



TRAINING PROGRAM



# Laboratory Safety Management Techniques

## Introduction:

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This course covers the major instrumental techniques of spectrophotometers, chromatography, capillary electrophoresis and atomic emission spectroscopy. The use of case studies, exercises and practical applications, will help participants to develop a thorough understanding of the various concepts that underpin the different techniques. This outstanding course is a must for every laboratory professional. The updated knowledge and techniques covered during the course, will dramatically improve not only the participant's skills, but will also improve the performance of the participant's laboratory as a whole.

This course provides an in-depth look at the fundamentals of lab safety and effective lab safety programs. You will learn to identify and manage common laboratory hazards; many of which you may never have considered. Using a "real world" approach to safety issues in the laboratory, our seasoned instructors will illustrate how to reduce the likelihood of injury, illness, accidents and lawsuits while providing you with simple, inexpensive things that you can do to have an even better safety program. Registrants are encouraged to bring their problem descriptions, accident accounts and safety program materials for review and discussion.

## Who Should Attend?

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Lab Managers and Supervisors, Chemists and Technicians, Health & Safety and Environmental Professionals, staff responsible for managing hazardous wastes, staff responsible for contamination issues, Laboratory Technicians, Analytical Laboratory Professionals, Laboratory Staff, Superintendents, Supervisors, Engineers, Chemists, Analysts, staff wishing to reduce risk and liability arising from polluting events, Technical Assistants and anyone who has a role to play in environmental matters of the Organization, Emergency Personnel

## Course Objectives:

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**By the end of this course delegates will be able to:**

- Use the major analytical laboratory instruments, equipment and process analyzers and understand their performance characteristics, capabilities, accuracies, reliabilities, speed and limitations including UV/VIS spectrophotometers, atomic absorption spectroscopy, ICP-OES, flow injection, infrared spectroscopy, ion chromatography, pH probes, and gas chromatography
- Implement a modern management system of the analytical laboratory in the context of latest quality management philosophies and standards and determine the available options for best practices
- Apply an up-to-date knowledge and skills of the latest technologies in the analytical laboratories including analytical instrumentation, analytical techniques, process analyzers, laboratory equipment, operational procedures, management style, good laboratory practices (GLP), method validation, quality and safety management systems
- Develop and modify the laboratory standard operating procedures (SOP) and interpret the requirements of the ISO 17025 quality system
- Calculate uncertainty, practice data & method validation, test laboratory efficiency and understand the latest certified reference standards and traceability

## Course Outline:

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- Safety choices
- Scope of the problem
- Accidents
- Legal aspects of safety
- Osha laboratory standard
- Fire control
- Labeling
- Biological and animal hazards
- Eye and face protection
- Planning for emergencies
- Handling chemical reagents
- Ventilation
- Electrical safety
- Your most serious problem
- Storage of chemicals
- Hazardous waste disposal
- Disposal of chemicals
- Safety equipment display
- Needs assessment
- Employee/student involvement
- Safety program planning