TRAINING PROGRAM

Data Validation In Analytical Laboratories

Introduction:

This course will help you develop a systematic, structured approach to problem solving and method development. By learning to develop this approach, you will decrease the time and cost of your methods development and validation for capillary GC and HPLC and improve the effectiveness and quality of your method troubleshooting and the quality of your chromatographic data. The course also covers method diagnostics, troubleshooting, and preventative maintenance; implementing good laboratory practices; and the interdependence of methods, sample preparation, instrumentation, columns, detectors, and quantitation.

Who Should Attend?

Laboratory Managers, Analytical Chemists, Medical Scientists, Lab Technicians, Chemical Engineers, Laboratory Supervisors, Research and Development Scientists, Microbiologists, Laboratory Analysts, Food Technologists, Quality Assurance/Control Managers/Auditors, Instrumentation Engineers, Chemical Engineers & Industry Personnel, Chemists, and Technicians working in methods development, R&D, Manufacturing/Process Testing, Testing Services Labs, Biologists, Engineers

involved in organic chemicals, petroleum/petrochemicals, fine chemicals, polymers, environmental, pharmaceutical, forensic sciences, molecular/cellular biology, protein chemistry, occupational health and/or product/process safety testing will benefit

Course Objectives:

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

- Developing a systematic, structured approach to problem solving and method development for performance, productivity, and reduced costs
- Specify of a step-by-step process for method validation and for building quality assurance into chromatographic methods
- Case studies using practical examples, developed in small groups
- Method diagnostics, troubleshooting, and preventive maintenance
- Interdependence of methods, sample preparation, instrumentation, columns, detectors, and quantitation
- Implementing good laboratory practices (GLP)
- Sample preparation techniques
- Methods development based on the chemistry and chemical properties of the sample analytes and matrices

Course Outline:

- Developing rugged GC or HPLC methods in a timely, cost effective, systematic manner
- Developing a preliminary chromatographic method in less than one day
- Solve real chromatographic analysis problems during the course, using small working groups, the instructors, and the method development tools from the course
- Systematically troubleshoot GC or HPLC methods in a cost effective manner
- The applications and limitations of, and how to use more than 100 chromatographic and sample preparation techniques to develop new, modified, and/or validated methods
- Building method validation and QA into chromatographic methods
- Using simplified method development tools to select the best techniques the first time through the method development process
- Recognizing good results from poor results and how to improve performance
- The method development process for GC and HPLC
- Method development parameters, based on the sample matrix and analytes

- Method validation
- Preventative maintenance and troubleshooting
- Case studies with real analytical method problems