne Contaminants o Contamination Risks o Wakes (including factual situations) o Open, Unidirectional Air Flow Benches (laminar flow benches) o Microbiological Assessment o Weighing Stations o Air Flow Through Openings o Mathematical Treatment of Contamination Risks o Simulation of Air Flows & Dispersion of Contaminants through Doorways in a Suite of Clean Rooms o Regulatory Requirements

Now in its 6th edition, this trusted reference for nursing students supports the development of safe, effective and person-centred practice. The text has been comprehensively revised by nursing leaders and experts from across the spectrum of clinical practice, education, research and health policy settings; and a highly experienced editorial team, which includes Jackie Crisp, Clint Douglas, Geraldine Rebeiro and Donna Waters. Chapters of Potter & Perry's Fundamentals of Nursing, 6e engage students with contemporary concepts and clinical examples, designed to build clinical reasoning skills. Early chapters introduce frameworks such as Fundamentals of Care and cultural safety, as ways of being and practising as a nurse. These frameworks are then applied in clinical and practice context chapters throughout. Reflection points in each chapter encourage curiosity and

creativity in learning, including the importance of self-care and self-assessment. 79 clinical skills over 41 chapters updated to reflect latest evidence and practice standards, including 4 new skills Fully aligned to local learning and curriculum outcomes for first-year nursing programs Aligned to 2016 NMBA Registered Nurse Standards for Practice and National Safety and Quality Health Service Standards Easy-to-understand for beginning students Focus on person-centred practice and language throughout 44 clinical skills videos (including 5 NEW) available on Evolve, along with additional student and instructor resources Accompanied by Fundamentals of nursing clinical skills workbook 4e An eBook included in all print purchases Additional resources on Evolve: • eBook on VitalSource Instructor resources: Testbank Critical Reflection Points and answers Image collection Tables and boxes collection PowerPoint slides Students and Instructor resources: 44 Clinical Skills videos Clinical Cases: Fundamentals of nursing case studies Restructured to reflect current curriculum structure New chapters on end-of-life care and primary care New online chapter on nursing informatics aligned to the new National Nursing and Midwifery Digital Health Capabilities Framework, including a new skill and competency assessment tool

With global harmonization of regulatory requirements

and quality standards and national and global business consolidations ongoing at a fast pace, pharmaceutical manufacturers, suppliers, contractors, and distributors are impacted by continual change. Offering a wide assortment of policy and guidance document references and interpretations, this Sixth Edition is significantly expanded to reflect the increase of information and changing practices in CGMP regulation and pharmaceutical manufacturing and control practices worldwide. An essential companion for every pharmaceutical professional, this guide is updated and expanded by a team of industry experts, each member with extensive experience in industry or academic settings.

Essential information for architects, designers, engineers, equipment suppliers, and other professionals who are working in or entering the biopharmaceutical manufacturing field Biomanufacturing facilities that are designed and built today are radically different than in the past. The vital information and knowledge needed to design and construct these increasingly sophisticated biopharmaceutical manufacturing facilities is difficult to find in published literature—and it's rarely taught in architecture or design schools. This is the first book for architects and designers that fills this void. Process Architecture in Biomanufacturing Facility Design provides

information on design principles of biopharmaceutical manufacturing facilities that support emerging innovative processes and technologies, use state-of-the-art equipment, are energy efficient and sustainable, and meet regulatory requirements. Relying on their many years of hands-on design and operations experience, the authors emphasize concepts and practical approaches toward design, construction, and operation of biomanufacturing facilities, including product-process-facility relationships, closed systems and single use equipment, aseptic manufacturing considerations, design of biocontainment facility and process based laboratory, and sustainability considerations, as well as an outlook on the facility of the future. Provides guidelines for meeting licensing and regulatory requirements for biomanufacturing facilities in the U.S.A and WHO—especially in emerging global markets in India, China, Latin America, and the Asia/Pacific regions Focuses on innovative design and equipment, to speed construction and time to market, increase energy efficiency, and reduce footprint, construction and operational costs, as well as the financial risks associated with construction of a new facility prior to the approval of the manufactured products by regulatory agencies Includes many diagrams that clarify the design approach Process Architecture in Biomanufacturing

Facility Design is an ideal text for professionals involved in the design of facilities for manufacturing of biopharmaceuticals and vaccines, biotechnology, and life-science industry, including architects and designers of industrial facilities, construction, equipment vendors, and mechanical engineers. It is also recommended for university instructors, advanced undergraduates, and graduate students in architecture, industrial engineering, mechanical engineering, industrial design, and industrial interior design.

Sterile Pharmaceutical Products: Process Engineering Applications addresses the key concepts and applications of the sterile pharmaceutical manufacturing industry. It covers elements of the design, installation, validation, and usage of critical processes associated with sterile product manufacture. From water systems to clean-in-place systems, to sterile powder handling and robotic applications in sterile production environments, this book addresses the issues of system implementation, integration, and operations. Written by recognized experts and peer reviewed for accuracy, all chapters include references to supplemental resources and numerous illustrations.

Concepts in Sterile Preparations and Aseptic Technique examines the current standards and best practices for sterile compounding, along with the fundamentals of aseptic technique, in a manner

accessible to pharmacy and pharmacy technician students and professionals. Beginning with a review of foundational calculations and microbiological considerations, this resource reviews compatibility, stability, engineering controls, and quality assurance and control, with pertinent information from USP Chapter incorporated throughout. With engaging case studies, tips, alerts, and accompanying video tutorials, this text facilitates student learning through a robust companion website for students as well as helpful instructor resources. Video Tutorial Topics and Procedures: HLFW Cleaning, Hand Washing, Garbing, Sterile Glove, Attaching Needle to Syringe, Accessing a Vial, Equal Pressure (Milking), Equal Pressure (Reverse Milking), Removal of Air Bubbles, Ampule Breaking, Using a Filter Needle, Using a Filter Straw, Reconstituting a Vial, Uncapping and Recapping a Needle, Capping a Syringe, Priming Infusion Set, Positive Pressure, Negative Pressure, Workflow, Incompatibility, Fingertip Testing Instructor Resources: Instructor's Manual including Lab Activities and Supply List, Answer Key for Review Questions and Case Studies, PowerPoint Presentations with 375 slides, Test Bank with 189 Multiple Choice, Fill-in-the-Blank, and Short Answer questions. Student Resources: Navigate Companion Website, including: Videos, Quizzes, Interactive Glossary, Interactive Flashcards, Crossword Puzzles, Matching Exercises, Web Links Each new

text includes an online access code to the Navigate Companion Website. Electronic and eBook formats may not include access to the Navigate Companion Website. Access may also be purchased separately.
Since publication of the first edition of this book, Aseptic Processing and Packaging of Food, significant changes have taken place in several aseptic processing and packaging areas. These include changes in aseptic filling of nutritional beverages in plastic bottles; the popularity of value-added commodity products such as juice, concentrate, and
Kozier and Erb's Fundamentals of Nursing prepares students for practice in a range of diverse clinical settings and help them understand what it means to be a competent professional nurse in the twenty-first century. This third Australian edition has once again undergone a rigorous review and writing process. Contemporary changes in the regulation of nursing are reflected in the chapters and the third edition continues to focus on the three core philosophies: Person-centred care, critical thinking and clinical reasoning and cultural safety. Students will develop the knowledge, critical thinking and clinical reasoning skills to deliver care for their patients in ways that signify respect, acceptance, empathy, connectedness, cultural sensitivity and genuine concern.
This on-the-job training program gives a basic, how-

to demonstration of aseptic technique focusing on the fundamentals: proper washing, gloving, gowning, proper syringe techniques, and more.

Rev. ed. of: Principles of sterile product preparation / E. Clyde Buchanan ... [et al.]. 1995.

Principles of Parenteral Solution Validation: A Practical Lifecycle Approach covers all aspects involved in the development and process validation of a parenteral product. By using a lifecycle approach, this book discusses the latest technology, compliance developments, and regulatory considerations and trends, from process design, to divesting. As part of the Expertise in Pharmaceutical Process Technology series edited by Michael Levin, this book incorporates numerous case studies and real-world examples that address timely problems and offer solutions to the daily challenges facing practitioners in this area. Discusses international and domestic regulatory considerations in every section Features callout boxes that contain points-of-interest for each segment of the audience so readers can quickly find their interests and needs Contains important topics, including risk management, the preparation and execution of properly designed studies, scale-up and technology transfer activities, problem-solving, and more

The preparation of sterile products using aseptic processing is considered perhaps the most critical process in the pharmaceutical industry and has witnessed continual improvement over the last half century. New approaches that have transformed classical aseptic production methods are appearing almost daily. This book reviews emerging technologies for aseptic processing that will markedly reduce the level of contamination risk for sterile products and includes coverage on: The use of isolator and barrier concepts for aseptic processing and assembly. The

application of robotics as an alternative to gowned personnel. The increasing reliance on automation to minimize or eliminate operator intervention. The design, operational, monitoring and compliance changes necessary for success with advanced aseptic processing. Advanced Aseptic Processing Technology is an essential reference for anyone working with sterile products, and is recommended for individuals in manufacturing,, compliance, regulatory affairs, microbiology, environmental monitoring, sterility testing, sterilization, validation, engineering, development, facility and equipment design, component and equipment suppliers, automation, and robotics.

Asceptic Pharmaceutical Manufacturing II explores the sophisticated technology, developments, and applications that allow aseptic processing to approach the sterility levels achieved with terminal sterilization. Written by experts in sterile manufacturing, this book covers aseptic technology, developments, and applications and makes a valuable contribution to understanding the issues involved in aseptic manufacture. Topics include the processing of biopharmaceuticals, lyophilization, personnel training, radiopharmaceuticals, hydrogen peroxide vapor sterilization, regulatory requirements, validation, and quality systems.

Principles of heat preservation; heat processing equipment; aseptic processing and packaging of heat preserved foods in glass containers; packaging of heat preserved foods in plastic containers; leaker spoilage of foods heat processed in hermetically sealed containers; the effect of heat preservation on product quality; recommendations for the goodmanufacturing practice of heat preserved foods.

Endorsed by the Australian College of Critical Care Nurses (ACCCN) ACCCN is the peak professional organisation representing critical care nurses in Australia Written by leading critical care nursing clinicians, Leanne Aitken, Andrea

Marshall and Wendy Chaboyer, the 4th edition of Critical Care Nursing continues to encourage and challenge critical care nurses and students to develop world-class practice and ensure the delivery of the highest quality care. The text addresses all aspects of critical care nursing and is divided into three sections: scope of practice, core components and specialty practice, providing the most recent research, data, procedures and guidelines from expert local and international critical care nursing academics and clinicians. Alongside its strong focus on critical care nursing practice within Australia and New Zealand, the 4th edition brings a stronger emphasis on international practice and expertise to ensure students and clinicians have access to the most contemporary practice insights from around the world. Increased emphasis on practice tips to help nurses care for patients within critical care Updated case studies, research vignettes and learning activities to support further learning Highlights the role of the critical care nurse within a multidisciplinary environment and how they work together Increased global considerations relevant to international context of critical care nursing alongside its key focus within the ANZ context Aligned to update NMBA RN Standards for Practice and NSQHS Standards

To successfully bring an Active Pharmaceutical Ingredient (API) to market, many steps must be followed to ensure compliance with governmental regulations. Active Pharmaceutical Ingredients is an unparalleled guide to the development, manufacturing, and regulation of the preparation and use of APIs globally. Topics include:Safety, efficacy, and envi

This book contains both the theory and practice of risk management (RM) and provides the background, tools, and application of risk in pharmaceutical and biologics manufacturing and operations. It includes case studies and

specific examples of use of RM for biological and pharmaceutical product manufacture. The book also includes useful references and a bibliography for the reader who wishes to gain additional knowledge in the subject. It aids in assisting both industry and regulatory agencies to implement compliant and effective risk management approaches, and includes case studies to help with understanding.

Sterile Drug Products: Formulation, Packaging, Manufacturing, and Quality teaches the basic principles of the development and manufacture of high quality sterile dosage forms. The author has 38 years of experience in the development and manufacture of sterile dosage forms including solutions, suspensions, ophthalmics and freeze dried products. This book is based on the courses he has delivered for over three decades, to over 3000 participants, and is intended to remain relevant for the indefinite future even as new technologies and new applications of old technologies become common. This is an ideal reference book for those working directly and indirectly with sterile dosage forms, be it product development (formulation, package, process, analytical), manufacturing, quality control, quality assurance, regulatory, purchasing, or project management. This book is also intended as an educational resource for the pharmaceutical and biopharmaceutical industry and pharmacy schools, providing basic knowledge and principles in four main areas of parenteral science and technology: Product development, including formulation,

packaging, and process development. Manufacturing, including basic teaching on all the primary unit operations involved in preparation of sterile products and the underlying importance of contamination control. Quality and regulatory, including the application of good manufacturing practice regulations, aseptic processing guidelines, and unique quality control testing methods for the sterile dosage form Clinical aspects, including administration, potential hazards, and biopharmaceutics of sterile products in a clinical setting.

The Codex Alimentarius is a collection of international food standards which seek to protect the health of consumers and facilitate international trade in food products. Volume one of the Codex covers the standards and other texts generally applicable to all food commodities, and is the basic reference document for all other volumes. This publication presents the second part (volume 1B) containing general food hygiene texts, and is the revised second edition which includes standards adopted by the Codex Alimentarius Commission up to to July 2001.

Designed for the Diploma of Nursing, Foundations of Nursing, Enrolled Nurses, Australia and New Zealand edition is mapped to the HLT54115 training package competencies, and aligns to the revised Standards for Practice for the Enrolled Nurse.

Written to equip the enrolled nurse with current knowledge, and basic problem-solving and critical-thinking skills to successfully meet the demanding challenges of today's health care, the text clearly explains concepts and definitions, and scaffolds knowledge. The student-friendly text provides a clear and fresh approach to the study of nursing; it is straightforward and heavily illustrated with colour photos of procedures.

Designed for the Certifying Central Sterile Supply Technologist. Our program is a comprehensive, interactive question data base designed from actual examination questions to both test your knowledge and to direct your studies towards critical Central Supply Technologist Certification Examination must know information. Our team of medical professionals have put together several series of test questions in all formats that you as a potential student will best learn from, with the tests ranging from simple terminology to the more advanced technical aspects of your career.

The only comprehensive and authoritative reference guide to the ASME Bioprocessing Piping and Equipment (BPE) standard This is a companion guide to the ASME Bioprocessing Piping and Equipment (BPE) Standard and explains what lies behind many of the requirements and recommendations within that industry standard. Following an introductory narrative to the Standard's

early history, industry related codes and standards are explained; the design and engineering aspects cover construction materials, both metallic and nonmetallic; then components, fabrication, assembly and installation of piping systems are explored. Examination, Inspection and Testing then precede the ASME BPE certification process, concluding with a discussion on system design. The author draws on many years' experience and insights from first-hand involvement in the field of industrial piping design, engineering, construction, and management, which includes the bioprocessing industry. The reader will learn why dimensions and tolerances, process instrumentation, and material selection play such an integral part in the manufacture of components and instrumentation. This easy to understand and navigate guide will assist engineers (design, piping, chemical, etc.) who need to understand the basis for much of the Standard’s content, as do the contractors and inspectors who have to meet and validate compliance with the BPE Standard. Cover image courtesy of Cotter Brothers Corp., Danvers, MA, USA