



## **DOT 8-Hour HAZMAT**

### Course Outline

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

**Course Length** – 8 hours - 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**

- ) Identify information about a particular hazardous material using the hazardous materials table.
- ) Define a hazardous substance and indicate reportable quantities using Appendix A.
- ) Identify marine pollutants using Appendix B.
- ) Identify the proper shipping methods for hazardous materials in air, water, rail, and highway.
- ) Recognize the information required to be entered on shipping papers for various types of hazardous materials.
- ) Describe additional shipping paper entries required for hazardous material shipments by air, rail, highway, and water.
- ) Utilize the proper labeling, marking, and placarding required for hazardous materials transportation.
- ) Identify additional documentation required for hazardous waste shipments.
- ) Identify record retention requirements.
- ) Compare carrier and shipper responsibilities for each mode of transportation.
- ) Identify carrier loading and unloading requirements for hazardous materials.
- ) Determine when Federal Motor Carrier Safety Administration (FMCSA) and International Civil Aviation Organization (ICAO) apply to a hazardous materials shipment.
- ) Summarize general operating requirements, general handling, stowage and segregation requirements for transporting hazardous materials.

#### **Course Design**

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

#### **Successful Course Completion**

- ) Requires a minimum score of 75% or better.
- ) Delegates will have no more than thirty (30) minutes to complete the exam.



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- ) Grades shall be calculated by dividing the number of questions answered correctly by the total number of exam questions.

### Course Content Summary

- ) Classroom

**Breaks:** 10 minutes (approximately every hour)

**Lunch:** 1 Hour (if applicable)

### Course Outline

#### Hazmat Compliance

- ) Hazardous Materials Transportation Act (HMTA)
- ) Federal Hazardous Materials Transportation LAW (49 CFR)
- ) Who must comply with the HMR?
- ) Misrepresenting Packaging or Containers
- ) Enforcement Authorities

#### Penalties

- ) Civil
- ) Criminal

#### Training Requirements

- ) Types of Training
- ) Compliance Dates

#### Definitions

- ) Hazardous Material
- ) Hazmat Employee
- ) Cycle of Transportation
- ) Shipper

#### Six Steps to Compliance

- ) Step One
  - o Classification
  - o Hazard Classes/Divisions
    - Class 1 - Explosives
    - Class 2 - Compressed Gases
    - Class 3 - Flammable Liquids
    - Class 4 – Flammable Solids
    - Class 5 – Oxidizers & Organic Peroxides



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- Class 6 – Poisonous Materials
- Class 7 – Radioactive Materials
- Class 8 – Corrosives
- Class 9 – Miscellaneous Materials
- Hazardous Materials Table (HMT)
- Appendix A
- Appendix B
- ) Step Two
  - Shipping Papers
    - Exceptions
    - General Preparation
    - Basic Shipping Description Sequence
      - ) Identification Number
      - ) Proper Shipping Name
      - ) Hazard Class
      - ) Packing Group
    - Additional Description Requirements
      - ) DOT Exemptions and Special Permits
      - ) Limited Quantities
      - ) Hazardous Substances
      - ) Radioactive Materials
      - ) Empty Packaging
      - ) Transportation by Air
      - ) Transportation by Rail
      - ) Transportation by Highway
      - ) Transportation by Water
      - ) Technical Names for n.o.s. and Other Generic Descriptions
      - ) Marine Pollutants (vessel transported or bulk)
      - ) Poisonous Materials
      - ) Elevated Temperature Materials
      - ) Organic Peroxides and Self-Reactive Material
    - Emergency Response Telephone Number
    - Shipper's Certification
      - ) Domestic
      - ) International
      - ) Air Transportation
      - ) Certification for Radioactive Material
      - ) Exceptions
    - Hazardous Waste Manifest
      - ) Requirements
      - ) General Preparation and Required Entries



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- Accessibility
  - ) Highway
  - ) Rail
  - ) Air
  - ) Water
- Retention
- Emergency Response Information
  - Emergency Response Guidebook (ERG)
    - ) White Pages
      - Table of Placards
      - Rail Car and Road Trailer ID Charts
      - Globally Harmonized System of Classification and Labeling of Chemicals (GHS)
    - ) Yellow Section
    - ) Blue Section
    - ) Orange Section
    - ) Green Section
      - Initial Isolation Zone
      - Protective Action Zone
      - Water-reactive Materials Which Produce Toxic Gases
    - ) Table Top Exercise 1
    - ) Table Top Exercise 2
- Globally Harmonized System
  - Elements
  - Pictograms
  - Safety Data Sheets
    - ) Sections 1-16
    - ) Signal Words
    - ) Hazard Statements
    - ) Allocation of Label Elements
    - ) Classification Criteria for Acute Toxicity
- ) Step Three
  - Markings
    - Marking Requirements
    - Orientation Arrows
    - Excepted Packagings
      - ) Limited Quantities Materials
    - Marking for Hazardous Substances
    - Marking for Marine Pollutants
    - Marking for Bulk Packages
    - Bulk Packaging Types



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- ) Step Four
  - o Labeling
    - Requirements
    - Exceptions
    - Labeling for Non-Bulk Packages
      - ) Flat Surfaces
      - ) Round Surfaces
    - Class 7 – Radioactive Materials
    - Label Placement
    - Multiple Hazards
- ) Step Five
  - o Placarding
    - General Rule
    - Placard Determination
    - Bulk Placarding
    - Prohibited Placarding
    - UN or NA Identification Numbers
    - Visibility
    - Non-Bulk Placarding
      - ) Table 1
      - ) Table 2
    - Placarding Flow Chart
    - Placarding for Subsidiary Hazards
- ) Step Six
  - o Packing
    - UN Specification Codes
    - Packaging Performance Levels
    - Small and Limited Quantities
    - Filling Limits
    - Closure Requirements
    - Inner Containers
    - Cylinders

### Carrier Requirements (Highway)

- ) Carrier and Shipper Responsibilities
  - o Driver Training Requirements
  - o FMCSA Regulations
- ) Accessibility of Shipping Papers
- ) Disabled Motor Vehicle in Transit
- ) Leaking Cargo Tanks
- ) Smoking



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- ) Attendance
- ) Special Loading and Unloading Requirements
  - o Explosives
  - o Flammable Liquids
  - o Storage Batteries/Nitric Acid
  - o Gasses
  - o Poisons/Poison Inhalation Hazards
  - o Selected Class 4 and 5 Materials
  - o Radioactive Materials
- ) Segregation Table
- ) Explosives Load and Segregation Chart

### Carrier Requirements (Air)

- ) Subpart A
- ) Subpart B
- ) Subpart C
- ) ICAO Technical Instructions
- ) Shipper Responsibilities
- ) Carrier Responsibilities
- ) Hazardous Materials Packaging
  - o Class 4, 5, and 8 Materials
  - o Preventing Leaking
  - o Packaging for Liquids
  - o Combination Packagings
  - o Quantity Limitations
  - o Cylinder Protection
  - o Cargo Aircraft Only Packages
- ) Quality Limitations and Cargo Locations
  - o Passenger Aircraft
  - o Cargo Aircraft
  - o Pilot Notification

### Carrier Requirements (Rail)

- ) Bulk Packaging
- ) Segregation Table
- ) Marking and Placards
- ) Train Consist
- ) Restrictions
- ) Incident/Accident Reporting



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### **Carrier Requirements (Water)**

- ) General Operating Requirements
  - o Container Packing Certificate
  - o Stowage and Segregation
  - o Cargo Manifest List/Stowage Plan
  - o Inspections
  - o Accidents
  - o Damaged Packages
  - o Misrepresentation
  - o Repairs
  - o Supervision of Handling and Stowage
  - o Vessel Preparation
  - o Stowage Locations
  - o Segregation Requirements
- ) Requirements for Ferry Vessels
- ) Special Requirements for Barges
- ) Requirements for Class 2 Materials
- ) Requirements for Class 3 Materials
- ) Requirements for Class 4,  
Class 5 and Division 1.5 Materials
- ) Requirements for Division 2.3 & 6.1 Materials

### **Hazmat Security Awareness**

- ) Training Requirements
- ) Awareness
- ) Recognition
- ) Potential Targets
- ) Security Risks
- ) Security Checklist
- ) Security Plans

### **Practical Session**

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

### **Training Center Provided Material**

- ) Course Materials
- ) HAZMAT Table
- ) ERG
- ) Sample Bills of Lading

### **Delegate Requirements**



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) None

**Reference Material / Documents**

DOT 49 CFR 171-180

U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration's  
Emergency Response Guidebook  
Handling Hazardous Materials