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Subj: Surface Transportation of Automotive Hazardous Materials

This web-based training course was developed by ShipMate, Inc., in cooperation with the Coordinating Committee For Automotive Repair (CCAR) and The North American Automotive Hazmat Action Committee (NAAHAC).

This course is intended for those persons and facilities that receive, handle or ship automotive 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 hazardous materials packaging;
- securing a closure on a filled or partially filled 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 automotive 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 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 Automotive Hazardous Materials

Module 1	**Introduction**
Lesson 1	Hazardous Materials Overview
Lesson 2	Responsibilities
Lesson 3	Training
Lesson 4	Regulatory Authorities
	DOT
	Transport Canada
	Mexico SCT
Lesson 5	Regulatory Requirements Overview
	49 CFR subchapter C
	IMDG Code
	ICAO Technical Instructions
	IATA Dangerous Goods Regulations
	Canada TDG Regulations
	Mexico SCT Normas Oficiales Mexicanas (NOMs)
Lesson 6	HM Table
Module 2	**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 3 **Automotive Hazardous Materials**

Lesson 1 Electrical System
Battery
Speakers
Cable Cutters (Battery Disconnects)
Lesson 2 Fuel System
Fuel Pumps, Injectors & Rails
Fuel Lines
Fuel Pressure Regulators
Charcoal Canisters
Gas Tanks, Filler Necks & Gas Caps
Lesson 3 Power Train
Engines
Lesson 4 Passenger Safety
Air Bag Modules
Driver-Side Airbags
Passenger-Side Airbags
Side Impact (Thorax) Air Bags
Knee Bags
Air Curtains
Seat-Belt Pretensioners
Lesson 5 Steering & Suspension
Accumulators
Brake Boosters
Lesson 6 Paint & Body
Lift Gate Supports
Windshield Washer Fluid (concentrate)
Paint & Paint Related Materials
Adhesives & Coating Solutions
Lesson 7 Accessories
Flares
Fire Extinguishers
Tire Inflators
Cleaning Compounds
After-Market Auto-Care Products

Module 4 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
	TULIP
Lesson 4	Overpacks, Unit Loads & Cages
	Overpack
	PILOT
	Unit Loads
	Cages
Lesson 5	Placarding
	Placarding Requirements
	Placarding Exceptions
Lesson 6	Limited Quantities
	Hollow Diamond (ground, ocean)
	Limited Quantity Mark (air)
	Quantiteé Limiteé (Quebec)
	Cantidad Limitada (Mexico)
Lesson 7	Consumer Commodity
	ORM-D (ground)
	Consumer Commodity (Canada)

Module 5 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
Lesson 7	Damaged Packaging
	Packaging Evaluation
	Repackaging

Module 6 Documentation

Lesson 1	Basic Description
	Alternative Description Formats
Lesson 2	Required Information
Lesson 3	Additional Descriptive Information
Lesson 4	Emergency Response Information
	Emergency Response Telephone Number
	Emergency Response Information
	ERT Service Providers
Lesson 5	Modal Specific Requirements
	IATA DGR - Air
	IMDG Code - Ocean
Lesson 6	Small Package Dispatch Services
	UPS
	FedEx
Lesson 7	Recordkeeping Requirements

Module 7 Storage, Handling & Transportation

Lesson 1	Material Safety Data Sheets
	OSHA
	WHMIS
	ANSI/GHS
Lesson 2	MSDS Requirements
	Responsibility
	Availability
Lesson 3	General Storage Provisions
	Storage
Lesson 4	Safe Handling Practices
Lesson 5	Load Securement

Module 8 **Emergency Response**

Lesson 1	Initial Response Actions
Lesson 2	Reporting & Notifications
Lesson 3	Facility Response Plans

Module 9 **HM Security**

Lesson 1	HM Security Awareness
Lesson 2	HM Security Plan Requirements
	Personnel Security
	Site Security
	En Route Security