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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 Solvents1.7.2 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 Biphenyls; 2.3.2 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 Validation; 3.2.1 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 Measurements; 3.2.3.4 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

## 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