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Subj: Transportation of Automotive Dangerous Goods Canada

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 dangerous goods to, from or within Canada. This course fulfills the Transport Canada dangerous goods transportation training requirements for the following duties:


- the classification criteria and test methods in Part 2, Classification;
- shipping names;
- the use of Schedules 1, 2 and 3;
- the shipping document and train consist requirements in Part 3, Documentation;
- the dangerous goods safety marks requirements in Part 4, Dangerous Goods Safety Marks;
- the certification safety marks requirements, safety requirements and safety standards in Part 5, Means of Containment;
- the emergency response assistance plan requirements in Part 7, Emergency Response Assistance Plan;
- the report requirements in Part 8, Accidental Release and Imminent Accidental Release Report Requirements;
- safe handling and transportation practices for dangerous goods, including the characteristics of the dangerous goods;
- the proper use of any equipment used to handle or transport the dangerous goods; and
- the reasonable emergency measures the person must take to reduce or eliminate any danger to public safety that results or may reasonably be expected to result from an accidental release of the dangerous goods.

This course does not address the following duties:

- for air transport, the aspects of training set out in Chapter 4, Training, of Part 1, General, of the ICAO Technical Instructions for the persons named in that Chapter and the requirements in Part 12, Air, of these Regulations;
- for marine transport, the requirements set out in the IMDG Code and the "Dangerous Goods Shipping Regulations", as applicable, and the requirements in Part 11, Marine, of these Regulations.

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., Transport Canada) inspection. If this course does not address all of the dangerous goods transportation or pre-transportation functions that you perform, or if you have any questions regarding this or other dangerous goods 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)**  
**Transportation of Automotive Dangerous Goods - Canada**

**Module 1**

**Introduction**

- Lesson 1 Dangerous Goods Overview
- Lesson 2 Responsibilities
- Lesson 3 Training
- Lesson 4 Regulatory Authorities  
Transport Canada  
DOT (for cross-border shipments)
- Lesson 5 Regulatory Requirements Overview  
Canada TDG Regulations
- Lesson 6 TDGR Schedule 1

**Module 2**

**Classification**

- Lesson 1 Accident History  
Halifax Explosion - 1917  
Mississauga Ontario Derailment - 1979  
UPS Flight 1307 – 2006
- 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 Dangerous goods**

- 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 TC/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
  - Limited Quantity Marking Hollow Diamond w/Black Points (surface, ocean)
  - Limited Quantity “Y” Marking (air)
  - Quantiteé Limiteé (Quebec)

## **Module 5 Lithium Batteries and Hybrid & Electric Vehicles**

- Lesson 1 Nomenclature
  - Lithium Metal vs. Lithium Ion
  - Cells vs. Batteries
  - Contained-In vs. Packed-With Equipment
- Lesson 2 Vehicles
  - Vehicles vs. Equipment
  - Hybrid vs. Electric Vehicles

## Fuel Cell Hybrid Vehicles

- Lesson 3 Fully Regulated Lithium Batteries
  - Lithium Metal Cells
  - Lithium Metal Batteries
  - Lithium Ion Cells
  - Lithium Ion Batteries
- Lesson 4 Lithium Cell & Battery Packaging
- Lesson 5 Excepted Lithium Cell & Battery Shipments
  - Small Lithium Metal Cells & Batteries
  - Medium Lithium Metal Cells & Batteries
  - Small Lithium Ion Cells & Batteries
  - Medium Lithium Ion Cells & Batteries
- Lesson 6 Lithium Batteries/Cells Packed with Equipment
- Lesson 7 Lithium Batteries/Cells Contained in Equipment
- Lesson 8 Damaged or Defective Batteries

## **Module 6                   Packing & Packaging**

- Lesson 1 Forces Encountered in Transportation
- Lesson 2 UN POP Marking
  - Manufacturer Marks
  - Reconditioner Marks
- Lesson 3 TC/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 7                   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 Emergency Response Assistance Plans (ERAP)
- Lesson 6 Small Package Dispatch Services
  - UPS
  - FedEx
- Lesson 7 Recordkeeping Requirements
- Lesson 8 Exemptions
  - Exemptions Overview
  - 150 kg Exemption
  - 500 kg Exemption
  - Limited Quantity Exemption

**Module 8 Storage, Handling & Transportation**

- Lesson 1 Safety Data Sheets
  - WHMIS
  - OSHA
  - ANSI
  - GHS
- Lesson 3 Safe Handling Procedures
- Lesson 5 Load Securement

**Module 9 Emergency Response**

- Lesson 1 Initial Response Actions
  - Spill Control
  - Spill Treatment
  - Spill Response Safety
- Lesson 2 Reporting & Notifications
- Lesson 3 Facility Response Plans

**Module 10 HM Security**

- Lesson 1 HM Security Awareness
- Lesson 2 HM Security Plan Requirements (US)
- Lesson 3 Personnel Security
  - Site Security
  - En Route Security