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Nota di contenuto	Quality Assurance in Environmental Monitoring; Contents; 1 The Use of Solid Phase Extraction for Environmental Samples; 1.1 The Importance of Sample Preparation; 1.2 Introduction to Solid Phase Extraction; 1.3 SPE Formats; 1.3.1 Syringe Barrel or Cartridges; 1.3.2 Syringe Filter or Sep-paks; 1.3.3 Disks; 1.3.4 Choice of Format; 1.4 Using SPE Cartridges and Disks; 1.5 SPE Sorbents; 1.5.1 Normal Phase Sorbents; 1.5.2 Reverse Phase Sorbents; 1.5.3 Ion Exchange Sorbents; 1.6 Sorbent and Solvent Relationships; 1.6.1 Normal Phase; 1.6.2 Reverse Phase; 1.6.3 Ion Exchange; 1.7 Selecting the Solvents 1.7.1 Conditioning Solvents 1.7.2 Loading Solvents 1.7.3 Rinsing Solvents 1.7.4 Elution Solvents 1.8 Solvent Considerations 1.8.1 Solvent Volume 1.8.2 Solvent Miscibility 1.8.3 Solvent Volatility 1.8.4 Solvent Flow Rate 1.9 Selecting Cartridge Size 1.10 Method Development 1.11 Matrix Considerations 1.12 Analysis Considerations 1.13 Method Considerations 1.14 Example Methods; 2 Current Status of Supercritical Fluid Extraction in Environmental Analysis; 2.1 Introduction; 2.2 What is Supercritical Fluid; 2.3 Applicable Environmental Analytes and Matrices

2.3.1 Polynuclear Aromatic Hydrocarbons and Polychlorinated Biphenyls2.3.2 Total Petroleum Hydrocarbons; 2.3.3 SFE of Wet Soils; 2.3.4 Pesticides; 2.3.5 Dibenzofurans/Dioxins; 2.4 Conclusions; 3 Validation and Quality Control with Atomic Absorption Spectrometry for Environmental Monitoring; 3.1 Introduction; 3.1.1 Use of Atomic Absorption Spectrometry in Environmental Monitoring; 3.1.2 The Need for Quality Control; 3.1.3 The Importance of Consistent Data; 3.1.4 Standardized/Reference Methods or Quality Control?; 3.1.5 The Degree of Analytical Quality Control; 3.1.6 Quality Control Principles 3.2 Method Validation3.2.1 Basic Analytical Principles; 3.2.1 . 1 Preparation of Calibration/Standard Solutions; 3.2.1.2 Use of Characteristic Concentration/Mass; 3.2.2 Calibration; 3.2.2.1 The Importance of Calibration; 3.2.2.2 Influence of the Blank; 3.2.2.3 Type of Calibration Curve; 3.2.2.4 Linear or Non-Linear-Calibration; 3.2.2.5 Calibration by the Method of Analyte Additions; 3.2.2.6 Calibration Quality Coefficients; 3.2.3 Establishment of Performance Characteristics; 3.2.3.1 Assessment and Influence of Contamination; 3.2.3.2 Estimation of Detection Limits 3.2.3.3 Recovery Measurements3.2.3.4 Precision; 3.2.3.5 Comparison with Alternative Techniques/Methods; 3.2.3.6 Analysis of Certified Reference Materials; 3.3 Quality Control; 3.3.1 Frequency of Analysis and Choice of IQC Materials; 3.3.2 Preparation of In-house IQC Materials; 3.3.2.1 Establishment of IQC Target Values and Limits; 3.3.3 Use of Quality Control; 3.3.3.1 Defining a Quality Control Procedure; 3.3.4 Systematic and Random Errors; 3.4 External Quality Assessment; 3.5 Conclusions; 4 Application of ICP - OES Techniques in Environmental QC; 4.1 Introduction 4.2 Theory of the ICP-OES Technique

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#### Sommario/riassunto

Environmental technology plays an increasingly important role in today's world. This has led to many new developments in legislation and monitoring of environmental pollutants. A comprehensive treatment of these current trends is presented in this book. The reader is helped by a sound understanding of modern instrumental methods such as GC/MS, thermal desorption and purge-trap methods, that are available to meet these legal requirements. Many practical applications assist familiarization with these techniques. This work pays particular attention to methods of monitoring different types

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