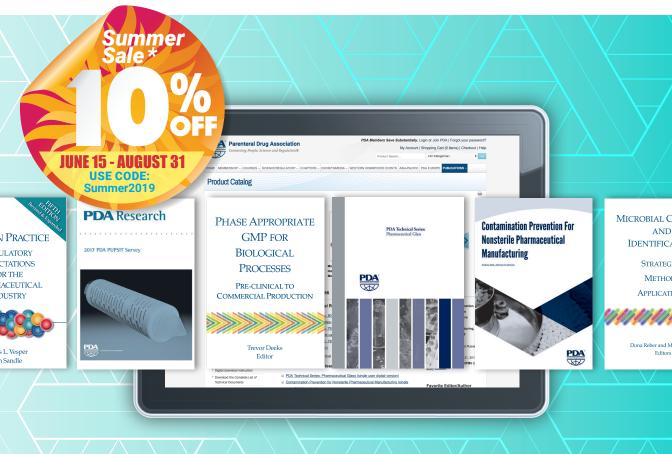


# 2019 SUMMER SALE CATALOG PDA Bookstore

Expert Bio/Pharmaceutical Publications and Resources for the Pharmaceutical Manufacturing Industry





\*TERMS AND CONDITIONS: 1. Coupon discounts are not refundable or applicable after purchase. 2. All sales are final and non-returnable. 3. Offer not valid on previously purchased publications or items in conjunction with other offers. 4. Shipping and handling charges will apply. 5. Offer valid through August 31, 2019.

## **#PDABooks**

## Table of Contents

**PDA Technical Books** PAGES 1-15

**PDA Booklets** PAGES 16-21

**PDA Technical Reports** PAGES 22-29

**PDA Surveys** PAGE 30-31

The PDA Journal **PAGE 32** 

To help you keep up with a bio/pharmaceutical industry that is progressing at record pace, PDA is committed to providing you with the professional tools and resources you need to stay current with the latest advances.

Our technical books, technical reports, and other industry resources are developed by leading experts in the field. Subject to a rigorous peerreview process, our technical documents are sound and reflective of industry best practice. Many of our publications quickly become bestsellers, and our technical reports are recognized by industry professionals around the world as highly valuable resources.

In this rapidly evolving industry, knowledge is your most important asset! Find all of the information you need in PDA's vast inventory of resources at pda.org/bookstore.



## PDA Technical Books

PDA Technical Books are scientific and regulatory publications specifically developed for the resource needs of pharmaceutical and biopharmaceutical professionals. Edited and authored by industry and regulatory experts and thought leaders, these books are practical guides and references related to specific topics.

Expand your library and increase your knowledge of important industry topics!

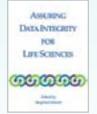
## **Aseptic and Sterile Processing: Control, Compliance and Future Trends** EDITORS: Tim Sandle and Edward C. Tidswell

ASEPTIC AND STERILE PROCESSING CONTROL, COMPLIANCE AND FUTURE TRENDS

**BESTSELLER** Aseptic and Sterile Processing: Control, Compliance and Future Trends takes a current and future approach to two vital processing procedures - aseptic and sterile manufacturing. 2017. 930 pages.

Hardcover: Item No. 17342 | Digital: Item No. 18038 M \$260 | M \$325 | G \$240

## Assuring Data Integrity for Life Sciences EDITOR: Siegfried Schmitt



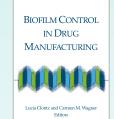
**BESTSELLER** This book provides a truly global perspective on data integrity and the solutions available to address this serious issue. It includes two main sections: the regulatory and historic background of data integrity, and practical

advice on how to prevent or rectify data integrity breaches. 2016. 408 pages.

Hardcover: Item No. 17335 | Digital: Item No. 18016



## **Biofilm Control in Drug Manufacturing** EDITORS: Lucia Clontz and Carmen M. Wagner



This book provides guidance for preventing and controlling biofilm contamination in pharmaceutical and biopharmaceutical processing. 2012. 496 pages.

Digital: Item No. 17986



## **Biological Indicators for Sterilization Processes**

EDITORS: Margarita Gomez and Jeanne Moldenhauer 2008. 536 pages Hardcover: Item No. 17268

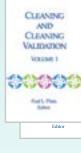
M \$280 \$196 | M \$349 \$245 | G \$190 \$140

LEGEND: M = Member Pricing | M = Nonmember Pricing | G = Government Pricing



## **Cleaning and Cleaning Validation**, Volumes 1 and 2

EDITOR: Paul L. Pluta



Cleaning and Cleaning Validation is a series of volumes presenting current knowledge and approaches to cleaning and cleaning validation of pharmaceuticals, medical devices, and associated products, consistent with current regulatory documents

and expectations. Case studies presented throughout the volumes supplement basic information with useful real-life experiences. 2013.

Digital: Item No. 17987

M <del>\$535</del> \$428 | M <del>\$670</del> \$536 | G <del>\$465</del> \$372

## **Cleaning Validation: Practical Compliance** Solutions for Pharmaceutical Manufacturing, Volume 4

## AUTHOR: Destin A. LeBlanc

CLEANING VALIDATION PRACINIAL CONTLINE Sournowieck PHARMONORUTICAL MANUFACTURNIC MADE NO. Desire & Latters

Volume 4 complements Destin LeBlanc's earlier three books on the same subject. This book modifies and updates LeBlanc's monthly Cleaning Memos originally published from January 2013 through

December 2016. More than half of the chapters in the

book address setting limits in one way or another, so the use of health-based limits will require balanced reading (and thinking) for an overall understanding. 2017. 253 pages.

Digital: Item No. 18027



## **Cleaning Validation: Practical Compliance** Solutions for Pharmaceutical Manufacturing, Volumes 1, 2 and 3

AUTHOR: Destin A. LeBlanc

The three volumes that make up Cleaning Validation: Practical Solutions for CLEANING Pharmaceutical Manufacturing VALIDATION PRACTICAL contain a complete, modified, COMPLIANCE SOUTEPONE and updated collection of the NARMACHERICAL MANUSACITARIAN INC. author's Cleaning Memos. In all volumes, each Cleaning -----Memo is presented as a Darks & Lotters chapter, with the chapters

re-organized by common topics rather than chronologically as they appear in the original format. The benefit to having three volumes at hand, in addition to gaining full insight into 12 years of subject matter expert advice, is the accessibility of information by common subject. 2013.

Digital: Item No. 17981

## M \$635 \$508 | M \$790 \$632 | G \$435 \$348



## **Cleanroom Microbiology**

AUTHORS: Tim Sandle and R. Vijayakumar

**BESTSELLER** This book is about cleanrooms and CLEANROOM controlled environments in MICROBIOLOGY

relation to the pharmaceutical and healthcare sectors. With its focus on cleanroom microbiology, this book is applicable to both the sterile and non-sterile pharmaceutical

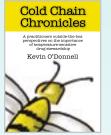
sectors. 2014. 600 pages.

Hardcover: Item No. 17326 | Digital: Item No. 17983

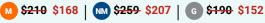


## **Cold Chain Chronicles: A practitioner's** outside-the-box perspectives on the importance of temperature-sensitive drug stewardship

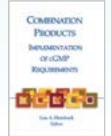
#### AUTHOR: Kevin O'Donnell



supply chain, not only for the stakeholders involved, but also for the consumer in us all. 2014. 182 pages



## **Combination Products: Implementation of cGMP Requirements**



of cGMP in a combination product environment. It includes comprehensive information from leaders in the industry regarding the unique requirements for several common combina-

tion products situations. 2013. 200 pages Digital: Item No. 17951



Noted pharmaceutical cold-chain expert Kevin O'Donnell relates a series of engaging stories carefully crafted to elevate awareness, understanding, and criticality of

temperature-sensitive drug products throughout the

Hardcover: Item No. 17323 | Digital: Item No. 17980



EDITOR: Lisa A. Hornback

This book explores the unique aspects and considerations for implementation



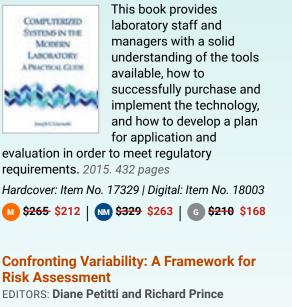


**NEW** The fifth volume to PDA's popular series. Contamination Control in Healthcare Product Manufacturing, explores practical approaches to leverage environmental monitoring data to improve performance, how to design

a risk-based environmental monitoring program for non-sterile manufacturing, the clinical relevance of objectional microorganisms, and much more!. 2018. 510 pages.

Hardcover: Item No. 17350 | Digital: Item No. 18055





2019

PDA PUBLICATIONS

CATALOG

EDITORS: Diane Petitti and Richard Prince 2007. 222 pages Hardcover: Item No. 17244 M <del>\$280</del> \$196 | M \$<del>349</del> \$245 | 💿 <del>\$195</del> \$140

**Contamination Control in Healthcare** 

**Product Manufacturing, Volume 5** 

EDITORS: Russell E. Madsen and

Jeanne Moldenhauer

CONTAMINATION

CONTROL IN

HEALTHCARE

**Computerized Systems in the Modern** 

Laboratory: A Practical Guide

AUTHOR: Joseph G. Liscouski

requirements. 2015. 432 pages

**COMPUTERIZED** 

SISTEMS IN THE

MODERN

LABORATORY

A PRACTICAL GLUDE

# **TECHNICAL BOOKS**

## **Contamination Control in Healthcare Product Manufacturing, Volume 4**

EDITORS: Russell E. Madsen and Jeanne Moldenhauer



This book is an essential complement to any contamination control library! Volume 4 is a useful reference guide when combined with the previous three volumes. 2016. 402 pages.

Hardcover: Item No. 17336 | Digital: Item No. 18017



## Contamination Control in Healthcare Product Manufacturing, Volumes 1, 2 and 3 EDITORS: Russell E. Madsen and Jeanne Moldenhauer

CONTAMINATION CONTROL IN HEALTHCARE PRODUCT MANUFACTURING

Fifty global subject matter experts share their broad experiences in all aspects of healthcare product manufacturing contamination control in this three-volume set. The first volume contains chapters that are

predominantly centered on microbial issues. Volume 2 addresses some microbial issues, but also focuses on other types of contamination. Volume 3 discusses extensive subjects in aseptic contamination control. 2014.

Digital: Item No. 17976

## 🚺 \$580 | 🐜 \$720 | 👩 \$510

## Available for Individual Purchase

Volume 1 (Hardcover: Item No. 17311 Digital: Item No.17952) Volume 2 (Hardcover: Item No. 17317 Digital: Item No.17974) Volume 3 (Digital: Item No.17975)



## Contamination Prevention for Nonsterile Pharmaceutical Manufacturing

## AUTHOR: Andrew Dick

**Contamination Provention For** 

**Number in Pharmaceutical** 

**NEW** This handbook on Contamination Prevention for Nonsterile Pharmaceutical Manufacturing offers guidelines for best practices to be deployed within a manufacturing facility. It explains where the most common microbiological

risks to nonsterile manufacturing reside and how to prevent contamination in key areas. Designed for easy reading, this practical guide walks readers through decision-making steps, including how to set up a facility, what types of equipment to acquire, how to maintain it, and how to clean and sanitize equipment and facilities. 2018. 119 pages.

Digital: Item No. 48002

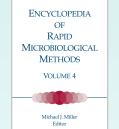
M \$210 | M \$259 | 💿 \$190

## **Effective Implementation of Audit Programs** AUTHOR: **Miguel Montalvo**

This well-researched text is a must have for personnel involved in the implementation and execution of critical programs, auditors, auditees, and outsourcing providers! 2017. 390 pages.

## Encyclopedia of Rapid Microbiological Methods, Volume 4

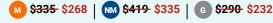
## EDITOR: Michael J. Miller



This volume complements the author's previous three volumes by offering new techniques, case studies, new equipment, and much more. Details about quality control, choosing appropriate methods, future use and technologies, and

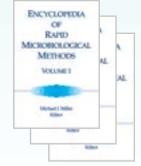
mass spectrometry are included. 2013. 608 pages.

Hardcover: Item No. 17308 | Digital: Item No. 17988



## Encyclopedia of Rapid Microbiological Methods, Volumes 1, 2 and 3

EDITOR: Michael J. Miller



Introductory volumes of the Encyclopedia of Rapid Microbiological Methods series describes the rapid methods currently available and focuses on regulatory initiatives currently in place that will help pharmaceutical microbiologists

begin the journey of implementing rapid microbiological methods in their facilities. 2005/2006.

Digital: Item No. 17989



## Environmental Monitoring: A Comprehensive Handbook, Volume 8

EDITOR: Jeanne Moldenhauer



BESTSELLER Volume 8 of the Environmental Monitoring Handbook series is a mixture of new topics and new takes on previously discussed topics. In this Volume, you will find information about regulatory/compendial

updates, testing methods, risk methods and tools, and routine (and non-routine) monitoring. This Volume is a must have for anyone involved with environmental monitoring! 2017. 257 pages.

Hardcover: Item No. 17343 | Digital: Item No. 18039

🚺 \$260 | 🐜 \$325 | 💿 \$240

## Environmental Monitoring: A Comprehensive Handbook, Volumes 1, 2 and 3

EDITOR: Jeanne Moldenhauer



Regulatory bodies worldwide have all established standards and guidelines for environmental control. Unfortunately, the requirements are not equivalent across documents and nations. These three volumes describe

methods for developing and operating an appropriate, sustainable microbiological program for production and the laboratory.

Digital: Item No. 18007

M <del>\$800</del> \$640 | M <del>\$1,000</del> \$800 | G <del>\$700</del> \$560

www.pda.org/bookstore



## Environmental Monitoring: A Comprehensive Handbook, Volumes 4, 5, 6 and 7

EDITOR: Jeanne Moldenhauer



The Environmental Monitoring series, edited by Jeanne Moldenhauer, provides guidance through the ins and outs of the multitudinous aspects of compliance. This collection of volumes is a must have for

anyone involved with environmental monitoring concerns.

Digital: Item No. 18006

## 🚺 <del>\$1,070</del> \$856 | M <del>\$1,340</del> \$1,072 | 🕝 <del>\$930</del> \$744

#### Environmental Monitoring: A Comprehensive Handbook, Volumes 4, 5, 6 and 7 items for Individual Purchase

Volume 1 (Digital: Item No. 17977) Hardcover is not available

Volume 2 (Digital: Item No. 17978)

- Volume 3 (Digital: Item No. 17979) Hardcover is not available
- Volume 4 (Hardcover: Item No.17291 Digital: Item No. 18008)
- Volume 5 (Hardcover: Item No. 17299 Digital: Item No. 18009)

Volume 6 (Digital: Item No. 18010)

Volume 7 (Hardcover: Item No. 17325 Digital: Item No. 18011)



Protocol CD in PDF format (Item No. 18056) \$\$75-\$60 | M \$\$9-\$71 | G \$45-\$36

## **Essential Microbiology for QP Candidates** AUTHOR: Nigel Halls

## Ethylene Oxide Sterilization Validation and Routine Operations Handbook

AUTHOR: **Anne F. Booth** 2007. 203 pages.

Digital: Item No. 17942

😡 \$225 | 🐜 \$279 | 💿 \$180

## Global Sterile Manufacturing Regulatory Guidance Comparison

The Global Sterile



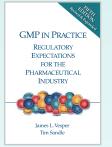
Manufacturing Regulatory Guidance Comparison – With link to Comparison Spreadsheet compares regulatory guidance documents issued by the U.S. FDA, the EU, the Pharmaceutical Inspection Convention/Scheme, and

the World Health Organization. 2016. 99 pages.





AUTHOR: James L. Vesper and Tim Sandle



NEW DESTSELLER GMP in Practice: Regulatory Expectations for the Pharmaceutical Industry, Fifth Edition, Revised and Expanded examines 34 elements that are typically included in a modern pharmaceutical quality system, including Data

Integrity. Each quality system element has an overview section, some risk-related questions, and 3-10 expectations. Each expectation is explored in more detail, and examples are provided from GMP references, including the U.S. FDA, Health Canada, the European Union, the World Health Organization, and the International Conference on Harmonization (ICH). 2018. 690 pages.

Hardcover: Item No. 17349 | Digital: Item No. 18054

M \$240 | M \$299 | G \$220

## Hosting a Compliance Inspection

AUTHOR: Janet Gough 2001. 120 pages. Digital: Item No. 17923 \$\$145 \$\$87 | \$\$179 \$108 | \$\$

Introduction to Environmental Monitoring in Pharmaceutical Areas AUTHOR: Michael Jahnke

2001. 114 pages. Digital: Item No. 17925

Laboratory Design: Establishing the Facility and Management Structure AUTHOR: Scott Sutton 2010. 391 pages. Digital: Item No. 18002

## Lessons of Failure: When Things Go Wrong in Pharmaceutical Manufacturing

EDITORS: Russell E. Madsen and Maik W. Jornitz



In Lessons of Failure When Things Go Wrong in Pharmaceutical Manufacturing, worldrenowned experts share their global work experiences to highlight root cause analysis and problem solving. The stories are not only examples of

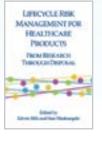
what can go wrong, but also contain key points to take away and apply. For those who provide GMP and quality training, this book is a goldmine. 2015. 299 pages.

Digital: Item No. 18013



## Lifecycle Risk Management for Healthcare Products: From Research through Disposal

EDITORS: Edwin Bills and Stan Mastrangelo



This book provides current information on the risk management process as it applies to health and safety of health products, drugs and biologics, and medical devices and products that are a combination of two or more of these. The application of

the processes will help manufacturers of these products to create and maintain products that are at an acceptable level of safety for society through the product lifecycle. 2016. 295 pages.

Hardcover: Item No. 17338 | Digital: Item No. 18019



Media Fill Validation Environmental Monitoring During Aseptic Processing AUTHOR: Michael Jahnke 2001. 114 pages. Digital: Item No. 17924 M \$120 \$72 | M \$155 \$93 | G \$85 \$72

7

PDA PUBLICATIONS



## Method Development and Validation for the Pharmaceutical Microbiologist AUTHOR: Crystal Booth



**BESTSELLER** The purpose of this book is to inspire ideas and provide recommendations regarding method development and validation strategies for pharmaceutical microbiologists. The book may also aid microbiologists who are starting new facilities

or validating equipment. This is a must-have resource for anyone engaged in the many aspects of method development and validation in pharmaceutical microbiology. 2017.

Hardcover: Item No. 17339 | Digital: Item No. 18022



## Microbial Control and Identification: **Strategies Methods Applications**

EDITORS: Dona Reber and Mary Griffin

MICROBIAL CONTROL AND IDENTIFICATION STRATEGIES METHODS APPLICATIONS 1919191919

**NEW BESTSELLER** In PDA's latest release, expert microbiologists and biopharmaceutical industry leaders explore the role of microbial identification knowledge as a cornerstone in the concept of microbial and contamination control

programs. This book is an excellent reference for new microbiologists and seasoned professionals alike. Each chapter illustrates how microbial control programs for facilities, equipment, and personnel can have a positive impact on products and ultimately, patients. 2018. 592 pages.

Hardcover: Item No. 17347 | Digital: Item No. 18043



## Microbial Identification: The Keys to a Successful Program

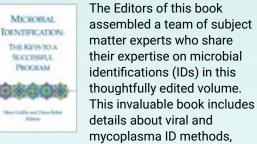
EDITORS: Mary Griffin and Dona Reber

MICROBIAL.

THE KEYS TO A

SUCCESSIUL

PROCEAM



challenges and case studies on fungal IDs, use of science-based risk assessment for objectionable organisms, microbial IDs for medical devices and cosmetics, and much more. 2012. 447 pages.

Digital: Item No. 17953 M <del>\$240</del> \$192 | M <del>\$299</del> \$239 | G <del>\$190</del> \$152

## **Microbial Risk and Investigations**

EDITORS: Karen Zink McCullough and Jeanne Moldenhauer

MICROBIAL RISK AND INVESTIGATIONS



tion on microbial investigations and dealing with aberrant data. Many of the chapters include case studies that can provide guidance for common situations that may occur

**BESTSELLER** This book

provides a wealth of informa-

at your facility. 2015. 867 pages.

Hardcover: Item No. 17328 | Digital: Item No. 18005 M \$260 | M \$325 | G \$240

## **Microbial Risk Assessment in Pharmaceutical Clean Rooms**

AUTHORS: Berit Reinmueller and Bengt Ljungqvist 2001. 17 pages. Digital: Item No. 17920



## **Microbiological Culture Media: A Complete Guide for Pharmaceutical and Healthcare Manufacturers**

AUTHOR: Tim Sandle



The back

Taking into account that 90 percent of quality control microbiology remains reliant upon culture-based methods, this unique text focuses on microbiological culture media as applied to pharmaceutical microbiology. This book takes into consideration that

innovations continue to arise with new media recipes that are formulated for the selection of new strains for the application of media in conjunction with rapid microbiological methods. In 23 chapters, the book covers how media is used in the modern pharmaceutical microbiology setting and recaps the past, signals the future, and helps interpret the present. 2017. 582 pages.

Hardcover: Item No. 17345 | Digital: Item No. 18041



### **Microbiological Monitoring of** Pharmaceutical Process Water

AUTHOR: Michael Jahnke 2002. 70 pages. Digital: Item No. 17919



## **Microbiology in Pharmaceutical** Manufacturing, Second Edition, **Revised and Expanded, Volumes 1 and 2** EDITOR: Richard Prince

The first edition MCRONELOCY



of Microbioloav in Pharmaceutical Manufacturing, published in 2001. is the bestselling PDA/DHI book of all time. The completely revised and extended edition raises the bar

by offering practical and current industrial and regulatory perspectives. Twenty new chapters were added and 16 new authors contributed their expertise to provide updated and expanded microbiological information for the benefit of a global audience of stakeholders. 2008.

Digital: Item No. 17991

M <del>\$375</del> \$300 | M <del>\$465</del> \$372 | G <del>\$250</del> \$200

## Available for Individual Purchase Volume 1 (Digital: Item No. 18051) Volume 2 (Hardcover: Item No. 17279 Digital: Item No. 18052) M <del>\$235</del> \$188 | M <del>\$289</del> \$231 | 💿 <del>\$155</del> \$124

**TECHNICAL BOOKS** 

Pharmaceutical Contamination Control: **Practical Strategies for Compliance** EDITOR: Nigel Halls

2007. 289 pages. Hardcover: Item No. 17246



PDA PUBLICATIONS CATALOG

## PDA Technical Series: Pharmaceutical Glass



**NEW** The PDA Technical Series: Pharmaceutical Glass is a collection of articles previously published in the PDA Journal of Pharmaceutical Science and Technology. This compilation organizes 19 articles on glass

2017 into four categories: Overview, Material Composition, Delamination, and Quality Methods.

A decade ago, the focus on the quality of pharmaceutical glass was sharpened with a series of product recalls due to findings of glass particulates in finished products. The PDA Technical Series: Pharmaceutical Glass shows that much work has been done to help understand this issue and other quality issues pertaining to glass.

The publication of this book supports a major initiative launched by PDA in 2017 to connect pharmaceutical manufacturers and glass suppliers to prepare for complex products and manufacturing processes of the future. 2018. 225 pages.

Digital: Item No. 48003 M \$150 | M \$250 | 🖪 \$120

## Pharmaceutical Legislation of the European Union, Japan and the United States of America - An Overview, Updated and **Expanded Second Edition**

## EDITOR: Barbara Jentges



The book presents a condensed overview of the regulatory systems and processes for marketing a drug product in the three major global regions: Japan, the United States, and the European Union. 2016. 164 pages.

Hardcover: Item No. 13011 | Digital: Item No. 48001 M \$150 | M \$180 | 🕝 \$120

## Pharmaceutical Outsourcing: Quality Management and Project Delivery

EDITORS: Trevor Deeks, Karen Ginsbury, and Susan Schniepp

PHARMACEUTICAL OUTSOURCING Chattry Masacching AND PROBET DILAYERS published between 2007 and

practices for contract organizations from various perspectives: the contract organization, the contracting organization, and the regulators. The editors and authors have experience

This book is intended to set

forth and explore the best

with outsourcing and have published a comprehensive, practical guide with the goal of offering sound, reasonable advice to the outsourcing community, focusing mainly on contract manufacturing. 2013. 518 pages.

Digital: Item No. 17992

M \$240 | M \$299 | G \$210

## Pharmaceutical Quality

EDITOR: Richard Prince 2004. 758 pages Hardcover: Item No. 17207 M <del>\$320</del> \$225 | M <del>\$399</del> \$280 | G <del>\$210</del> \$150

### **Pharmaceutical Quality Control Microbiology: A Guidebook to the Basics**

AUTHOR: Scott Sutton 2007. 205 pages Hardcover: Item No. 17242 | Digital: Item No. 18025 M \$235 \$165 | M \$289 \$200 | G \$155 \$110

## Phase Appropriate GMP for Biological **Processes: Pre-Clinical to Commercial Production**

EDITOR: Trevor Deeks



**NEW BESTSELLER** This book provides succinct and practical guidance on how to develop a biological drug product and, at the same time, stay within the regulatory expectations at each phase of the development process!

Within this book, you can find chapters on:

- · Current manufacturing and process development of Regenerative Medicine Advanced Therapy Products (RMATs), or as they are known in the EU, Advanced Therapy Medicinal Products (ATMPs)
- · Quality systems and GMP requirements for Phase 1 to Phase 3 manufacturing
- The impact of the Clinical Trials Directive on European GMP expectations and the role of the QP
- The latest USP guidance on the transfer of analytical methods, validation and verification of compendial procedures
- And, much more

2018. 525 pages.

Hardcover: Item No. 17346 | Digital: Item No. 18042

M \$240 | M \$299 | 🕝 \$220

## Practical Aseptic Processing Fill and Finish, Volumes 1 and 2

EDITOR: Jack Lysfjord



Aseptic processing technology has changed with the use of advanced aseptic processing techniques such as blow-fill-seal isolators and restricted access barrier systems. This book explores these changes

and how they impact aseptic processing. 2009. Digital: Item No. 17993

M <del>\$425</del> \$340 | M <del>\$530</del> \$424 | G <del>\$290</del> \$232

## Practical Aseptic Processing Fill and Finish, Volumes 1 and 2 (continued)

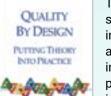
## Available for Individual Purchase

Volume 1 (Digital: Item No. 18036) Volume 2 (Hardcover: Item No. 17255 Digital: Item No. 18037)

M \$<del>265</del> \$212 | M <del>\$329</del> \$263 | 💿 <del>\$180</del> \$144

## Quality by Design: Putting Theory into Practice

EDITOR: Siegfried Schmitt



This book is written with all stakeholders in mind, including regulatory agencies, the healthcare industry, and suppliers. The process of adoption, implementation, and interpretation of quality by

Robbed by Tangening Schwarth design is currently the key driver helping the industry bring products to

market faster and, at the same time, providing maximum assurance of product quality. 2011. 360 pages.

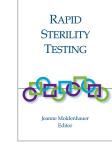
Digital: Item No. 17985 M <del>\$210</del> \$168 | M <del>\$259</del> \$207 | G <del>\$155</del> \$124

## **Radiation Sterilization: Validation and Routine Operations Handbook** AUTHOR: Anne F. Booth 2008. 183 pages. Hardcover: Item No. 17277

M <del>\$225</del> \$158 | M <del>\$279</del> \$200 | G <del>\$180</del> \$130

## **Rapid Sterility Testing**

EDITOR: Jeanne Moldenhauer



In this book, you will find a history of the sterility test methodology and detailed discussions that provide the regulatory requirements and allowances for gaining approval of rapid sterility test methods. 2011. 501 pages.

Hardcover: Item No. 17302 | Digital: Item No. 17994 M \$250 \$200 | M \$309 \$247 | G \$200 \$160



## Recent Warning Letters: Review for Preparation of an Aseptic Processing Inspection, Volume 1

AUTHOR: **Jeanne Moldenhauer** 2010. 195 pages. Digital: Item No. 18020

## M <del>\$280</del> \$196 | 🕅 <del>\$349</del> \$245 | 🕝 <del>\$195</del> \$140

## Recent Warning Letters: Review for Preparation of a Non-Sterile Processing Inspection, Volume 2

AUTHOR: **Jeanne Moldenhauer** 2010. 332 pages. Digital: Item No. 18021

M <del>\$280</del> \$196 | M <del>\$349</del> \$245 | G <del>\$195</del> \$140

## Risk Assessment and Management for Healthcare Manufacturing: Practical Tips and Case Studies

AUTHOR: Tim Sandle

RISK ASSESSMENT AND MANACEMENT FOR HEALTHCARE MANUFACTURING PRACTICAL THS AND CAR STILLORS THE STILLORS

BESTSELLER The book is divided into four sections that present a formal approach to risk. Sections focus on risk assessment and hazards; common risk assessment tools and problem-solving approaches; "soft skills"

that help in conducting risk assessments; and case studies exploring the problems and events that occur with pharmaceuticals and healthcare, against which the reader can consider real-life problems. The wide range of topics covered includes risk considerations for aging pharmaceutical facilities, application of quality risk management to cleanroom design, and process incident investigation. 2016. 730 pages. Hardcover: Item No. 17337 | Digital: Item No. 18018



Risk Assessment and Risk Management in the Pharmaceutical Industry: Clear and Simple

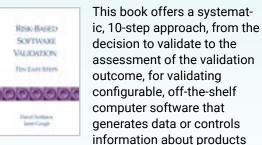
AUTHOR: James L. Vesper 2006. 292 pages. Digital: Item No. 17995 S255 \$204 | M \$319 \$255 | G \$160 \$128

## **Risk-Based Compliance Handbook**

AUTHOR: Siegfried Schmitt 2008. 188 pages. Digital: Item No. 17973 (M) \$168 | (M) \$210 | (G) \$130

## Risk-Based Software Validation: Ten Easy Steps

AUTHORS: Janet Gough and David Nettleton



and processes subject to binding regulations. 2006. 183 pages.

Hardcover: Item No. 17256

## M \$225 \$180 | M \$279 \$223 | G \$180 \$144

## SOPs Clear and Simple: For Healthcare Manufacturers

AUTHORS: Susan Schniepp, Brian Matye and Jeanne Moldenhauer



NEW There are four simple sentences that define the concept of compliance and its relationship to Standard Operating Procedures (SOPs) – Say what you do. Do what you say. Prove it. Improve it.

Despite this concept seeming simple, the number one topic of 483 observations for biologics, drugs, and devices from 2013 through 2017 included failure to

from 2013 through 2017 included failure to follow SOPs, procedures not in writing, and lack of adequate procedures.

In this comprehensive guide, gain practical insight into the need for SOPs, how to write them, and what should be included in them. Explore the application of SOPs to the pharmaceutical, biotechnology, and medical device industries. This useful text offers a simple, yet, straightforward approach to writing SOPs, highlighting their importance in maintaining compliant operations critical to manufacturing quality products.

Upon finishing this book, you'll be able to not only write out SOPs but also follow them to fully maintain compliance. 2019. 177 pages. Hardcover: Item No. 17348 | Digital: Item No. 18053



## Square Root of (N) Sampling Plans: Procedures and Tables for Inspection of Quality Attributes

AUTHORS: Joyce Torbeck and Lynn Torbeck



The goal of Joyce and Lynn Torbeck's book is to illustrate that the square root of (N) plans are statistically correct and can be used in applications that minimize risk to patients. 2013. 127 pages.

Hardcover: Item No. 17314 | Digital: Item No. 17982

## Steam Sterilization: A Practitioner's Guide

EDITOR: **Jeanne Moldenhauer** 2002. 740 pages. Hardcover: Item No. 17183 \$118 | M \$150 | G \$118

Sterility Testing of Pharmaceutical Products AUTHOR: Tim Sandle

STIBILITY TESTINGOF PHARMACEUTICAL PRODUCTS

This book presents the sterility test as a final product release test as seen in the past, the present, and with a view toward the future. It is designed for quality assurance personnel, production staff, microbiologists, students, and those with an

interest in medicinal products. 2013. 379 pages. Digital: Item No. 17996



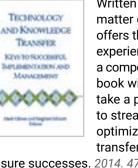
## Systems Based Inspection for Pharmaceutical Manufacturers

EDITOR: **Jeanne Moldenhauer** 2007. 398 pages. Digital: Item No. 17972



## Technology and Knowledge Transfer: Keys to Successful Implementation and Management

EDITORS: Mark Gibson and Siegfried Schmitt



Written by global subject matter experts, this book offers the practical experience needed to obtain a competitive edge. This book will help companies take a proactive approach to streamlining and optimizing their technology transfer processes to

ensure successes. 2014. 474 pages.

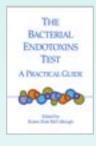
Hardcover: Item No. 17318 | Digital: Item No. 17984





## The Bacterial Endotoxins Test: A Practical Guide

EDITOR: Karen Zink McCullough



This unique book is a collection of interdependent chapters that are part lab manual, part essay, part historical context, part consultant, and part plainsage advice that provides a practical and compliant approach to the execution

and use of the bacterial endotoxins test. 2011. 434 pages.

Hardcover: Item No. 17297 | Digital: Item No. 17997

M \$210 | M \$259 | 🖪 \$165

## **The External Quality Audit**

**AUTHORS: Janet Gough and Monica Grimaldi** 2001. 122 pages. Digital: Item No. 17922 M \$145 | M \$179 | G \$85

## **The Internal Quality Audit**

AUTHORS: Monica Grimaldi and Janet Gough 2001. 100 pages. Digital: Item No. 17921 M \$145 | M \$179 | G \$85

## **Thermal Validation in Moist Heat** Sterilization

EDITOR: Jeanne Moldenhauer

THERMAL VALIDATION IN MOIST HEAT STERILIZATION 22220Jeanne Moldenhaue Editor

The various authors cited in this book have a wealth of practical experience in thermal validation of moist heat sterilization processes. This book is an essential reference guide for managers, supervisors, and all others

concerned with preparing

validation plans acceptable to regulators worldwide. 2011. 301 pages.

Digital: Item No. 17998

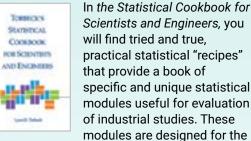
M \$225 \$180 | M \$279 \$223 | G \$180 \$144

## **Torbeck's Statistical Cookbook for Scientists and Engineers**

#### AUTHOR: Lynn D. Torbeck

11.11

Lowidt Delasti



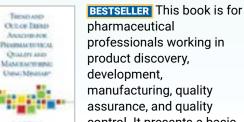
busy industrial worker, who needs to apply statistical techniques with the assurance he or she is using the technique correctly. 2017. 241 pages.

Hardcover: Item No. 17344 | Digital: Item No. 18040

M \$210 | M \$259 | G \$190

## **Trend and Out-of-Trend Analysis** for Pharmaceutical Quality and Manufacturing Using Minitab®

AUTHOR: Lynn D. Torbeck



professionals working in product discovery, development, manufacturing, quality

assurance, and quality control. It presents a basic introduction to data, trend,

and out-of-trend definitions and proposes terminology to clarify the use of the word "control" in several contexts. Outtakes from FDA warning letters, plant audits, and investigations for trend and out-of-trend are presented to highlight the Agency's viewpoint. 2015. 195 pages.

Hardcover: Item No. 17330 | Digital: Item No. 18012



## Validating Enterprise Systems: A Practical Guide

## AUTHOR: David Stokes



needed to validate enterprise systems. 2012. 467 pages. Hardcover: Item No. 17303 Digital: Item No. 18000

## M <del>\$225</del> \$180 | M <del>\$279</del> \$223 | G <del>\$175</del> \$140

## Validation by Design: The Statistical Handbook for Pharmaceutical Process Validation

AUTHOR: Lynn Torbeck 2010. 225 pages. Digital: Item No. 17999



## Validation Master Plan: The Streetwise **Downtown Guide**

AUTHOR: Trevor Deeks 2002. 49 pages. Digital: Item No. 17927



Validation of Analytical Methods for Biopharmaceuticals: A Guide to Risk-Based Validation and **Implementation Strategies** 

AUTHOR: Stephan Krause 2007. 174 pages. Digital: Item No. 17971





## inspection operations. Meant to educate seasoned inspectors on the principles of microscopy and familiarize seasoned micros-

copists with the elements of visual inspection, this book describes ways to find visible defects and what to do with them once found. 2016. 373 pages.

**Visual Inspection and Particulate Controls** 

**BESTSELLER** This book is a

of visible defects and con-

products. It is intended for

product inspectors and lab

support personnel and for

those who use inspection

results or are responsible for

practical guide for the control

tamination in pharmaceutical

AUTHORS: D. Scott Aldrich, Roy T. Cherris, and

John G. Shabushnig

VISUAL

INSPECTION

AND

PARTICULATE

CONTROL.

うる

Hardcover: Item No. 17334 | Digital: Item No. 18015



## Why Life Science Manufacturers Do What They Do in Development, Formulation, **Production and Quality: A History**

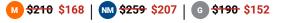
AUTHOR: Lynn D. Torbeck



In a passionate retrospective of a successful career built on thinking statistically and applying that approach to quality in pharmaceutical manufacturing, Lynn Torbeck has created a "must read" for anyone

involved in product development, formulation, manufacturing, and guality. Each of the 45 chapters in this book address a specific aspect of applied statistics and provides pragmatic applications to such topics as: Can we save the Technical Conference?; %RSD friend, Foe or Faux?; OOS, OOT, OOC and OOSC; and more. 2015. 435 pages.

Hardcover: Item No. 17333 | Digital: Item No. 18014





## PDA Booklets

PDA Booklets contain one chapter from a larger publication, chosen for the relevance of content, expertise of the author, and industry demand.

## **Cleaning SOPs: Five Proven** and Validated SOPs

AUTHOR: Anne Marie **Dixon-Heathman** 

**NEW** Cleaning and sanitization is a common 483 citing. The cleaning methods in these five SOPs have been proven and validated. They are based upon published information in US standards and ISO standards. Renowned global expert, Anne Marie Dixon-Heathman offers invaluable details that will assist you in reducing the risk of surface contamination to processes and products. In short, they work!

SOPs included are:

- Cleaning and Disinfection of Biosafety Hoods
- Cleaning and Disinfection of Laminar Flow Hoods Cleaning and Disinfection of
- Aseptic Cleanrooms
- Cleaning and Disinfection ISO 7-8
- · Cleaning and Sanitization CNC.

Digital: Item No. 18057



## **Biopharmaceutical Validation** and Technical Transfer

AUTHOR: Russell E. Madsen **NEW** This document discusses why and how to validate and transfer a process. It offers a helpful example, includes protocol details and discusses non-traditional process validation, life cycle management, change management, and much more. 2018. Digital: Item No. 18058



**Pharmaceutical Manufacturing: Understanding Your Process Series** 

Over the past 15 years, PDA/DHI has published more than 1,000 practical scientific and regulatory chapters, written by global subject matter experts. These informative collections have been designed to help you stay abreast of new technology, streamline your processes, and comply with regulations. Our newest compendium offers background information and hands-on applications in an electronic format on three vital topics: cleaning and cleanrooms, sterilization, and environmental monitoring.

### **Cleaning and Cleanrooms**

EDITORS: Jeanne Moldenhauer and Tim Sandle

This collection features a twopart history of cleaning and cleanrooms, classifications, supplies, sanitization, and several other important topics. 2017. 114 pages.

Digital: Item No. 18028 M \$120 | M \$150 | G \$120

••••••

## **Environmental Monitoring**, Volume 1: Establishing the Process

EDITOR: Jeanne Moldenhauer Discover how to design and implement a control program, monitor microbiology laboratories, and more. 2017. 175 pages.

Digital: Item No. 18031 M \$120 | M \$150 | G \$120

.....

## **Environmental Monitoring**, Volume 2: Practical **Approaches**

EDITOR: Jeanne Moldenhauer Learn about rapid microbiological monitoring, environmental

monitoring for sterility test isolators, and how to present environmental monitoring data to internal and external stakeholders. 2017. 92 pages.

Digital: Item No. 18032 M \$120 | M \$150 | G \$120 .....

## Sterilization: Establishing the Process

AUTHOR: Tim Sandle Navigate compliance aspects of sterility testing, containment system sterility, and sterility test failure investigations. 2017. 193 pages

Digital: Item No. 18029 M \$120 | M \$150 | G \$120

## .....

## **Sterilization: Practical Approaches**

## AUTHOR: Tim Sandle

Explore practical approaches to sterility testing, gamma irradiation for single-use disposables, ophthalmic preparations, and contamination control. 2017. 106 pages



## NEW Pharmaceutical and Biopharmaceutical Manufacturing: Understanding Your Process

## Series Risk Management Library

The U.S. FDA now takes a risk-based approach to biomanufacturing. With high regulatory expectations described in 21CFR 600 and other international regulations, these perspectives will enable you to manage risks involved in safely producing healthcare products for patient consumption. Written by subject matter experts, these convenient, electronic texts define risk, discuss hazards and risks, provide tools to help you evaluate risk, and develop effective strategies for dealing with risk.

Each text discusses your risk concerns and contains practical details and applications, includes extensive lists of international regulations for reference, and suggests PDA Technical Reports and PDA/DHI books for further guidance.

## **Risk Management Library** Volume 1: Lifecycle Risk Management

#### EDITORS: Edwin Bills and Stan Mastrangelo

Written by experienced authors, this Volume offers insight into the risk management processes, management considerations, and strategies in product development, implementation of risk management for non-product software, and the future of risk management. 2018. 126 pages.

Digital: Item No. 18044 M \$100 | M \$125 | G \$100

## **Risk Management Library Volume 2: Practical Approaches to Risk-Based** Compliance

.....

AUTHOR: Siegfried Schmitt This Volume offers guidance in implementing process analytical technology (PAT), discusses the challenges and pitfalls of applying a science and riskbased approach in research and manufacturing, and presents documented evidence for risk-based compliance. 2018. 92 pages.

Digital: Item No. 18045



## **Risk Management** Library Volume 3: **Practical Approaches to Risk Assessment and** Management

AUTHOR: James L. Vesper In this Volume, well-respected global experts give an overview of the risk management process and the tools required, including risk-related documents and records and techniques for auditing a risk management program. 2018. 56 pages.

Digital: Item No. 18046 M \$100 | M \$125 | G \$100

.....

## **Risk Management** Library Volume 4: **Practical Approaches to Risk Assessment and Management Problem** Solving: Tips and Case Studies

AUTHOR: Tim Sandle Receive expert guidance on major topics, such as regulatory perspectives on risk and five insightful case studies to help develop the best approaches to problem solving based upon the "What if" and "five whys" method. 2018. 150 pages.

Digital: Item No. 18047 M \$100 | M \$125 | G \$100

.....

## **Risk Management Library** Volume 5, Risk Problem **Solvers: Failure to Follow Established Procedures**

EDITORS: Russell E. Madsen and Maik W. Jornitz Sometimes even well-designed

systems are thwarted by human behavior, causing a series of blunders that common sense says could not have happened. In this Volume, you'll find 10 examples and solutions to problems arising from failure to follow established procedures. 2018. 56 pages.

Digital: Item No. 18048 M \$100 | M \$125 | G \$100

## **Risk Management Library** Volume 6, Risk Problem Solvers: Lack of Process Understanding

.....

EDITORS: Russell E. Madsen and Maik W. Jornitz

This Volume discusses diagnosis and corrective actions to common problems, such as incorrect batch records, contaminated product complaints, contamination, environmental monitoring, and many other subjects. 2018. 102 pages.



.....



## Risk Management Library (continued)

## **Risk Management Library Volume 7, Risk Problem Solvers: Inadequate Facilities, Procedures and Process Contro**

EDITORS: Russell E. Madsen and Maik W. Jornitz

This Volume describes 24 problems and offers solutions regarding everything from bioburden contamination in a contained water system to filter integrity, customer complaints, process control failures, and many more real-world problems that were solved with adequate investigations. 2018. 122 pages.

\_\_\_\_\_

Digital: Item No. 18050 M \$100 | M \$125 | 🕝 \$100

## **API Residues and Cleaning**

AUTHOR: William Hall 2013. 22 pages. Digital: Item No. 17954 M \$55 | M \$69 | G \$45

## **Application and Insights for Lyophilization** of Parenteral Products

AUTHOR: Edward Trappler 2009. 31 pages. Digital: Item No. 17932 M \$55 | M \$69 | G \$30

## Aseptic Process Validation and **Aseptic Process Simulation Studies**

.....

AUTHOR: Harold Baseman 2009. 31 pages. Digital: Item No. 17934 M \$55 | M \$69 | G \$30

## Auditing the CMO

AUTHORS: Thomas Thorpe and Jessica Walker 2013. 28 pages. Digital: Item No. 17955 M \$55 | M \$69 | G \$45

.....

.....

## Best Practices in Environmental Monitoring Automation

AUTHORS: Robert Toal, Michael Goetter, Susan Harrison, Jeremy Tanner, Timothy A. Coleman, and Robert Lutskus

.....

2009. 21 pages. Digital: Item No. 17941 M \$55 | M \$69 | 🕝 \$30

## **Best Practices in Implementing Quality** Agreements AUTHOR: Kenneth Drost

2013. 22 pages. Digital: Item No. 17956 M \$55 | M \$69 | 🕝 \$45

#### Caveats of Bacterial Endotoxin Testing

AUTHOR: Kevin Williams 2007. 35 pages. Digital: Item No. 17938 M \$55 | M \$69 | G \$30

## **Cleaning Agents and Cleaning Chemistry**

.....

AUTHORS: Nancy Kaiser and George Verghese 2009. 22 pages. Digital: Item No. 17957 M \$55 | M \$69 | G \$45

## **Cleaning and Disinfection**

EDITORS: Russell Madsen and Jeanne Moldenhauer 2014. 150 pages. Digital: Item No. 17969 M \$145 | M \$179 | G \$110

## CMOs for Early Phase Biologicals **Production: Contract Manufacturing and** Control

AUTHORS: John Conner, Bill Minshall, and Rabi Prusti 2013. 53 pages. Digital: Item No. 17958 M \$55 | M \$69 | G \$45

## **Contamination Risk Assessment**

.....

EDITORS: Russell Madsen and Jeanne Moldenhauer 2014. 210 pages. Digital: Item No. 17968 M \$145 | M \$179 | G \$110

## **Designing a Contamination Control** Program AUTHOR: Sandra Lowery 2004. 67 pages. Digital: Item No. 17902 M \$105 | M \$129 | G \$45

## **Designing and Controlling Water Systems**

EDITORS: Russell Madsen and Jeanne Moldenhauer 2014. 145 pages. Digital: Item No. 17966 M \$145 | M \$179 | G \$110

#### **Environmental Impact on Media Fills**

AUTHOR: John Lindsay 2005. 36 pages. Digital: Item No. 17914 M \$55 | M \$69 | G \$30

# Implementing Process Analytical Technology: The Challenges and Pitfalls

of Applying a Science and Risk-Based Approach in Research and Manufacturing

AUTHORS: Siegfried Schmitt and Jennifer Thompson 2008. 15 pages. Digital: Item No. 17935 M \$35 | M \$45 | G \$25

#### Microbiological Validation Master Plan

.....

AUTHOR: Trevor Deeks 2004. 42 pages. Digital: Item No. 17904 M \$75 | M \$89 | G \$35



## Mold and Fungal Contamination

EDITORS: Russell Madsen and Jeanne Moldenhauer 2014. 110 pages. Digital: Item No. 17967 M \$145 | M \$179 | G \$110

## Particulate Matter in Injectable Drug Products

AUTHOR: Stephen Langille 2014. 37 pages. Digital: Item No. 17965 \$55 | NM \$69 | G \$45

## Pharmaceutical Microbiology Laboratories Proficiency and Competency

AUTHOR: Jerry Tjernagel 2009. 12 pages. Digital: Item No. 17940 \$35 | \$\$ \$45 | \$\$ \$25

## Practical Aspects of Thermal Validation for Moist Heat Sterilization

AUTHORS: Angela Coon and Michael Sadowski 2011. 58 pages. Digital: Item No. 17949 \$85 | M \$105 | 6 \$45

## Practical Things to Improve Aseptic Process Equipment System Operation, Reduce Interventions and Reduce Product Risk

AUTHOR**: Jack Lysfjord** 2010. 14 pages. Digital: Item No. 17933

M \$35 | ₩ \$45 | G \$25

## 

## Regulatory Background to Aseptic Processing

AUTHORS: Gordon Farquharson and Richard Johnson 2009. 16 pages. Digital: Item No. 17931 \$35 | M \$45 | G \$25

## 

.....

## **Sources and Control of Contamination**

EDITORS: Russell Madsen and Jeanne Moldenhauer 2014. 250 pages. Digital: Item No. 17970 S200 | M \$250 | G \$150

## **Steam Sterilization Process Validation**

AUTHOR**: James Agalloco** 2011. 42 pages Digital: Item No. 17950 M **\$60 | M \$75 | G \$35** 

## Training and Learning Critical Contributors to Quality

AUTHOR: James L. Vesper 2006. 34 pages Digital: Item No. 17906 () \$55 | () \$69 | () \$30

## Training of Aseptic Processing Personnel

AUTHOR**: James L. Vesper** 2008. 27 pages Digital: Item No. 17936 S55 | M \$69 | G \$30

## Using Statistics to Measure and Improve Quality AUTHOR: Lynn Torbeck 2006. 42 pages

Digital: Item No. 17912

## Validation of Environmental Monitoring Methods

AUTHOR**: Dawn McIver** 2004. 23 pages Digital: Item No. 17913 (M) \$55 | (M) \$69 | (G) \$30

## Validation of Microbial Identification Systems AUTHOR: Jeanne Moldenhauer 2004. 86 pages Digital: Item No. 17909 \$130 | MM \$159 | 6 \$55

## Validation of Sterilization Processes

AUTHOR**: James Agalloco** 2004. 51 pages Digital: Item No. 17907 M **\$75** | M **\$89** | G **\$35** 

## Validation Procedures for the Bacterial Endotoxins Test

AUTHORS**: James Cooper and Cheryl Moses** 2004. 28 pages Digital: Item No. 17908

😡 \$55 | 🐜 \$69 | 💿 \$30



## PDA Technical Reports

PDA Technical Reports are peer-reviewed global consensus documents written by subject matter experts on a wide variety of industry-related topics. They offer expert guidance and opinions on important scientific and regulatory topics and are used as essential references by industry and regulatory authorities around the world.

## **NEW** PDA Technical Report No. 81 (TR 81) Cell-Based Therapy Control Strategy



PDA's This TR focuses on the development of a risk-based control strategy adapted to cell-based therapy that can mitigate the risk of generating a product of poor quality. 2019.

Digital: Item No. 43538 ∭ \$180 | № \$325 | ⓒ \$180

## PDA Technical Report No. 80 (TR 80) Data Integrity Management System for Pharmaceutical Laboratories



This Technical Report, developed by subject matter experts from the global pharmaceutical industry and regulatory agencies, provides the framework and tools necessary to establish a robust data integrity manage-

ment system to ensure data integrity for paper, hybrid, and computerized systems within the laboratory. It is intended to outline regulatory requirements and expectations, along with best industry practices, to ensure data integrity, to highlight common gaps in laboratory data management practices, and to recommend methods of remediation. 2018. 63 pages.

## PDA Technical Report No. 79 (TR 79) Particulate Matter Control in Difficult to Inspect Parenterals

This Technical Report describes best practices for difficult to inspect (DIP) product lifecycle management, destructive testing and trending to supplement portions of the guidance given in USP General Chapter <1790>: Visible Particulates in Injection. It

is intended to provide logical pathways to DIP product inspection and testing to support continual process improvement in the industry. 2018. 36 pages.

Digital: Item No. 43536

104

🚺 \$180 | 쩺 \$325 | 💿 \$180

Softcover: Item No. 01079

## PDA Technical Report No. 78, Particulate Matter in Oral Dosage Forms

PDA Technical Report No. 78, Particulate Matter in Oral Dosage Forms documents the current practices used by manufacturers of drug products, active pharmaceutical ingredients, excipients, and packaging/ primary containers

to control, inspect, sample, and test intrinsic and extrinsic particulate matter in oral dosage forms. 2017. 30 pages.

Digital: Item No. 43535

## **Top 5 Best Sellers**

PDA Technical Report No. 1, Revised 2007, (TR 1) Validation of Moist Heat Sterilization Processes Cycle Design, Development, Qualification and Ongoing Control



This Technical Report was prepared by a task force comprising 42 European and North American industry and regulatory professionals to ensure the methods, terminology, and practices of sterilization science presented reflect

sound science that should be able to be used globally. 2007. 54 pages.

Digital: Item No. 43381

🚺 \$180 | M \$325 | 🕝 \$180

Softcover: Item No. 01001

\$250 | NM \$375 | G \$250

## PDA Technical Report No. 26, (TR 26) Revised 2008, Sterilizing Filtration of Liquids

.....



PDA's original Technical Report No. 26, published in 1998, described the use and validation of sterilizing filtration to a generation of pharmaceutical scientists and engineers. This revision was developed in response to enhancements in

filtration technologies and recent additional regulatory requirements within the pharmaceutical industry. References to scientific publications and international regulatory documents are provided where more detail and supportive data may be found. 2008. 62 pages

Digital: Item No. 43230



## PDA Technical Report No. 13 Revised, (TR 13) Fundamentals of an Environmental Monitoring Program



PDA Technical Report No. 13 (Revised): Fundamentals of an Environmental Monitoring Program serves as a resource on controlled environmental test methods and, although some nonviable particulate information is included, the

report's primary focus is microbiological control for sterile product manufacturing. 2014. 39 pages Digital: Item No. 43513



Softcover: Item No. 01013



## PDA Technical Report No. 29, Revised 2012 (TR 29), Points to Consider for Cleaning Validation

.....



Written by a Task Force composed of European and North American professionals from pharmaceutical manufacturers, cleaning chemical suppliers, and consulting companies, the report has undergone a global, technical peer review

to ensure concepts, terminology, and practices presented are reflective of sound science and can be used globally. 2012. 105 pages.

Digital: Item No. 43501



Softcover: Item No. 01029



## PDA Technical Report No. 70 (TR 70) Fundamentals of Cleaning and **Disinfection Programs for Aseptic Manufacturing Facilities**



PDA Technical Report No. 70 identifies the systematic elements essential to assuring compliant cleaning and disinfection programs for aseptic and bioburden controlled manufacturing facilities and classified environments.

2015. 75 pages.

Digital: Item No. 43522 M \$180 | M \$325 | 🖪 \$180

Softcover: Item No. 01070

M \$250 | M \$375 | 🖪 \$250



## **Bundle of PDA Technical Reports PDA Technical Series: Sterilization**

**Compilation of Technical Reports and Journal Articles on Pharmaceutical** Sterilization



This volume is a convenient and powerful reference for individuals working with sterilization processes for pharmaceutical products. 2014. 424 pages.







## **Customized Institutional Site Licensing of PDA Technical Reports is Now Available.**

To learn more, please contact: Janny Chua, **Bookstore Operations Manager** Telephone: +1 (301) 656-5900, ext. 133 Email: chua@pda.org

Price is for each Digital: 📶 \$180 | 🐜 \$325 | 💿 \$180 Softcover: 📶 \$250 | 🐜 \$375 | 💿 \$250 technical report.

The below Technical Reports are sorted by published year and TR number (descending order). Coming Soon!

PDA Technical Report No. 81 (TR 81) Cell-Based Therapy Control Strategy 2019. Digital: Item No. 43538 | Softcover: Item No. 01081

PDA Technical Report No. 80 (TR 80) Data Integrity Management System for Pharmaceutical Laboratories 2018. 63 pages. Digital: Item No. 43537 | Softcover: Item No. 01080

PDA Technical Report No. 79 (TR 79) Particulate Matter Control in Difficult to Inspect Parenterals 2018. 36 pages.

Digital: Item No. 43536 | Softcover: Item No. 01079

PDA Technical Report No. 78 (TR 78) Particulate Matter in Oral Dosage Forms 2017. 30 pages. Digital: Item No. 43535 | Softcover: Item No. 01078

PDA Technical Report No. 77 (TR 77) The Manufacture of Sterile Pharmaceutical Products Using Blow-Fill-Seal Technology 2017. 40 pages. Digital: Item No. 43531 | Softcover: Item No. 01077

PDA Technical Report No. 60-2 (TR 60-2) Process Validation: A Lifecycle Approach, Annex 1: Oral Solid Dosage/Semisolid Dosage Forms 2017. 40 pages. Digital: Item No. 43532 | Softcover: Item No. 01060-2

PDA Technical Report No. 54-5 (TR 54-5) Quality Risk Management for the Design, Qualification, and **Operation of Manufacturing Systems** 

2017. 107 pages. Digital: Item No. 43533 | Softcover: Item No. 01054-5

PDA Technical Report No. 76 (TR 76) Identification and Classification of Visible Nonconformities in **Elastomeric Components and Aluminum Seals for** Parenteral Packaging 2016. 59 pages. Digital: Item No. 43529 | Softcover: Item No. 01076

PDA Technical Report No. 75 (TR 75) Consensus Method for Rating 0.1µm Mycoplasma Reduction Filters 2016. 22 pages. Digital: Item No. 43528 | Softcover: Item No. 01075 PDA Technical Report No. 74 (TR 74) Reprocessing of Biopharmaceuticals 2016. 33 pages. Digital: Item No. 43526 | Softcover: Item No. 01074

PDA Technical Report No. 56 Revised 2016 (TR 56) **Application of Phase-Appropriate Quality System and** cGMP to the Development of Therapeutic Protein Drug Substance (API or Biological Active Substance) 2016. 36 pages.

Digital: Item No. 43530 | Softcover: Item No. 01056

PDA Technical Report No. 73 (TR 73) Prefilled Syringe User Requirements for Biotechnology Applications 2015. 117 pages. Digital: Item No. 43525 | Softcover: Item No. 01073

PDA Technical Report No. 72 (TR 72) Passive **Thermal Protection Systems for Global Distribution: Qualification and Operational Guid ance** 2015. 64 pages. Digital: Item No. 43524 | Softcover: Item No. 01072

PDA Technical Report No. 71 (TR 71) Emerging Methods for Virus Detection 2015. 52 pages. Digital: Item No. 43523 | Softcover: Item No. 01071

PDA Technical Report No. 70 (TR 70) Fundamentals of Cleaning and Disinfection Programs for Aseptic Manufacturing Facilities 2015. 75 pages. Digital: Item No. 43522 | Softcover: Item No. 01070

PDA Technical Report No. 69 (TR 69) Bioburden and Biofilm Management in Pharmaceutical Manufacturing Operations 2015. 73 pages. Digital: Item No. 43521 | Softcover: Item No. 01069

PDA Technical Report No. 57-2, (TR 57-2) Analytical **Method Development and Qualification for** Biotechnology Products 2015. 59 pages. Digital: Item No. 43519 | Softcover: Item No. 01057-2

PDA Technical Report No. 54-4, (TR 54-4) Implementation of Quality Risk Management for Pharmaceutical and Biotechnology Manufacturing **Operations: Annex 3: Case Studies in the** Manufacturing of Biotechnological Bulk Drug Substances 2015. 82 pages. Digital: Item No. 43518 | Softcover: Item No. 01054-4

# PDA Technical Reports PDA BOOKSTORE

PDA Technical Report No. 67, (TR 67) Exclusion of Objectionable Microorganisms from Nonsterile Pharmaceuticals, Medical Devices, and Cosmetics 2014. 70 pages.

Digital: Item No. 43516 | Softcover: Item No. 01067

PDA Technical Report No. 66, (TR 66) Application of Single-Use Systems in Pharmaceutical Manufacturing 2014. 152 pages. Digital: Item No. 43515 | Softcover: Item No. 01066

PDA Technical Report No. 65, (TR 65) Technology Transfer 2014. 67 pages. Digital: Item No. 43514 | Softcover: Item No. 01065

PDA Technical Report No. 13 Revised, (TR 13) Fundamentals of an Environmental Monitoring Program 2014. 39 pages. Digital: Item No. 43513 | Softcover: Item No. 01013

PDA Technical Report No. 64 (TR 64) Active Temperature-Controlled Systems: Qualification Guidance 2013. 58 pages. Digital: Item No. 43509 | Softcover: Item No. 01064

PDA Technical Report No. 63 (TR 63) Quality Requirements for the Extemporaneous Preparation of Clinical Trial Materials 2013. 27 pages. Digital: Item No. 43507 | Softcover: Item No. 01063

PDA Technical Report No. 62 (TR 62) Recommended Practices for Manual Aseptic Processes 2013. 30 pages.

Digital: Item No. 43505 | Softcover: Item No. 01062

PDA Technical Report No. 61 (TR 61) Steam In Place 2013. 61 pages. Digital: Item No. 43503 | Softcover: Item No. 01061

Digital: Item No. 43503 | Softcover: Item No. 01061

PDA Technical Report No. 60 (TR 60) Process

Validation: A Lifecycle Approach 2013. 102 pages. Digital: Item No. 43502 | Softcover: Item No. 01060

PDA Technical Report No. 54-3 (TR 54-3) Implementation of Quality Risk Management for Pharmaceutical and Biotechnology Manufacturing Operations: Annex 2: Case Studies in the Manufacturing of Pharmaceutical Drug Products 2013. 53 pages.

Digital: Item No. 43511 | Softcover: Item No. 01054-3

PDA Technical Report No. 54-2 (TR 54-2) Implementation of Quality Risk Management for Pharmaceutical & Biotechnology Manufacturing Operation: Annex 1: Case Study Examples for Quality Risk Management in Packaging & Labeling 2013. 63 pages.

Digital: Item No. 43504 | Softcover: Item No. 01054-2

PDA Technical Report No. 43, Revised 2013 (TR 43) Identification and Classification of Nonconformities in Molded and Tubular Glass Containers for Pharmaceutical Manufacturing 2013. 190 pages. Digital: Item No. 43508 | Softcover: Item No. 01043

PDA Technical Report No. 33, Revised 2013 (TR 33) Evaluation, Validation and Implementation of Alternative and Rapid Microbiological Methods 2013. 59 pages.

Digital: Item No. 43510 | Softcover: Item No. 01033

PDA Technical Report No. 3, Revised 2013 (TR 3) Validation of Dry Heat Processes Used for Depyrogenation and Sterilization 2013. 40 pages. Digital: Item No. 43506 | Softcover: Item No. 01003

PDA Technical Report No. 59 (TR 59) Utilization of Statistical Methods for Production Monitoring 2012. 74 pages. Digital: Item No. 43500 | Softcover: Item No. 01059

PDA Technical Report No. 58 (TR 58) Risk Management for Temperature-Controlled Distribution 2012. 73 pages. Digital: Item No. 43499 | Softcover: Item No. 01058

PDA Technical Report No. 57 (TR 57) Analytical Method Validation and Transfer for Biotechnology Products 2012. 74 pages. Digital: Item No. 43497 | Softcover: Item No. 01057

PDA Technical Report No. 55 (TR 55) Detection and Mitigation of 2,4,6-Tribromoanisole and 2,4,6-Trichloroanisole Taints and Odors in the Pharmaceutical and Consumer Healthcare Industries 2012. 91 pages. Digital: Item No. 43494 | Softcover: Item No. 01055

PDA Technical Report No. 54 (TR 54) Implementation of Quality Risk Management for Pharmaceutical and Biotechnology Manufacturing Operations 2012. 61 pages

Digital: Item No. 43493 | Softcover: Item No. 01054

PDA Technical Report No. 30 Revised 2012, (TR 30) Parametric Release of Pharmaceuticals and Medical Device Products Terminally Sterilized by Moist Heat 2012. 34 pages.

Digital: Item No. 43234 | Softcover: Item No. 01030

PDA Technical Report No. 29, Revised 2012 (TR 29) Points to Consider for Cleaning Validation 2012. 105 pages. Digital: Item No. 43501 | Softcover: Item No. 01029

PDA Technical Report No. 53 (TR 53) Guidance for Industry: Stability Testing to Support Distribution of New Drug Products 2011. 29 pages. Digital: Item No. 43492 | Softcover: Item No. 01053

PDA Technical Report No. 52 (TR 52) Guidance for Good Distribution Practices (GDPs) For the Pharmaceutical Supply Chain 2011. 36 pages. Digital: Item No. 43491 | Softcover: Item No. 01052

PDA Technical Report No. 22, (TR 22) Revised 2011 Process Simulation for Aseptically Filled Products 2011. 50 pages. *Digital: Item No.* 43226

PDA Technical Report No. 51 (TR 51) Biological Indicators for Gas and Vapor-Phase Decontamination Processes: Specification, Manufacture, Control and Use 2010. 42 pages. Digital: Item No. 43490 | Softcover: Item No. 01051

PDA Technical Report No. 50 (TR 50) Alternative Methods for Mycoplasma Testing 2010. 52 pages. Digital: Item No. 43489 | Softcover: Item No. 01050

PDA Technical Report No. 49 (TR 49) Points to Consider for Biotechnology Cleaning Validation 2010. 76 pages. Digital: Item No. 43488 | Softcover: Item No. 01049

PDA Technical Report No. 48 (TR 48) Moist Heat Sterilizer Systems: Design, Commissioning, Operation, Qualification and Maintenance 2010. 64 pages. Digital: Item No. 43487 | Softcover: Item No. 01048

PDA Technical Report No. 47 (TR 47) Preparation of

Virus Spikes Used for Virus Clearance Studies 2010. 64 pages. Digital: Item No. 43486 | Softcover: Item No. 01047 PDA Technical Report No. 46 (TR 46) Last Mile: Guidance for Good Distribution Practices for Pharmaceutical Products to the End User 2009. 38 pages. Digital: Item No. 43485 | Softcover: Item No. 01046

PDA Technical Report No. 15, Revised 2009 (TR 15) Validation of Tangential Flow Filtration in Biopharmaceutical Applications 2009. 52 pages. Digital: Item No. 43221 | Softcover: Item No. 01015

PDA Technical Report No. 45, (TR 45) Filtration of Liquids Using Cellulose-Based Depth Filters 2008. 38 pages. Digital: Item No. 43422 | Softcover: Item No. 01045

PDA Technical Report No. 44, (TR 44) Quality Risk Management for Aseptic Processes 2008. 42 pages. Digital: Item No. 43410 | Softcover: Item No. 01044

PDA Technical Report No. 41, Revised 2008 (TR 41) Virus Filtration 2008. 62 pages.

Digital: Item No. 43313 | Softcover: Item No. 01041

PDA Technical Report No. 26, (TR 26) Revised 2008, Sterilizing Filtration of Liquids 2008. 62 pages. Digital: Item No. 43230

PDA Technical Report No. 14, (TR 14) Validation of Column-Based Chromatography Processes for the Purification of Proteins 2008. 38 pages. Digital: Item No. 43220 | Softcover: Item No. 01014

PDA Technical Report No. 1, Revised 2007, (TR 1) Validation of Moist Heat Sterilization Processes Cycle Design, Development, Qualification and Ongoing Control 2007. 54 pages. Digital: Item No. 43381 | Softcover: Item No. 01001

PDA Technical Reports (older ones) Price is for each technical report. (M) \$50 | (M) \$100 | (G) \$50 The price is the same for digital and softcover items.

PDA Technical Report No. 39, Revised 2007, (TR 39) Guidance for Temperature-Controlled Medicinal Products: Maintaining the Quality of Temperature-Sensitive Medicinal Products Through the Transportation Environment 2007. 20 pages. Digital: Item No. 43312 | Softcover: Item No. 01039

PDA Technical Report No. 38, (TR 38) Manufacturing Chromatography Systems Postapproval Changes (ChromPAC): Chemistry, Manufacturing and Controls Documentation 2006. 30 pages. Digital: Item No. 43315 | Softcover: Item No. 01038

PDA Technical Report No. 28 Revised, (TR 28) Process Simulation Testing for Sterile Bulk Pharmaceutical Chemicals 2006. 24 pages. Digital: Item No. 43232 | Softcover: Item No. 01028

PDA Technical Report No. 42, (TR 42) Process Validation of Protein Manufacturing 2005. 28 pages. Digital: Item No. 43311 | Softcover: Item No. 01042

PDA Technical Report No. 40, (TR 40) SterilizingFiltration of Gases 2005. 44 pages.Digital: Item No. 43314 | Softcover: Item No. 01040

PDA Technical Report No. 35, (TR 35) A Proposed Training Model for the Microbiological Function in the Pharmaceutical Industry 2001. 24 pages. Digital: Item No. 43240 | Softcover: Item No. 01035

PDA Technical Report No. 34, (TR 34) Design and Validation of Isolator Systems for the Manufacturing and Testing of Health Care Products 2001. 25 pages. Digital: Item No. 43239 | Softcover: Item No. 01034

PDA Technical Report No. 31, (TR 31) Validation and Qualification of Computerized Laboratory Data Acquisition Systems 1999. 12 pages. Digital: Item No. 43235 | Softcover: Item No. 01031 PDA Technical Report No. 27, (TR 27) Pharmaceutical Package Integrity 1998. 48 pages. Digital: Item No. 43231

PDA Technical Report No. 16, (TR 16) Effect of Gamma Irradiation on Elastomeric Closures 1992. 13 pages.

Digital: Item No. 43222 | Softcover: Item No. 01016

PDA Technical Report No. 20, (TR 20) Report on Survey of Current Industry Gowning Practices 1990. 5 pages. Digital: Item No. 41239 | Softcover: Item No. 01020

PDA Technical Report No. 19, (TR 19) Rapid/ Automated ID Methods Survey 1990. 7 pages. Digital: Item No. 43225 | Softcover: Item No. 01019

PDA Technical Report No. 12, (TR 12) Siliconization of Parenteral Drug Packaging Components 1988. 14 pages. Digital: Item No. 43217 | Softcover: Item No. 01012

PDA Technical Report No. 11, (TR 11) Sterilization of Parenterals by Gamma Radiation 1988. 9 pages. Digital: Item No. 43216 | Softcover: Item No. 01011

PDA Technical Report No. 10, (TR 10) Parenteral Formulations of Proteins and Peptides: Stability and Stabilizers 1988. 26 pages. Digital: Item No. 43215 | Softcover: Item No. 01010

PDA Technical Report No. 5, (TR 5) Sterile Pharmaceutical Packaging: Compatibility and Stability 1984. 137 pages. Digital: Item No. 43210 | Softcover: Item No. 01005 The below Technical Report is free of charge and available to everyone. PDA Technical Report No. 68, (TR 68) Risk Based Approach for Prevention and Management of Drug Shortages 2014. 54 pages. *Digital: Item No. 43517* 

## **PDA Points to Consider Documents**

**Points to Consider for Aging Facilities** PDA's Points to Consider for Aging Facilities takes into account the pharmaceutical manufacturing industry's general thoughts and suggestions on how to identify and modernize aging facilities. 2017. 31 pages.

Digital: Item No. 43534 м \$180 | 🐜 \$325 | 💿 \$180 Softcover: Item No. 03008 м \$250 | 🐜 \$375 | 💿 \$250

Points to Consider for Aseptic Processing: Part 2, May 2016 2016. 58 pages.

Digital: Item No. 43527 M \$180 | M \$325 | G \$180 Softcover: Item No. 03007 M \$250 | M \$375 | G \$250

Points to Consider for Aseptic Processing: Part 1, January 2015 2015. 65 pages.

Digital: Item No. 43520 📶 \$180 | 🐜 \$325 | 💿 \$180 Softcover: Item No. 03005 📶 \$250 | 🐜 \$375 | 💿 \$250

Points to Consider for Aseptic Processing - PDA Journal of Pharmaceutical Science and Technology: 2003 Supplement Volume 57 Issue 2 2003. 72 pages.

Digital: Item No. 42148 | Softcover: Item No. 03004 📶 \$50 | 🐜 \$100 | 💿 \$50



## PDA Research: 2017 PDA Glass Quality Survey



## This survey is designed to assist in the identification of glass container quality concerns and development of solutions to overcoming them. Survey topics include glass sampling and inspection practices, product

complaints and recalls due to glass defects, and quality oversight.

Digital: Item No. 45012

M \$150 | M \$325 | 💿 \$150

## PDA Survey: 2017 PDA PUPSIT Survey

.....

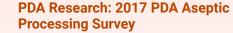


In March 2017, PDA conducted a benchmarking survey to better understand the current situation regarding sterile filtration and the implementation of Pre-Use Post Sterilization Integrity Test, or PUPSIT, among large

pharmaceutical companies. Due to increased enforcement of section 113 of Annex 1 by European regulatory agencies, manufacturers of sterile medical products are finding they must modify their manufacturing processes to incorporate the PUPSIT and/or are not able to justify its exclusion on risk-based principles. The survey was open to PDA members with subject-matter expertise in PUPSIT and who hold the manager level position in biologic process development, manufacturing, validation, and/or quality. Readers are encouraged to draw his/her own conclusions from the presented summarized data and responses. 2018. 24 pages

Digital: Item No. 45011





This survey explores aseptic PDA Reisarch processing practices for global secondary manufacturing (finished product filling/ packaging), while taking into

consideration the changes and needs of the modern, global,

sterile, healthcare product manufacturing industry.

Digital: Item No. 45010

M \$150 | M \$325 | G \$150

## PDA Survey: 2015 Aging Facilities

This survey clarifies the meaning PDA Servey of an aging facility, process, and analytics and explores the types and effectiveness of preventative measures. The survey also identifies the obstacles encoun-

tered when improvements are made and what actions should be taken to overcome potential obstacles. 2016. 32 pages

Digital: Item No. 45009

M \$150 | M \$250 | G \$150

## PDA Survey: 2015 Particulate Matter in **Difficult to Inspect Parenterals**

.....



This survey summarizes current practices in the inspection and control of particles in DIP products and packaging materials. Findings include aspects of current processes in manual,

semi-automated, and automated inspection, along with sampling plans and acceptable quantity limits used. 2016. 77 pages

.....

Digital: Item No. 45008



## PDA Survey: 2015 Particulate Matter in **Oral Dosage Forms**



This survey documents current practices used by drug product manufacturers, active pharmaceutical ingredients manufacturers, excipient manufacturers, packaging/

and consultants/regulators to control, inspect, sample, and test particulate matter, intrinsic and extrinsic in oral dosage forms. 2016. 93 pages

Digital: Item No. 45007

M \$150 | M \$250 | G \$150

## PDA Survey: 2014 Visual Inspection



In August of 2014, the fourth in a series of surveys was launched by PDA to better understand and document current industry practices in this important area. Past PDA Visual Inspection surveys in 1996, 2003, and 2008

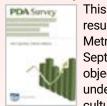
have provided practical guidance and insight to those working in this field. The purpose of this survey was to document current industry practice for visual inspection of injectable products. 2015. 22 pages

.....

Digital: Item No. 45006



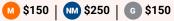
## PDA Survey: 2014 Quality Culture Metrics



This publication presents the results of the PDA Quality Culture Metrics Surveys conducted in September and October 2014. The objectives of these surveys were to understand the maturity of quality culture in industry at the time and

to identify appropriate attributes of quality culture that can be measured. 2015. 39 pages

Digital: Item No. 45005



## PDA Survey: 2014 PDA Process Validation Survey

.....



designed to solicit feedback on and evaluate industry status of the application of the principles established in the FDA Process Validation Guidance for Industry of 2011. 2014. 27 pages

.....

This benchmarking survey was

Digital: Item No. 45004 M \$150 | M \$250 | G \$150 2019

# primary container manufacturers,



# The PDA Journal http://journal.pda.org

The PDA Journal of Pharmaceutical Science and Technology is considered one of the most relevant and highly cited vehicles for peer-reviewed scientific and technical papers in the pharmaceutical and biotech industries. The Journal is published



bimonthly with a circulation of more than 10,000 and is distributed electronically to the PDA membership as a member benefit. PDA members have access to the current volume year and the previous volume year as part of their membership fee.

The *Journal* is also available by subscription to university and public libraries and government agencies. Institutional subscriptions are also available (see below for more information).

## **Individual Articles for Purchase**

## Institutional Subscription

Access to articles published in the *Journal*, either current or archived issues, are available for individual purchase on a pay-per-view basis. Unlimited access to the *Journal* archives can be purchased on an annual basis for a fee. For more information, please contact **Katie Ruiz**, Coordinator, Member Relations, via email at ruiz@pda.org.

**Not a PDA Member?** Even without a PDA Membership, you can access *Journal* article abstracts, search for available current or archived content, and/or sign up to receive email notifications about content and release of the latest issue or purchase articles on a pay-per-view basis. If you work for an organization and you would like to provide access to *Journal* content to multiple people within your organization, consider purchasing an Institutional Subscription. This option provides unlimited access to *Journal* content, including the archives, on an annual basis, to multiple employees of the same organization. Subscription rates are based on the type of institution and number of full-time employees at the worksite. To learn more, please contact **Katie Ruiz**, Coordinator, Member Relations, via email at ruiz@pda.org.

## About PDA

The Parenteral Drug Association (PDA) is the leading global provider of science, technology, and regulatory information and education for the pharmaceutical and biopharmaceutical community. Founded in 1946 as a nonprofit organization, PDA is committed to developing scientifically sound, practical technical information and resources to advance science and regulation through the expertise of its nearly 10,500 members worldwide.

To learn more about our community, please visit www.pda.org.

## Are You Ready to Order?

Online purchasing is quick and easy! To order a publication from this catalog, please visit www.pda.org/bookstore and enter in the *item number* located at the bottom of the publication description.



## **PDA Global Headquarters**

4350 East West Highway Suite 600 Bethesda, MD 20814 USA www.pda.org

Tel: + 1 (301) 656 -5900 Fax: + 1 (301) 986 -1361

Expert Bio/ Pharmaceutical Publications and Resources for the Pharmaceutical Manufacturing Industry Inside.



# Join PDA Today!

PDA members are part of a global network of industry professionals, focused primarily, but not exclusively, on sterile product technology, biotechnology, and quality and regulatory compliance concepts and systems. Become a PDA member today and start taking immediate advantage of all of the benefits of membership, including the opportunity to save substantially on your purchase.

For more information visit www.pda.org/join.