



SECTION ONE

APRIL 2010

Title 49 CFR, Part 100-185

HAZARDOUS MATERIALS REGULATIONS

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Applicability

The hazardous materials regulations are applicable to the transportation of hazardous materials in commerce and their offering to:

- Interstate, intrastate, and foreign carriers by rail car, aircraft, motor vehicle and vessel.
- The representation that a hazardous material is present in a package, container, rail car, aircraft, motor vehicle or vessel.
- The manufacture, fabrication, marking, maintenance, reconditioning, repairing or testing of a package or container which is represented, marked, certified or sold for use in the transportation of hazardous materials (49 CFR 171.1(a)).

Who is required to have HM registration with the Research and Special Programs Administration (RSPA)?

Persons who offer for transportation, or transport in foreign, interstate or intrastate commerce:

- On any highway route controlled quantity of a Class 7 (radioactive) material
- More than 55 lbs of a Division 1.1, 1.2, or 1.3 (explosive) material in a motor vehicle, rail car or freight container
- More than 1 liter per package of a material extremely poisonous by inhalation
- A hazardous material in a bulk packaging having a capacity of 3,500 gallons for liquids or gases, or more than 468 cubic feet for solids
- A shipment in other than bulk packaging of 5,000 lbs. gross weight or more of one class of hazardous material for which the transport vehicles requires placarding
- Any quantity of materials requiring placarding

Hazardous Materials Safety Permits

The Federal Motor Carrier Safety Administration (FMCSA) requires motor carriers to obtain a Hazardous Materials Safety Permit (HMSP) prior to transporting certain highly hazardous materials. An HMSP is required to transport any of the following materials:

- A highway route-controlled quantity of a Class 7 (radioactive) material
- More than 55 lbs. of a Division 1.1, 1.2 or 1.3 (explosive) material or any amount of a Division 1.5 (explosive) material requiring placarding under 49 CFR 172
- More than one liter per package of a “material poisonous by inhalation,” that meets the criteria for “hazard zone A”
- A “material poisonous by inhalation,” that meets the criteria for “hazard zone B,” in a bulk packaging (greater than 119 gallons)
- A “material poisonous by inhalation,” that meets the criteria for “hazard zone C,” or “hazard zone D,” in a packaging having a capacity equal to or greater than 3,500 gallons
- A shipment of compressed or refrigerated liquefied methane or liquefied natural gas, or other liquefied gas with a methane content of at least 85 percent, in a bulk packaging having a capacity equal to or greater than 3,500 gallons

If applicable, motor carriers will be required to apply for a HMSP the next time they are scheduled to file the MCS-150 form.



Hazardous Materials Shipper/Carrier Responsibilities

Shipper Responsibilities

Listed below are the major responsibilities of HM shippers. General shipper responsibilities are contained in 49 CFR 173. Identification of a hazardous material is the first step, and frequently the most difficult. Of all the shippers' (offerors) responsibilities, the requirement to properly classify a hazardous material is very important. It is from the proper identification of the hazardous material that the other requirements are based. A list of all material regulated by the DOT is located in section 172.101.

- Determine whether a material meets the definition of a "hazardous material"
- Proper shipping name
- Class/Division
- Identification number
- Hazard warning label
- Packaging
- Marking
- Employee training
- Shipping paper
- Emergency response Information
- Emergency response Telephone Number
- Certification
- Compatibility
- Blocking and bracing
- Security plan
- Incident reporting

Carrier Responsibilities

The list below contains some of the major responsibilities of HM carriers. Carrier and offeror (shipper) responsibilities frequently overlap. When a motor carrier performs a shipper function, the carrier is responsible for performing that function in accordance with 49 CFR.

- Shipping paper
- Placard and mark vehicle
- Loading and unloading
- Compatibility
- Blocking and bracing
- Incident reporting
- Security plan
- Employee training

HM Classes

Class 1 = Explosives

Class 2 = Gases

Class 3 = Flammable Liquid

Class 4 = Flammable Solids

Class 5 = Oxidizing Substances; Organic Peroxides

Class 6 = Poisonous (Toxic) and Infectious Substances

Class 7 = Radioactive Material

Class 8 = Corrosives

Class 9 = Miscellaneous Dangerous Goods



Definitions

Bulk packaging means a packaging other than a vessel or barge, including a transport vehicle or freight container, in which hazardous materials are loaded with no intermediate form of containment and which has:

- A maximum capacity greater than 119 gallons as a receptacle for a liquid
- A maximum net mass greater than 882 pounds and a maximum capacity greater than 119 gallons as a receptacle for a solid
- A water capacity greater than 1000 pounds as a receptacle for a gas as defined in 173.115.

Consumer commodities are materials that are packaged and distributed in a form intended for, or suitable for sale through retail sales. In order to determine if a particular hazardous material may qualify as a consumer commodity, refer to the section number in Part 173 identified in column 8 of the 172.101 table for that material.

Materials of Trade transportation (see 49 CFR 171.8) by highway may be excepted from many of the requirements of the HM regulations when transported in accordance with the procedures contained in 49 CFR 173.6.

ORM-D materials are materials such as a consumer commodity, which although is subject to the regulations presents a limited hazard during transportation due to its form, quantity and packaging. Each ORM-D material and category of ORM-D material is listed in the 49 CFR 172.101 table and 173.144.

Shipping Paper

Each person who offers hazardous materials for transportation shall describe the hazardous materials on a shipping paper that conforms to the requirements of the HMR. No carrier may transport a hazardous material unless it is accompanied by a shipping paper that is prepared in accordance with the HMR. A properly prepared shipping paper must contain at least the following in the proper sequence:

- Proper shipping name
- Hazard class
- Identification number
- Packing group
- Total quantity
- Emergency phone number

The emergency response telephone number must be monitored at all times while the shipment is in transit.

Marking

The basic marking requirement consists of the proper shipping name and identification number of the hazardous materials contained in the package. Markings must be durable, in English and not obscured by other markings or labels.

Labeling

General labeling requirements are contained in 49 CFR Subpart E Part 172. Each person who offers for transportation or transports a hazardous material shall ensure the package is properly labeled. There are a number of exceptions to the labeling requirements contained in 172.400a.



Placarding

General placarding requirements are contained in 172.504. Each bulk packaging, freight container, unit load device, transport vehicle or rail car containing any quantity of hazardous materials must be placarded on each side and each end with the placards specified in Tables 1 and 2.

Table 1 (placard any quantity)

Hazard class or division	Placard name
1.1	Explosives 1.1
1.2	Explosives 1.2
1.3	Explosives 1.3
2.3	Poison Gas
4.3	Dangerous When Wet
5.2	(Organic peroxide, Type B, liquid or solid, temperature controlled) Organic Peroxide
6.1	(Inhalation Hazard, Zone A or B) Poison Inhalation Hazard
7	(Radioactive Yellow III label only) Radioactive

Table 2 (Placard 1,001 lbs or more)

Hazard class or division	Placard name
1.4	Explosives 1.4
1.5	Explosives 1.5
1.6	Explosives 1.6
2.1	Flammable Gas
3	Non-Flammable Gas
Combustible Liquid	Combustible
4.1	Flammable Solid
4.2	Spontaneously Combustible
5.1	Oxidizer
5.2	(Other than organic peroxide, Type B, liquid or solid, temperature controlled) Organic Peroxide
6.1	(Other than inhalation hazard, Zone A or B) Poison
6.2	(None)
8	Corrosive
9	Class 9 (172.504 (f)(9))
ORM-D	(None)

HM Training

General awareness training is intended to raise the hazmat employees' awareness of the HMR and the purpose and meaning of the hazard communication requirements. All hazmat employees must have this training

Function-specific training is intended to teach the necessary knowledge, skills and abilities for an individual's job function.

Safety training provides information concerning the hazards posed by materials in the workplace and personal protection measures.



Security training must include an awareness of security risks associated with hazardous materials transportation and methods designed to enhance transportation security.

It is the hazmat employer's responsibility to determine the adequacy of the training being presented. Training may be in any appropriate format including lecture, conference, self-paced instruction, interactive video, etc. All new hazmat employees must be trained within 90 days of employment and must be supervised until properly trained. Recurrent training must take place every three years.

A record of current training, inclusive of the preceding three years, in accordance with this subpart, shall be created and retained by each hazmat employer for as long as that hazmat employee is employed.

Security Plan

Each hazmat employer subject to the security plan requirements (same as RSPA registration requirements) is required to establish and implement a security plan. The purpose of this requirement is to enhance the security of hazardous materials transported in commerce. Employers must also train each employee on the security plan and its implementation.

Your Security Plan should be a complete document and should include:

- Information on your security assessment
- How you address any vulnerabilities identified in the assessment
- What security measures you have adopted
- How, when, and by whom they will be implemented
- Your organizational structure
- The responsibilities of the various employee positions. In essence, your security plan is the detailed map of how you address the security assessment

Each motor carrier should evaluate the threats it faces and its vulnerabilities based on its unique operations and facilities and should recognize that a cookie-cutter approach is not appropriate. The measures adopted by your company to address your vulnerabilities do not need to be complex or expensive to be effective, but the justification and rationale to support them needs to be sound and documented. The key to developing adequate security measures is to think "prevention." Understand that the threat is very real and try to think like a terrorist when assessing your security weaknesses. More information on security plans can be obtained at www.fmcsa.dot.gov.

