Air Monitoring & Gas Detection

Course Outline

Prerequisites: This course shall have no formal pre-requisite.

Course Length: 1 hour – Course length shall vary depending on the number of delegates. Total course time includes breaks.

Class Size: The maximum number of delegates that may be trained and tested per instructor shall be thirty-five (35) in the classroom session.

Course Objective

- Provide delegates with general knowledge required to operate air monitors.
- Delegates should be able to demonstrate knowledge during written examination.

Course Design

- Power Point© / Lecture / Audio Video / Visual Aids

Successful Course Completion

- Requires a minimum score of 75% or better.
- Grades shall be calculated by dividing the number of questions answered correctly by the total number of exam questions.
- Delegates will have no more than thirty (30) minutes to complete the exam.

Course Content Summary

- Classroom

Breaks: 10 minutes (approximately every hour)

Lunch: 1 Hour (if applicable)

Course Outline

About Air Monitors

- General Information
    - General Attributes
    - Response Time
    - Selectivity
    - Precision
- Air Monitoring Systems
- Air Monitoring Results
- Fixed Detectors
- Personal Electronic Detectors
- Colorimetric Tubes
- Sampling Requirements

  - Area Sampling
  - Personal Sampling
  - Instantaneous Sampling

Atmospheric Hazards

- Oxygen Levels
  - Asphyxiation
- Effects of Oxygen Deficiency
- Breathing Air Composition
- What Causes Oxygen Deficiency Atmosphere?
- What Causes Oxygen Enriched Atmosphere?
- Flammability
  - Explosions
  - Explosion Mixture
  - Flash Point
  - Upper Explosive Limit (UEL)
  - Lower Explosive Limit (LEL)
- LEL Requirements (OSHA)
- UEL/LEL Examples
- Causes of Flammable Atmospheres

General Function

- Air Monitor Contents
  - Gas Detector
  - Adapters
  - Rechargeable Batteries
  - Spare Batteries
  - Charging Base
  - Security Straps
  - Current Calibration Results
- Batteries
- Powering On Unit
- Calibration
- Air Monitoring Techniques
  - Stratification

Practical Session

While there is no formal practical session for this course, demonstration exercises are conducted.

Training Center Provided Material

- Course Materials

Delegate Requirements

- None

Reference Material / Documents

Manufacturer Guidelines

- MSA
- Honeywell
- BW