HSE 2020

BTS
Training & Consultancy

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Principles of Industrial Hygiene

Duration: 5 Days

Introduction:

Industrial hygiene can be defined as the art and science devoted to the anticipation recognition, evaluation, communication and control of environmental stressors in the work place that may result in injury, illness or impairment of workers and members of the community. These stressors are divided into several categories: biological, chemical, physical, ergonomic and psycho-social. The profession of industrial hygiene uses strict and rigorous scientific methodology to determine the potential for hazard and exposures in the workplace. This course emphasizes the recognition, evaluation, and control of occupational health hazards. Topics include hazard recognition, health standards, air sampling, ventilation, noise exposure, and temperature stress. Upon completion, participants should be able to identify and quantify common occupational health hazards.

Who Should Attend?

Team Leaders, Managers, Line Managers, Supervisors, Team Leaders, Project Managers, Control Center Operators and Supervisors, Emergency Dispatchers, Security Personnel and CCTV Operators, HSE Officers, HSE Personnel, HSE Professionals, Emergency Response Team Members, HSE Managers and Auditors, Health & Safety and Environmental Professionals, Coordinators, Specialists and other full-time safety practitioners, Fire Officers, Loss Control Managers, Security Directors and Managers, Security Supervisors, Facilities Directors and Managers, HR and Administrative Managers with responsibility for security, Project Managers, Safety Inspectors, Plant Managers and Supervisors, Incident Control Point (Forward Control) Team Members, Supervisors, Advisors, Auditors, Laboratory Personnel, Emergency Personnel, Maintenance Personnel, Procurement and Supply Chain Managers, Engineers & Maintenance Personnel, Experienced and new auditors linked to the company's HSE Management Systems, HSE-MS Personnel, Personnel involved in implementing the Company's HSE-MS, Control Center Operators and Supervisors, Security Personnel and CCTV Operators

Course Objectives:

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

- Understand the basic principles of toxicology
- Evaluate the potential of chemical agents to produce dermatitis
- Understand the potential hazards of industrial dusts, mists, and fumes
- Understand the principles of personal air sampling
- Select appropriate ventilation systems for a particular hazard
- Select appropriate respiratory protection for a particular hazard
- Implement an OSHA -mandated hearing conservation program

- Assist in the performance of an indoor air quality investigation

Course Outline:

Toxicology Basics & Occupational Skin Diseases

- Classes of toxic effects
- Measuring toxicity
- Toxicokinetics
- Skin anatomy
- Irritant contact dermatitis
- Allergic contact dermatitis
- Other skin diseases
- Prevention of occupational dermatitis

Respiratory Hazards & Industrial Hygiene Evaluation & Air Monitoring

- Anatomy and physiology of the respiratory system
- Particle deposition mechanisms
- Pneumoconioses
- Units for air contaminants
- Area vs. personal sampling
- Analytical methods
- **Control of Airborne Hazards: Ventilation & Respiratory Protection**
- Occupational asthma
- Hazards of gases and vapors
- Types of ventilation systems
- Components of local exhaust systems
- Types of hoods
- Air cleaners, fans, and stacks
- Types of respirators
- Selection of respirators

- Respirator programs

Confined Space Standard & Occupational Noise Exposure

- Definitions
- Examples of confined spaces
- Written program elements
- Duties of defined individuals
- Rescue
- Anatomy of the ear
- Physics of sound
- Measurement of sound
- Standards and hearing conservation program
- Control of occupational noise hazards

Temperature Stress

- Control of body temperature
- Illnesses caused by temperature extremes
- Evaluating heat and cold stress
- Exposure standards