

## **HAZARDOUS WASTE OPERATIONS & EMERGENCY RESPONSE (HAZWOPER)**

To fulfill classroom requirements of OSHA 29 CFR 1910.120(e)&(q).

### **24-HOUR COURSE OUTLINE**

### **OVERVIEW**

This course provides the 24-hour safety training requirement mandated by OSHA 29 CFR 1910.120. Workers attending this course will cover health and safety procedures, and personnel protection during work operations at hazardous material sites.

Each day contains hands on and tabletop exercises.

### **DAY ONE**

### **OPENING**

- 1. Who is COMPLIANCE SOLUTIONS
- 2. Course introduction

### **OSHA REGULATIONS DISCUSSION**

- What is OSHA and how does it work?
  A. Employer and employees rights and responsibilities
- 2. Overview of Environmental Legislation
  - A. Comprehensive Environmental Response Compensation and Liability Act of 1986 (CERCLA)
  - B. Superfund Amendments and Reauthorization Act
  - C. Resource Conservation and Recovery Act - 11976 (RCRA)
- 3. Overview of 29 CFR 1910.120

### **GENERAL SAFETY HAZARDS**

- 1. Types of hazards
- 2. Personal Safety Issues
- 3. General Safety Issues
- 4. Fall Protection
- 5. Excavation Safety
- 6. Hand and Power Tools
- 7. Lock out/Tag out
- 8. Heavy Equipment

### **PLANNING AND ORGANIZATION**

- 1. Site Characterization
- 2. Health and Safety Plans

### HAZARD COMMUNICATION FOR HAZWOPER

- 1. NFPA 704
- 2. DOT System
- 3. HMIS III
- 4. Material Safety Data Sheets
- 5. Other Identification Systems

# CHEMICAL HAZARD ID SYSTEMS

1. Properties of chemicals

- A. Toxic
- B. Reactive
- C. Ignitable
- D. Corrosive
- E. Radioactive

### DAY TWO

### **TOXICOLOGY**

- 1. Acute vs. Chronic
- 2. Immediate vs. Delayed Effects
- 3. Reversible vs. Irreversible
- 4. Routes of entry
  - A. Inhalation
  - B. Absorption
  - C. Ingestion
  - D. Injection
  - E. Occular
- 2. Chemical interaction effects
- 3. Target organ responses
- 4. Dose/Response relationship
- 5. Measuring toxins

### **IONIZING RADIATION**

- 1. Fission
- 2. Particles
  - A. Alpha
  - B. Beta
  - C. Gamma
  - D. Neutrons
- 3. Radiation Meters
- 4. Exposure Doses

## RESPIRATORY PROTECTION

- 1. Respiratory Protection Programs
  - A. Selection
  - B. Training
  - C. Sanitizing
  - D. Inspection
  - E. Maintenance

3980 Quebec St, 2<sup>nd</sup> Floor, Denver, CO 80207

Tel: 800.711.2706 303.307.9220 Fax: 800.511.4944 <u>www.csregs.com</u>



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## **CHEMICAL PROTECTIVE CLOTHING**

- 1. Fabric Properties
- 2. Levels of Protection
  - A. Level A
  - B. Level B
  - C. Level C
  - D. Level D
  - E. Modifications
- 3. CPC Factors

### **HEAT STRESS**

- 1. Factors
- 2. Heat Illnesses
  - A. Heat Rash
  - B. Heat Cramps
  - C. Heat Syncope
  - D. Heat Exhaustion
  - E. Heat Stroke
- 3. Related Stressors
- 4. Pre/Post Entry Assessments
- 5. Prevention

### **MEDICAL SURVEILLANCE**

- 1. Surveillance
  - A. Pre-Assignment Examinations
  - B. Periodic Examinations
  - C. Termination Examinations
- 2. Treatment
  - A. Emergency
  - B. Non-emergency
- 3. Record Keeping

### **DAY THREE**

### **METERS AND MONITORING**

- 1. Reasons for monitoring
- 2. Sampling Techniques
- 3. Meter Characteristics
- 4. Combustible Gas Indicators
- 5. Photo Ionization Detectors

- 6. Flame Ionization Detectors
- 7. Vapor Analyzers
- 8. Toxic Meters
- 9. Multi-gas Analyzers
- 10. Colorimetric Detectors
- 11. Sound Meters
- 12. Heat Stress Monitors
- 13. Instrument Safety
- 14. Meter Limitations

### **FIRE PROTECTION REQUIREMENTS**

1. Classes of Fire

### FIRE PROTECTION REQUIREMENTS

- 1. Classes of Fire
  - A. Class A
  - B. Class B
  - C. Class C
  - D. Class D
  - E. Class K
- 2. Fire Extinguishers
- 3. Open Yard Storage
- 4. Fire Brigades
- 2. Foams

#### **CONFINED SPACES**

- 1. Overview
- 2. Statistics
- 3. Training
- 4. Non-permit Required Confined Spaces
- 5. Permit Required Confined Spaces
- 6. Entrants
- 7. Attendants
- 8. Supervisors
- 9. Confined Space Rescue

FINAL EXAMINATION