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Subj: **ShipMate, Inc. Transport of Dangerous Goods by Air (HMT-0320)**

This web-based training course was developed by ShipMate, Inc., in cooperation with ShipMate™ University.com.

This course is intended for those persons and facilities that receive handle or ship hazardous materials by air. 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 non-bulk hazardous materials packaging;
- filling a non-bulk hazardous materials packaging;
- securing a closure on a filled or partially filled non-bulk hazardous materials (dangerous goods) 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 (dangerous good) is in proper condition for transportation in conformance with the requirements of the HMR and the International Civil Aviation Organization (ICAO) Technical Instructions for the Transport of Dangerous Goods by Air;
- loading, blocking, and bracing a hazardous materials package in a transport vehicle, or unit load device;
- 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 may perform, or 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)
Transport of Hazardous Materials (Dangerous Goods) by Air**

Module 1	Introduction
Module 2	Overview
Module 3	A.I.R. Shipper™ Construction
Module 4	Classification
Module 5	Dangerous Goods List
Module 6	Packing & Packaging
Module 7	Hazard Communication
Module 8	Documentation
Module 9	Transport Operations
Module	10 Hazardous Materials Security

Module 1	Introduction
Lesson 1	Objectives
Lesson 2	Responsibilities
Lesson 3	Training
Lesson 4	Assessments
Lesson 5	Certification
Lesson 6	WBT Program Features
	WBT Library
	Glossary
	Frequently Asked Questions (FAQs)
	Additional Information
Module 2	Overview
Lesson 1	Regulatory Authorities
	DOT
	FAA
Lesson 2	Regulatory Requirements Overview
	49 CFR subchapter C
	ICAO Technical Instructions
	A.I.R. Shipper™
	IATA Dangerous Goods Regulations
	Other References
Lesson 3	Forbidden Materials
	Carry-on Luggage & Checked Baggage
	General Requirements
	Specific Requirements
Lesson 4	Training Requirements
	Types of Training
	Training Duration & Relevance
	Frequency

Training Records

Module Assessment

Module 3	A.I.R. Shipper™ Construction
Lesson 1	ICAO Technical Instructions Alignment with 49 CFR subchapter C ICAO Chapter Outline
Lesson 2	Chapter 1 Chapter 2 Chapter 3 Chapter 4 Chapter 5 Chapter 6 Chapter 7
Lesson 3	Dangerous Goods List Packing Instructions State Variations Operator Variations Checklists Competent Authorities Index
	Module Assessment

Module 4	Classification
Lesson 1	Accident History Texas City, TX – 1947 Bhopal, India – 1984 ValuJet 592 – 1996 FedEx 1406 – 1996
Lesson 2	Physical & Chemical Properties Explosive Corrosive Flammable Combustible Reactive Radioactive Toxic Elevated Temperature Elevated Pressure
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

Module Assessment

Module 5	Dangerous Goods List
Lesson 1	Arrangement Columns 1 – 11 Numerical Cross-Reference
Lesson 2	Proper Shipping Name Prefixes Qualifying Words Synonyms Alternate Spellings Technical Names
	Lesson 3 Basic Description I-S-H-P Sequence Lesson 4 Special Provisions
Lesson 5	Packing Instructions Authorizations Specific Instructions Limited Quantity (Y) Packing Instructions
Lesson 6	State Variations U.S. Variations
Lesson 7	Operator (Airline) Variations
Lesson 8	General Airline (IATA) Variations
	Module Assessment

Module 6	Packing & Packaging
Lesson 1	Forces Encountered in Transportation
Lesson 2	Package Selection Package Condition Liquids Small Packagings
Lesson 3	Authorized Packagings Combination Packagings
Lesson 4	UN POP Marking Packaging Types Special Codes Performance Level Manufacturer Marks Reconditioner Marks

Lesson 5	Packaging Tests Drop Test Leakproofness Test Pressure Test Stacking Test
Lesson 6	DOT Packagings DOT Markings Cylinders
Lesson 7	Limited Quantity Packaging Non-Specification Packaging ('Strong' Outer Packaging)
Lesson 8	Manufacturers Symbol (Box Maker's Certificate – BMC) Burst Strength Edge Crush Test ISO Symbols Non-Reusable Containers (NRC)
Lesson 9	Damaged Packaging Packaging Evaluation Repackaging
	Module Assessment

Module 7

Hazard Communication

Lesson 1	Marking Proper Shipping Name(s) Technical & Chemical Name(s) Identification Number UN or DOT Specification Packaging Marking
Lesson 2	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 3	Package Marking & Labeling T-U-L-I-P Practical (Interactive) Exercise
Lesson 4	Overpacks Unit Loads P-I-L-O-T
Lesson 5	Limited Quantities

	Limited Quantity Marking (ground, ocean)
	Limited Quantity Marking (air)
Lesson 6	Consumer Commodities
Lesson 7	Excepted Quantities
Lesson 8	Placarding
	Placarding Requirements
	Placarding Configurations
	Placarding Exceptions
	Module Assessment

Module 8

Documentation

Lesson 1	Required Information
	Format & Location
	Language(s)
Lesson 2	Basic Description
	Alternative Description Formats
Lesson 3	Additional Descriptive Information
	Permits & Approvals
	Reportable Quantity
	Radioactive Materials Information
	Residues
	Cargo Aircraft Only
	N.O.S.
	Other Information
Lesson 4	Emergency Information
	Emergency Response Telephone Number
	Emergency Response Information
	ERT Service Providers
	Required Access
Lesson 5	Documentation (Interactive) Exercise
Lesson 6	Small Package Dispatch Services
	Carrier Requirements
	UPS
	FedEx
Lesson 7	Other Required Documents
	Air Waybill
	Export Declaration
	Commercial Invoice
	Certificate of Origin
Lesson 8	Recordkeeping Requirements
	Module Assessment

Module 9	Transport Operations
Lesson 1	Labeled Packages
Lesson 2	Stowage & Segregation
Lesson 3	Magnetized Materials
	Dry Ice
	Toxic & Infectious Substances
	Reactive Materials
Lesson 4	Checked Baggage
	Carry-on Luggage
	Forbidden Materials
	Other Restrictions
	Damaged Packagings
	Module Assessment

Module 10	HM Security
Lesson 1	HM Security Requirements
	HM-232
	Applicability
Lesson 2	HM Security Plan Requirements
	High Consequence Shipments
Lesson 3	Security Plan Elements
	Personnel Security
	Site Security
	En Route Security
Lesson 4	Training
	Module Assessment

Certification Test (Final Exam)