



Course 307

Length: 5 days

Target: Persons responsible for actual DOT, RCRA, and NRC regulatory compliance, as shippers or by performance of operations or the overseeing of said performance, of the classification, characterization, packaging and transport of low-level and mixed waste for storage, treatment or disposal.

Prerequisite: RRI's DOT Hazardous Materials/Waste/Radioactive Transport Workshops (Courses 201-203) or equivalent.

Intensity: ___ Mild ___ Medium ___ Challenging X Intense

Materials: RRI provides all training materials including professional designed training materials, 49 CFR 100-180, NRC and EPA regulatory excerpts, letters from the regulator, and more. Testing and course completion certificate are also provided.

Course Objective

Upon completion of this course, and given the reference materials, the participant will be able to prepare and inspect radioactive mixed waste shipment using the applicable regulations of the U.S. Department of Transportation Hazardous Materials Regulations and including as appropriate the U.S. Environmental Protection Agency Hazardous Waste Regulations.

Objectives & Topics

Introduction

- Present the course for this Course.
- Introduce the regulators and regulations.
- Define mixed waste.
- Recognize the limitations of this training course.

Module 1: Waste Designation

- Define solid and hazardous wastes.
- Designated waste per RCRA criteria.
- Assign waste codes to a given waste.
- Select the basic LDR treatment standard(s) for a given waste.
- State the marking requirements applicable to a RCRA hazardous waste.
- State the marking requirements applicable to a TSCA PCB waste.

Module 2: Non-Radioactive Hazardous Substances

- Recognize the application of CERCLA listed and unlisted hazardous substances.
- Assign the appropriate CERCLA RQ value(s) to a given waste.
- State the CERCLA "Mixture Rule".
- Determine if a given non-radioactive waste is a CERCLA hazardous substance.



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Module 3: HMR Materials Classification

- State the DOT hazard classes and divisions.
- Locate the defining criteria for each DOT hazard class and division.
- Determine the assignment of a DOT hazard class or division to a given material based on the physical and chemical information provided.
- Select the order of hazards for multiple hazardous mixtures and solutions.
- List, in order, the precedence for identifying a hazardous material.
- Select the most appropriate proper shipping name for a given material/waste.

Module 4: Radioactive Material Activity Limits and Material Restrictions

- Define a given term applicable to Class 7 (radioactive) materials
- Determine the Unity Sum and Derived Value for both exempt material and exempt consignment.
- Determine if the material is fissile or fissile excepted for purposes of the transport regulations.
- Determine the activity limit for multiple nuclide package content (individual isotopic contribution per package, unity sums, derived A_2 values).
- Determine if the material activity is within the activity limits for excepted packages.
- State the differences between NRC LLW classification and DOT Class 7 classification categories.
- Determine if the material qualifies as LSA Material.
- Determine if the material qualifies as SCO.
- Determine if a given radioactive material package is a CERCLA hazardous substance.

Module 5: Package Selection, Requirements, and User Responsibilities

- Recognize the components of a package.
- Relate the concepts for routine, normal and accident conditions of transport to the requirements for a given package type.
- Explain the design and performance standards applicable to a given packaging type.
- Determine the requirements of a self-certified Type A package for fissile contents.
- Select appropriate package type(s) for the material, based on content limits and material type.
- Recognize the constraints imposed by the Regulations for the package type.

Module 6: Requirements for the Transport of Radioactive Mixed Waste

- Select the appropriate Class 7 (radioactive) material proper shipping name.
- Apply the marking requirements for a given package or overpack and its contents.
- Apply the requirements for transport of an excepted package.
- Apply the requirements for transport of LSA material and SCO in their authorized package(s).
- Determine the Transport Index for a given package or overpack.
- Determine the appropriate label to be applied to a given radioactive material package or overpack.
- Derive the CSI for a given fissile material package.
- Describe the vehicle placarding requirements for radioactive material.
- Complete the transport document for a given mixed waste shipment – including the Uniform Hazardous Waste Manifest.
- Recognize when additional information must be supplied by the consignor to the carrier with the transport documents.
- Inspect a shipment of radioactive materials for compliance to the applicable domestic regulations.



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Module 7: Controls for the Transport of Radioactive Mixed Waste

- State the dose rate limits placed on packages and vehicles.
- Recognize the contamination limits placed on packages and vehicles.
- Apply the package and conveyance controls placed on packages containing fissile materials.

Module 8: Other Factors Affecting Radioactive Mixed Waste Transport

- List the additional requirements associated with the use of a given package or shipment type.
- State the notifications that must be made to Competent Authority for a given package or shipment situation.
- Recognize the importance and requirements for a Quality Assurance program.
- Determine if the waste to be shipped requires Increased Controls (RAMQC)
- Identify the additional requirements imposed for an HRCQ shipment.