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Nota di contenuto	Method Validation in Pharmaceutical Analysis; Contents; Foreword; List of Contributors; Chapter 1 Analytical Validation within the Pharmaceutical Lifecycle; 1.1 Development of Process and Analytical Validation Concepts; 1.2 Alignment between Process and Analytics: Three-Stage Approach; 1.3 Predefined Objectives: Analytical Target Profile; 1.4 Analytical Life Cycle; References; Chapter 2 Analytical Instrument Qualification; 2.1 Analytical Instrument and System Qualification; 2.1.1 Data Quality and Integrity in a GMP Environment; 2.1.1.1 Criteria for Quality Data 2.1.1.2 Regulatory Rationale for Qualified Analytical Instruments2.1.2 USP General Chapter ; 2.1.2.1 Data Quality Triangle; 2.1.2.2 Analytical Instrument Qualification Life Cycle: the Four Qs Model; 2.1.2.3 Risk-Based Classification of Apparatus, Instruments, and Systems; 2.1.2.4 Roles and Responsibilities for AIQ; 2.1.2.5 Software Validation for Group B and C Systems; 2.1.3 Enhancement of and Harmonization of a Risk-Based Approach to Instruments and Systems with GAMP Laboratory GPG Second Edition; 2.1.3.1 Increased Granularity of USP

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2.1.3.2 Clarification of AIQ Terminology; 2.1.3.3 A Continuum of Analytical Apparatus, Instruments, and Systems; 2.1.3.4 Mapping USP Instrument Groups to GAMP Software Categories; 2.1.3.5 Enhanced Data Quality Triangle; 2.1.4 Risk-Based Approaches to Analytical Instrument and System Qualification; 2.1.4.1 Expanded Instrument and System Categories; 2.2 Efficient and Economic HPLC Performance Qualification; 2.2.1 Introduction; 2.2.1.1 The Importance of Analytical Instrument Qualification; 2.2.1.2 Terms and Definitions; 2.2.1.3 Continuous Performance Qualification: More by Less; 2.2.2 Development of the Revised OQ/PQ Parameters List; 2.2.3 Transfer of Modular Parameters into the Holistic Approach; 2.2.3.1 Autosampler; 2.2.3.2 Solvent Delivery System; 2.2.3.3 Detector; 2.2.4 OQ/PQ Data in Comparison with SST Data; 2.2.5 Control Charts; 2.2.6 General Procedure for Continuous PQ; 2.2.7 Concluding Remarks; Acknowledgment; Abbreviations; References; Chapter 3 Establishment of Measurement Requirements - Analytical Target Profile and Decision Rules; 3.1 Introduction; 3.2 Defining the Fitness for Intended Use; 3.3 Decision Rules; 3.4 Overview of Process to Develop Requirements for Procedure Performance; 3.5 Decision Rules and Compliance; 3.6 Calculating Target Measurement Uncertainty; 3.6.1 Coverage Factor, k, and Data Distributions; 3.7 Types of Decision Rules; 3.7.1 Decision Rules That Use Guard Bands; 3.8 Target Measurement Uncertainty in the Analytical Target Profile; 3.8.1 Cost of Analysis; 3.9 Bias and Uncertainty in a Procedure; 3.10 ATP and Key Performance Indicators; 3.11 Measurement Uncertainty; 3.11.1 What Uncertainty Is; 3.11.2 Reporting Measurement Uncertainty; 3.11.3 How Uncertainty is Estimated; 3.11.4 Uncertainty Contains All Sources of Random Variability

Sommario/riassunto

This second edition of a global best-seller has been completely redesigned and extensively rewritten to take into account the new Quality by Design (QbD) concept in pharmaceutical manufacturing. As in the first edition, the analytical requirements during the entire product lifecycle are covered, but now a new section is included on continued performance monitoring and the transfer of analytical procedures. Two case studies from the pharmaceutical industry illustrate the concepts and guidelines presented, and the standards and regulations from the US (FDA), European (EMA) and global (ICH) regul