



## DOT 8-Hour HAZMAT Course Outline



**Prerequisites:** This course shall have no formal prerequisite.

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



## DOT 8-Hour HAZMAT Course Outline



### 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
  - Classification
  - Hazard Classes/Divisions
    - Class 1 - Explosives
    - Class 2 - Compressed Gases
    - Class 3 - Flammable Liquids
    - Class 4 – Flammable Solids
    - Class 5 – Oxidizers & Organic Peroxides
    - 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
    - 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
- Step Four
  - Labeling
    - Requirements
    - Exceptions

- Labeling for Non-Bulk Packages
    - Flat Surfaces
    - Round Surfaces
  - Class 7 – Radioactive Materials
  - Label Placement
  - Multiple Hazards
- Step Five
  - 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
  - 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
  - Driver Training Requirements
  - FMCSA Regulations
- Accessibility of Shipping Papers
- Disabled Motor Vehicle in Transit
- Leaking Cargo Tanks
- Smoking
- Attendance
- Special Loading and Unloading Requirements
  - Explosives
  - Flammable Liquids
  - Storage Batteries/Nitric Acid

- Gasses
  - Poisons/Poison Inhalation Hazards
  - Selected Class 4 and 5 Materials
  - 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
  - Class 4, 5, and 8 Materials
  - Preventing Leaking
  - Packaging for Liquids
  - Combination Packagings
  - Quantity Limitations
  - Cylinder Protection
  - Cargo Aircraft Only Packages
- Quality Limitations and Cargo Locations
  - Passenger Aircraft
  - Cargo Aircraft
  - Pilot Notification

#### Carrier Requirements (Rail)

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

#### Carrier Requirements (Water)

- General Operating Requirements
  - Container Packing Certificate
  - Stowage and Segregation
  - Cargo Manifest List/Stowage Plan
  - Inspections
  - Accidents

- Damaged Packages
- Misrepresentation
- Repairs
- Supervision of Handling and Stowage
- Vessel Preparation
- Stowage Locations
- 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**

- 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