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Subj: Surface Transportation of Hazardous Materials (HMT-0100)

This web-based training course was developed by ShipMate, Inc. and is intended for those persons and facilities that receive, handle or ship certain hazardous materials by surface transportation. This course fulfills the U.S. Department of Transportation's hazardous materials transportation training requirements for: (1) general awareness and familiarization; (2) general safety; (3) hazardous materials security awareness; and (4) function-specific training for the following transportation and pre-transportation functions:

- determining the hazard class of a hazardous material;
- selecting a hazardous materials packaging;
- filling a non-bulk hazardous materials packaging;
- securing a closure on a filled or partially filled non-bulk hazardous materials package;
- marking a package to indicate that it contains a hazardous material;
- labeling a package to indicate that it contains a hazardous material;
- preparing a shipping paper;
- providing and maintaining emergency response information;
- reviewing a shipping paper to verify compliance with the HMR;
- certifying that a hazardous material is in proper condition for transportation in conformance with the requirements of the HMR;
- loading, blocking, and bracing a hazardous materials package in a transport vehicle;
- providing or offering placards to a surface carrier to indicate that it contains a hazardous material; and
- the carriage of hazardous materials by private or contract carriers in quantities for which a placard is not required.

You should print and maintain a copy of this course syllabus and overview on file at your facility. It is recommended that you provide a copy of this document in the event of a regulatory agency (e.g., DOT) inspection.

If this course does not address all of the hazardous materials transportation or pre-transportation functions that you perform, supplementary training may be required. If you have any questions regarding this or other hazardous materials training programs, or need any assistance, please call the course authors, ShipMate, Inc. at +1 (310) 370-3600.

Respectfully,

Steven Charles Hunt
ShipMate, Inc.

Web-Based Training (WBT)
Surface Transportation of Hazardous Materials (HMT-0100)

Module 1

Introduction

Lesson 1	Training Overview
Lesson 2	WBT Library Resources
Lesson 3	Assessments & Certification Exam
Lesson 4	Additional Information

Module 2

Classification

Lesson 1	Accident History Texas City, TX – 1947 Bhopal, India – 1984 ValuJet 592 – 1996 FedEx 1406 – 1996 UPS Flight 1307 - 2006
Lesson 2	Physical & Chemical Properties Explosive Corrosive Flammable Combustible Reactive Radioactive Toxic Elevated Temperature Elevated Pressure Other Dangerous Properties
Lesson 3	International Classification Class 1 – Explosives Class 2 – Gases Class 3 – Flammable Liquids Class 4 – Solids Class 5 – Oxidizers & Organic Peroxides Class 6 – Toxic Materials Class 7 – Radioactive Materials Class 8 – Corrosive Materials Class 9 – Miscellaneous Dangerous Goods
Lesson 4	Mixtures & Solutions Mixtures Solutions Not Otherwise Specified (N.O.S.)

Lesson 5 Packing Groups
Lesson 6 Multiple Hazards
 Precedence of Hazard
Module 2 - Summary
Module 2 - Learning Assessment

Module 3 Regulatory Requirements

Lesson 1 Regulatory Requirements Overview
Lesson 2 International Dangerous Goods Regulations
Lesson 3 Other Regulatory References
Lesson 4 49 CFR subchapter C
 Part 171 – General Requirements
 Part 172 – Hazard Communication
 Part 173 – Classification & Packaging Authorizations/Exceptions
 Part 174 – Rail
 Part 175 – Air
 Part 176 – Ocean
 Part 177 – Highway
 Part 178 – Packaging Manufacturing, Testing & Marking
Module 3 - Summary
Module 3 - Learning Assessment

Module 4 Hazardous Materials Table (HMT)

Lesson 1 Resources Available
Lesson 2 Column 1 – Symbols
Lesson 3 Column 2 – Proper Shipping Name
Lesson 4 Column 3 – Hazard Class, Division & Compatibility Group
Lesson 5 Column 4 – Identification Numbers
Lesson 6 Column 5 – Packing Group
Lesson 7 Column 6 – Labels, Sub Risk Labels
Lesson 8 Column 7 – Special Provisions
Lesson 9 Column 8A – Packaging Exceptions
Lesson 10 Column 8B – Non-Bulk Packaging Authorizations
Lesson 11 Column 8C – Bulk Packaging Authorizations
Lesson 12 Column 9A – Quantity Limits (Passenger Air/Rail)
Lesson 13 Column 9B – Quantity Limits (Cargo Air)
Lesson 14 Column 10A – Vessel Stowage Categories
Lesson 15 Column 10B – Other Vessel Stowage & Segregation Requirements
Lesson 16 Appendix A – Reportable Quantities / Hazard Substances
Lesson 17 Appendix B – Marine Pollutants
Module 4 - Summary
Module 4 - Learning Assessment

Module 5 Hazard Communication

Lesson 1	Purpose
Lesson 2	Methods to Communicate Risk
Lesson 3	Marking Proper Shipping Name(s) Technical & Chemical Name(s) Identification Number UN or DOT Specification Packaging Marking
Lesson 4	Labeling & Marking Hazard Warning Primary Risk Subsidiary Risk(s) Labeling Requirements Cargo Handling Orientation Arrows Cargo Aircraft Only Special Marks Excepted Quantities Mark Overpack Mark
Lesson 5	Package Marking & Labeling TULIP
Lesson 6	Overpacks, Unit Loads & Cages Overpack PILOT Unit Loads Cages
Lesson 7	Placarding Placarding Requirements Placarding Exceptions
Lesson 8	Limited Quantities Hollow Diamond (ground, ocean) Limited Quantity Mark (air)
Lesson 9	Consumer Commodity ORM-D (ground) Transition Dates
Module 5 - Summary	
Module 5 - Learning Assessment	

Module 6

Packaging

- Lesson 1 Forces Encountered in Transportation
- Lesson 2 UN POP Marking
Manufacturer Marks
Reconditioner Marks
- Lesson 3 DOT Marking
Cylinders
- Lesson 4 Non-Specification Packaging ('Strong' Outer Packaging)
- Lesson 5 Manufacturers Symbol (Box Maker's Certificate – BMC)
Burst Strength
Edge Crush Test
- Lesson 6 Packing
Packaging Closure
Manufacturers Closure Instructions
- Lesson 7 Manufacturers Test Reports
- Lesson 8 Damaged Packaging
Packaging Evaluation
Repackaging
- Module 6 - Summary
- Module 6 - Learning Assessment

Module 7

Documentation

- Lesson 1 Basic Description
Alternative Description Formats
- Lesson 2 Required Information
- Lesson 3 Additional Descriptive Information
Special Permits & Authorizations
Limited Quantity
Reportable Quantities (RQ)
Radioactive Materials Information
Residues
Cargo Aircraft Only
Not Otherwise Specified
Flashpoint (Recommended)
- Lesson 4 Emergency Response Information
Emergency Response Telephone Number
Emergency Response Information
ERT Service Providers
- Lesson 5 Mode Specific Requirements
IATA DGR - Air
IMDG Code - Ocean

Lesson 6 Small Package Dispatch Services
 UPS
 FedEx

Lesson 7 Recordkeeping Requirements
Module 7 - Summary
Module 7 - Learning Assessment

Module 8 Segregation

Lesson 1 Overview
Lesson 2 Segregation Tables
Lesson 3 Segregation by Highway
Lesson 4 Segregation by Rail
Module 8 - Summary
Module 8 - Learning Assessment

Module 9 Emergency Response

Lesson 1 Basic Guidelines
Lesson 2 Initial Response Actions
Lesson 3 Reporting & Notifications
 DOT Form F5800.1
Lesson 4 Facility Response Plans
Module 9 - Summary
Module 9 - Learning Assessment

Module 10 HM Security

Lesson 1 Applicability
Lesson 2 HM Security Plan Requirements
 Personnel Security
 Site Security
 En Route Security
Lesson 3 High Consequence Cargoes
Module 10 - Summary
Module 10 - Learning Assessment

Course Summary
Certification Exam Code
Certification Exam