

# HazMat Compliance / Essentials Series Awareness Course Outline

## CD-ROM #1

### TUTORIAL

1. Introduction
  - a. Target audience (video)
  - b. What certification at the Awareness Level means (video)
  - c. Methods of instruction used in this course (video)
2. Screen elements
  - a. Status bar
  - b. Action buttons
  - c. Menu buttons
3. Course overview
  - a. Five modules
  - b. Topics within each module
  - c. Checks
4. Record keeping
  - a. Bookmark feature
  - b. Status screens
5. Sequence of instruction

## I. GENERAL PRINCIPLES

### A. Objectives

1. Responsibilities of Awareness Level responders
2. Objective: Identify the general principles and goals of a First Responder at the Awareness Level.

### B. Overview / General Principles

1. Requirements for certification at the Awareness Level (OSHA, DOT, EPA)
2. Responsibilities and tasks of Awareness Level responders (video)  
*Knowledge Check*
3. Awareness Level goals
  - a. Analyzing the incident
  - b. Implementing the planned response  
*Knowledge Check*
4. Main duties of Awareness Level responders (video)

### C. Challenge Review (3 questions)

## II. ANALYZING THE INCIDENT – PART I

### A. Objectives

1. Review of Awareness Level responsibilities
2. Objective: Detect the presence of hazardous materials.

### B. Definitions

1. Location and uses of hazardous materials
  - a. Prevalence of hazardous materials (video)
  - b. Areas not usually considered hazardous

- c. Uses of hazardous materials
  - d. What to do with leftover hazardous materials after use
- Knowledge Check*
- e. Becoming familiar with facilities storing hazardous materials during pre-incident planning (video)

*Knowledge Check*

2. EPA/OSHA definitions
  - a. General term for hazardous material
  - b. Nine classes of hazardous materials (DOT)
  - c. Dangerous goods (Canada)
  - d. Hazardous chemicals (OSHA)
  - e. Hazardous substance (OSHA)
  - f. Hazardous substance (EPA)
  - g. Extremely hazardous substance (EPA)
  - h. Toxic chemical (EPA)
  - i. Hazardous waste (EPA)

*Knowledge Check*

3. Differences between hazardous materials responses and other emergency responses
4. Summary

## **C. Hazard Classes and Divisions**

1. Introduction
  - a. DOT classes (video)
  - b. Placards for each hazard class
2. Class 1: Explosives
  - a. Characteristics (video)
  - b. Class 1.1 – Mass explosion hazard
  - c. Class 1.2 – Fragmentation
  - d. Class 1.3 – Fire, minor blast, minor projection
  - e. Class 1.4 – Minor explosion
  - f. Class 1.5 – Explosion unlikely during transport
  - g. Class 1.6 – No mass explosive hazard

*Knowledge Check*

3. Class 2: Flammable gases
  - a. Class divisions and potential dangers (video)
  - b. Class 2.1 – Flammable gases
  - c. Class 2.2 – Non-flammable gases
  - d. Class 2.3 – Poisonous gases

*Knowledge Check*

4. Class 3: Flammable and combustible liquids
  - a. Characteristics (video)
  - b. Flammable liquids
  - c. Combustible liquids

*Knowledge Check*

5. Class 4: Flammable solids
  - a. Class divisions (video)
  - b. Class 4.1 – Flammable solids
  - c. Class 4.2 – Spontaneously combustible
  - d. Class 4.3 – Dangerous when wet

*Knowledge Check*

6. Class 5: Oxidizers

- a. Class divisions (video)
- b. Oxidizers
- c. Organic peroxides
- Knowledge Check*
- 7. Class 6: Poisons
  - a. Class 6.1 – Poisons
  - b. Class 6.2 – Infectious substances
- 8. Class 7: Radioactive materials
  - a. Where radioactive materials can be found (video)
  - b. Characteristics and examples
- 9. Class 8: Corrosives
- 10. Class 9: Miscellaneous hazardous materials
  - Knowledge Check*
- 11. ORMs
  - a. Characteristics (video)
  - b. ORM-Ds
  - Knowledge Check*
- 12. Forbidden materials
- 13. Summary of hazard classes
- 14. Placards and labels
  - a. Use of placards and labels
  - b. Label requirements
  - c. Placard/label components
  - Knowledge Check*
  - d. Summary of placards and labels
  - e. Extended teaching session on placards and labels by Mike Callan (video)

#### **D. Container Shapes and Markings**

- 1. Introduction (video)
- 2. Non-bulk containers
  - a. Containers that indicate the presence of hazardous materials by shape
  - b. Other types of non-bulk containers for hazardous materials
  - Knowledge Check*
- 3. Bulk tank trucks
  - a. Large aluminum tanks
  - b. Smaller diameter tanks
  - c. Pressurized cargo tanks with rounded ends
  - d. “Saw tooth” or “funnel” shaped tank trucks
  - e. Cryogenic cargo tanks
- 4. “Dangerous” placard
- 5. Bulk rail shipments of hazardous materials
  - a. Pressure tank cars
  - b. Nonpressure tank cars
  - c. Cryogenic tank cars
  - d. Intermodal containers
  - e. Typical boxcars
- 6. Comparison of bulk tanks and what they carry
  - Knowledge Check*
- 7. Hazardous materials containers at fixed facilities
  - a. Pressure facility tanks
  - b. Low-pressure facility tanks

- c. Nonpressure facility tanks
- d. Cryogenic liquid tanks
- 8. Identifying hazardous materials when no label, placard, or identification number is present
  - a. Other markings (CAUTION, WARNING, DANGER)
  - b. Words and numbers stenciled on container
  - c. Specification plate for cargo tanks

*Knowledge Check*

- 9. Summary

## **E. Shipping Papers**

- 1. Introduction (video)
- 2. Types of shipping papers
  - a. Highway (bill of lading)
  - b. Rail (waybill)
  - c. Water (dangerous cargo manifest)
  - d. Air (airbill)

*Knowledge Check*

- 3. Cases in which transportation regulations don't apply
- 4. Identifying hazardous materials when no shipping papers are available
  - a. UN/NA number
  - b. CHEMTREC, CANUTEC, SETIQ

*Knowledge Check*

- 5. Summary

## **F. Facilities**

- 1. Introduction
- 2. Type of occupancy and location
  - a. How to associate type of occupancy and location with hazardous materials that might be present
  - b. Examples of facilities associated with certain hazardous materials
- 3. NFPA 704 marking system
  - a. Purpose of system
  - b. Explanation of NFPA markers

*Knowledge Check*

- 4. Military markings
  - a. Markings for explosives
  - b. Special military warning symbols

*Knowledge Check*

- 5. Pipeline markings
  - a. Information provided
  - b. Location of markers

*Knowledge Check*

- 6. MSDS
  - a. OSHA requirements (video)
  - b. General information included on MSDS
  - c. Uses of MSDS
  - d. MSDS sections

*Knowledge Check*

- 7. Summary

## **G. Other Detection Methods**

1. Introduction
2. Looking for clues by using the senses
  - a. Clues indicating a potentially volatile situation (video)
  - b. Other indicators of chemical reactions  
*Knowledge Check*
3. Looking for clues of terrorist activities
  - a. Use of hazardous materials in criminal and terrorist activities
  - b. Locations that may become targets for criminal or terrorist activity
  - c. Possible indicators of criminal or terrorist activities using hazardous materials  
*Knowledge Check*
4. Recognizing special hazard communication markings
  - a. Information provided by munitions markings (video)
  - b. Ways color coding is used  
*Knowledge Check*
  - c. What munitions colors mean  
*Knowledge Check*
  - d. Chemical munitions coloring
  - e. Bands on munitions
  - f. Multiple color bands on individual devices
  - g. Other band coloring and lettering  
*Knowledge Check*
  - h. Special bands of symbol markings  
*Knowledge Check*
5. Summary
6. Extended teaching session on identification and recognition by Greg Noll (video)

## **H. Challenge Review** (25 questions)

# **III. ANALYZING THE INCIDENT – PART II**

## **A. Objectives**

1. Duties of Awareness Level responders after the presence of a hazardous material is confirmed
2. Objectives
  - a. Survey the hazardous materials incident from a safe location.
  - b. Collect the hazard information.

## **B. Surveying the Incident**

1. Introduction (video)
2. What to look for when surveying an incident
3. Sources of information
  - a. Fixed facility incidents
  - b. Incidents involving transportation
4. Problems that may be encountered
  - a. Incidents in which only the “Dangerous” placard is present (video)
  - b. Other cases in which identification may be difficult  
*Knowledge Check*

## **C. Collecting Hazard Information**

1. Introduction
2. How hazardous materials can cause harm
  - a. Factors determining the level of potential harm

- b. Threats that hazardous materials pose to humans  
*Knowledge Check*
- 3. Routes of entry
  - a. Example of responder being exposed to a hazardous material (video)
  - b. Routes of exposure
  - c. Time lapse between exposure and symptoms (video)  
*Knowledge Check*
- 4. Using the North American Emergency Response Guidebook
  - a. ERG as a source of information
  - b. How to use the ERG (video)
  - c. ERG sections  
*Knowledge Check*
- 5. Summary
  - a. Scenario of analyzing an incident (video)
  - b. Summary of how to analyze an incident (video)

#### **D. Challenge Review** (7 questions)

### **CD-ROM #2**

#### **IV. PLANNING THE RESPONSE**

(Not a part of Awareness Level focus or responsibilities)

#### **V. IMPLEMENTING THE PLANNED RESPONSE**

##### **A. Objectives**

- 1. Introduction
- 2. Objectives
  - a. Identify the type of information found in the *North American Emergency Response Guidebook*.
  - b. Identify actions to be taken to protect yourself and others and to control access to the scene using the Local Emergency Response Plan, the organization's Standard Operating Procedures, and the current edition of the *Emergency Response Guidebook*.
  - c. Identify appropriate notification procedures based on the Local Emergency Response Plan or the organization's Standard Operating Procedures.

##### **B. NA-ERG – The Guide Pages**

- 1. Introduction
- 2. When to use the orange section
- 3. Meaning of "P" following guide numbers in the yellow and blue sections  
*2 Knowledge Checks*
- 4. Information included in the orange section
  - a. Potential hazards
  - b. Public safety actions
  - c. Emergency response actions  
*Knowledge Check*
- 5. Protective clothing recommendations
  - a. Found under Public Safety in the orange section
  - b. Street clothing and work uniforms
  - c. Structural firefighting clothing with SCBA
  - d. Chemical protective clothing and equipment
  - e. Purpose of protective clothing recommendations for Awareness Level responders

*Knowledge Check*

6. Summary

**C. NA-ERG – Isolation and Protective Actions**

1. Introduction

2. How to take protective action

- a. Example of protective actions (video)
- b. Isolating the area and denying entry
- c. Using the isolation distances found under Public Safety–Evacuation in the orange section of the ERG

*Knowledge Check*

3. Protective follow-up actions

- a. Evacuation
- b. In-place protection
- c. Summary of protective actions by Greg Noll (video)

*Knowledge Check*

- d. Factors to consider when deciding on type of protective action

4. Protective action distances

- a. When to use orange vs. green section of ERG
- b. Orange section: Hazardous material involved in a fire
- c. Green section: Hazardous material not involved in a fire
- d. Example of ethylene oxide

*Knowledge Check*

- e. Implementing isolation area around spill site
- f. Determining size of spill
- g. Determining time of day
- h. Techniques for isolating and denying entry (video)

*Knowledge Check*

- i. Looking up initial protective action distances

*Knowledge Check*

5. Summary (video)

**D. Initiating Protective Actions and the Notification Process**

1. Initiating protective actions

- a. What Awareness Level responders need to know to initiate protective actions
- b. Where to find the LERP and SOPs

*Knowledge Check*

- c. Basic guidelines to follow at a hazmat incident.
- d. Ensuring that proper emergency medical care precautions are performed relative to contamination

*Knowledge Check*

- e. Identifying possible ignition sources at a scene

2. Initiating the notification process

- a. Example of initiating notification (video)
- b. Becoming familiar with the notification process at your location (video)

*Knowledge Check*

3. Summary

- a. Summary points
- b. Incident illustrating protective actions and the notification process (video)

**E. Challenge Review** (16 questions)

**VI. HAZMANIA**