Hazardous Materials

Public safety telecommunicators may encounter hazardous materials incidents ranging from routine gas leaks and carbon monoxide alarms to transportation accidents, industrial releases, and clandestine drug laboratories. This course prepares telecommunicators to recognize and identify hazardous materials, maintain situational awareness, use the Emergency Response Guidebook (ERG), gather critical information through effective questioning, determine appropriate dispatch recommendations, and provide life-safety-focused Pre-Arrival Instructions.

Learning Objectives

Upon completion of this course, learners will be able to:

1. Recognize and identify hazardous materials using classifications, placards, labels, containers, documentation, and other available clues.
2. Use the Emergency Response Guidebook (ERG) to locate hazardous material information and identify initial protective actions.
3. Apply initial survey, primary questioning, and secondary questioning techniques to gather critical information and maintain situational awareness.
4. Determine appropriate dispatch recommendations and communicate urgent or changing conditions to emergency responders.
5. Provide appropriate Pre-Arrival Instructions that protect callers, bystanders, and responders during hazardous materials incidents.

Module 1: Hazardous Material Incidents

This module introduces hazardous materials incidents and the role of the public safety telecommunicator in managing them. Learners examine situational awareness, caller and responder safety, changing incident conditions, and the importance of dispatch protocols in supporting an effective response.

Module Objectives

Upon completion of this module, learners will be able to:

1. Define situational awareness in the context of hazardous materials incidents.
2. Identify factors that may influence the severity and progression of a hazardous materials incident.
3. Explain the telecommunicator's role in gathering and communicating critical incident information.
4. Describe how dispatch protocols support consistent hazardous materials call handling.
5. Recognize conditions that may present immediate risks to callers, bystanders, and responders.

Content/Activities

- Hazardous materials incidents and situational awareness
- Caller and responder safety
- Telecommunicator roles and dispatch protocols
- VIDEO: Deadly Vapors
- Anhydrous ammonia incident scenario
- Situational awareness activity

Module 2: What Are Hazardous Materials?

This module defines hazardous materials and introduces the nine U.S. Department of Transportation (DOT) hazardous materials classes. Learners explore common hazardous substances and the clues that can be used to recognize and identify hazardous materials without placing callers at unnecessary risk.

Module Objectives

Upon completion of this module, learners will be able to:

1. Define hazardous materials and describe conditions that can make a substance hazardous.
2. Identify the nine DOT hazardous materials classes.
3. Recognize common examples and hazards associated with each DOT class.
4. Identify hazardous materials using occupancy, containers, markings, placards, labels, and documentation.
5. Apply caller-safety considerations when gathering hazardous materials identification information.

Content/Activities

- Hazardous materials definitions and characteristics
- Nine DOT hazardous materials classes
- Hazardous materials recognition and identification
- Occupancy, containers, markings, placards, and labels
- Shipping Papers and Safety Data Sheets
- Caller safety considerations

Module 3: Emergency Response Guidebook (ERG)

This module introduces the Emergency Response Guidebook as a resource for identifying hazardous materials and determining initial protective actions during transportation incidents. Learners explore the organization of the ERG and practice locating information using placards, identification numbers, and chemical names.

Module Objectives

Upon completion of this module, learners will be able to:

1. Explain the purpose of the Emergency Response Guidebook.
2. Describe how the ERG is organized to support hazardous materials identification and response.
3. Locate hazardous materials using placards, UN identification numbers, and chemical names.
4. Use the appropriate ERG guide pages to locate initial response and protective-action information.
5. Identify available print and digital ERG resources for use during hazardous materials incidents.

Content/Activities

- ERG purpose and organization
- Identification by placard, UN number, and chemical name
- Orange guide pages and Guide 111
- Initial protective actions
- ERG instructional video
- ERG print and digital resources

Module 4: Hazardous Materials Incident Management

This module focuses on gathering the information necessary to manage hazardous materials calls effectively. Learners examine the Initial Survey and Primary Questioning processes used to identify life hazards, determine incident conditions, assess the behavior of hazardous materials, and support responder decision-making.

Module Objectives

Upon completion of this module, learners will be able to:

1. Conduct an Initial Survey to establish incident location, caller information, chief complaint, and immediate safety concerns.
2. Apply Primary Questioning to gather information necessary for an appropriate hazardous materials response.
3. Identify injuries, entrapment, exposure, and contamination associated with an incident.
4. Determine relevant information about hazardous material leaks, fires, containers, and physical states.
5. Communicate information about material movement, environmental conditions, and other hazards affecting the incident.

Content/Activities

- Initial Survey and Primary Questioning
- Hazardous material location and incident conditions
- Injuries, exposure, contamination, and entrapment
- Leaks, fires, containers, and environmental conditions
- VIDEO: Meth Lab Found in Apartment Building
- Residential hazardous materials scenario

Module 5: Dispatch Recommendations

This module examines how information gathered during a hazardous materials call supports dispatch recommendations and ongoing situational awareness. Learners explore Secondary Questioning, response priorities, hazardous material identification information, surrounding hazards, and Red Flags requiring immediate communication to responders.

Module Objectives

Upon completion of this module, learners will be able to:

1. Use information gathered during questioning to support appropriate dispatch recommendations.
2. Apply Secondary Questioning to develop a broader understanding of the incident.
3. Gather relevant information about hazardous materials, containers, facility access, and surrounding hazards.
4. Recognize conditions and activities that may indicate additional life-safety or environmental risks.
5. Identify and communicate Red Flag information requiring immediate responder notification.

Content/Activities

- Dispatch priorities and resource considerations
- Secondary Questioning
- Placards, labels, SDS, and product identification
- Life hazards, containers, and environmental concerns
- Clandestine lab and suspicious activity indicators
- Red Flags and urgent responder notifications

Module 6: Pre-Arrival Instructions

This module focuses on the life-safety instructions telecommunicators provide before emergency responders arrive. Learners examine evacuation, hazardous material avoidance, contamination prevention, and other actions intended to keep callers and bystanders from increasing their exposure or risk.

Module Objectives

Upon completion of this module, learners will be able to:

1. Explain the purpose of Pre-Arrival Instructions during hazardous materials incidents.
2. Provide instructions that help callers and bystanders safely distance themselves from hazardous materials and vapor hazards.
3. Explain why untrained individuals should avoid containment, cleanup, rescue, and fire-control activities.
4. Apply instructions designed to reduce the risk of exposure and secondary contamination.
5. Instruct callers to monitor conditions and immediately report significant changes.

Content/Activities

- Hazardous materials Pre-Arrival Instructions
- Evacuation and caller safety
- Avoiding hazardous materials and vapor clouds
- Preventing unsafe containment, rescue, and fire-control attempts
- Preventing secondary contamination
- Monitoring and reporting changing conditions

Module 7: Knowledge Check

This module provides learners with an opportunity to demonstrate their understanding of the major concepts covered throughout the course. Learners apply hazardous materials recognition, ERG use, questioning, dispatch, and Pre-Arrival Instruction principles to course-based questions and scenarios.

Module Objectives

Upon completion of this module, learners will be able to:

1. Demonstrate knowledge of hazardous materials classifications and recognition methods.
2. Apply ERG concepts to hazardous materials identification and initial protective actions.
3. Distinguish between Initial Survey, Primary Questioning, and Secondary Questioning information.
4. Apply dispatch and Pre-Arrival Instruction principles to hazardous materials scenarios.
5. Identify critical information that requires prompt communication to responders.

Content/Activities

- Hazardous materials recognition and classification review
- ERG application
- Questioning and situational awareness review
- Dispatch and Pre-Arrival Instruction review
- Scenario-based Knowledge Check

Course Completion Criteria

To successfully complete this course and earn a certificate and continuing education hours, learners must achieve a minimum score of 75%. The quiz must be completed within 30 minutes.

- CE hours awarded: 1
- Certificate duration: 12 Months

Technical Requirements

- Desktop, laptop, or mobile device
- Speakers or headphones
- High-speed Internet access
- A current web browser