

Transporting Hazardous Substances

The Department of Transportation (DOT) regulates the transportation of hazardous materials by requiring that certain motor carriers apply for and obtain a hazardous substances transportation permit, file annual registration statements, and observe placarding and training requirements.

What are Hazardous Materials?

Under DOT regulations, a hazardous material means a substance or material that is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and that has been designated as hazardous under federal hazardous materials transportation law.

The term "hazardous materials" includes:

- Hazardous substances;
- Hazardous wastes;
- Marine pollutants;
- Elevated temperature materials; and
- Materials designated as hazardous.

Who Must Comply with the Hazardous Materials Regulations?

The hazardous materials regulations are applicable to the transportation of hazardous materials in commerce by rail, aircraft, motor vehicle, or vessel, and to every person who transports a hazardous material in commerce, as follows:

Pre-Transportation Functions

Hazardous materials regulations apply to each person who offers a hazardous material for transportation in commerce, causes a hazardous material to be transported in commerce, or transports a hazardous material in commerce and who performs or is responsible for performing a pre-transportation function. Pre-transportation functions include (but are not limited to):

1. Determining the hazard class of a hazardous material. The nine classes of hazardous materials are:
 - Class 1: Explosives
 - Class 2: Gases
 - Class 3: Flammable Liquid and Combustible Liquid
 - Class 4: Flammable Solid, Spontaneously Combustible, and Dangerous When Wet
 - Class 5: Oxidizer and Organic Peroxide
 - Class 6: Poison (Toxic) and Poison Inhalation Hazard
 - Class 7: Radioactive
 - Class 8: Corrosive
 - Class 9: Miscellaneous
2. Selecting a hazardous materials packaging.
3. Filling out hazardous materials packaging, including a bulk packaging.
4. Securing a closure on a filled or partially filled hazardous materials package or container, or on a package or container containing a residue of a hazardous material.
5. Marking a package to indicate that it contains a hazardous material.
6. Labeling a package to indicate that it contains a hazardous material.
7. Certifying that a hazardous material is in proper condition for transportation in conformance with the requirements of the hazardous materials regulations.
8. Loading, blocking, and bracing a hazardous materials package in a freight container or transport vehicle.
9. Segregating a hazardous materials package in a freight container or transport vehicle from incompatible cargo.
10. Selecting, providing, or affixing placards for a freight container or transport vehicle to indicate that it contains a hazardous material.

Transportation Functions

Transportation functions include the transportation of a hazardous material in commerce and to each person who transports a hazardous material in commerce. For a private motor carrier, transportation of a hazardous material in commerce begins when a motor vehicle driver takes possession of a hazardous material for the purpose of transporting it and continues until the driver relinquishes possession of the package containing the hazardous material at its destination.

Transportation of a hazardous material in commerce includes the following:

1. Movement of a hazardous material by rail car, air craft, motor vehicle, or vessel.
2. Loading incidental to movement of a hazardous material.
3. Unloading incidental to movement of a hazardous material (for example, removing a package or containerized hazardous material from a transport vehicle).
4. Storage incidental to movement of hazardous material, such as the storage of a vehicle, freight container, or package containing a hazardous material between the time a carrier takes possession of the hazardous material until the package containing the hazardous material has been delivered.

How Do Employers Obtain a Hazardous Materials Permit?

A company seeking to transport hazardous materials must obtain a Hazardous Materials (HM) permit to do so. To obtain an initial HM permit, a company must complete the [Combined Motor Carrier Identification Report and HM Permit Application](#) (MCS-150B). The application may be completed and filed [online](#), or the applicant can complete a printed copy and mail it to the FMCSA.

The applicant must provide information that specifies (among other things):

- The nature of its business operations.
- The types of materials the company transports or ships.
- The types of hazardous materials that are transported.

Upon approval of the application, the United States Department of Transportation (DOT) issues a **USDOT number** for the company.

What Hazardous Materials Require a Hazardous Materials Safety Permit?

The following hazardous materials carried in these quantity amounts will require an HM Permit:

- Radioactive materials in quantities exceeding thresholds that trigger highway route restrictions.
- Explosives weighing over 25 kilograms being transported by motor vehicle, rail, or freight container, that have the following hazards:
 - Mass explosion hazard;
 - Projection hazard; or
 - Predominantly a fire hazard
- More than one liter per package of materials that are designated as extremely toxic.
- Hazardous materials in any package, container, or tank having a capacity of 3,500 gallons or more of liquid or gas, or more than 468 cubic feet of solid.
- Any single class of hazardous materials, for which placarding (signage) is required, in any shipment of 5,000 pounds or more, except in bulk packaging.
- Any hazardous materials in a quantity that requires placarding.

What are the Registration Requirements for Hazardous Materials Transportation?

Any company that transports hazardous materials for which a permit is required must register with the Pipeline and Hazardous Materials Safety Administration (PHMSA) and file an annual registration statement (DOT Form F 5800.2). Registration statements are due each June 30 if the person intends to ship in the following 12 months (July 1 to June 30).

Upon successful registration, registrants receive a Certificate of Registration, and a DOT Hazmat Registration Number. Registered entities must maintain copies of their registration statement, documentation that the fee has been paid, and a copy of the Certificate of Registration. These documents must be retained for **at least three years**. Each vehicle transporting hazardous materials must carry a copy of the Certificate of Registration or other document with the carrier's DOT Hazmat Registration Number.

[Click here](#) to view registration application and fee requirements.

How Do Employers Ensure Safe Hazardous Materials Transportation?

To ensure safe hazardous materials transportation, a hazmat employer (i.e., an employer who uses one or more of its employees in connection with transporting hazardous materials in commerce; causing hazardous materials to be shipped in commerce; or repairing, or modifying containers, drums, or packages as qualifying for use in the transportation of hazardous materials) must observe placard and training requirements.

What Placarding Requirements Must be Observed?

Each person who offers or transports hazardous materials subject to the hazardous materials regulations must comply with placarding requirements, which are as follows:

- Generally, each bulk packaging, freight container, unit load device, transport vehicle, or rail car containing any quantity of hazardous material must be placarded on each side and each end with the placards specified in Tables 1 and 2 of 49 CFR 172.504.
- When two or more Table 2 materials are contained in the same transport vehicle, the "Dangerous" placard may be used instead of the specific placard required for each hazard class. However, when 1,000 kg (2,205 lbs.) or more of a single category of hazardous material is loaded on a transport vehicle, the placard specified for that material must be displayed.

What Training Requirements Must be Observed?

Hazmat employers must provide training to hazmat employees. Hazmat employees are employees who, in the course of employment, directly affect hazardous materials transportation by performing such functions as loading, unloading, or handling hazardous materials, operating a vehicle to transport hazardous materials, or preparing hazardous materials for transportation.

Training must include the following:

- **General awareness and familiarization training.** General awareness and familiarization training is intended to raise the hazmat employees' awareness of the hazardous materials regulations and the purpose and meaning of the hazard communication requirements. All hazmat employees must have this training.
- **Function-specific training:** Function specific training is intended to teach the necessary knowledge, skills, and abilities for an individual's job function.
- **Safety training:** This training provides information concerning the hazards posed by materials in the workplace and personal protection measures. The training may include basic emergency response procedures.
- **Security awareness training:** Each hazmat employee must receive security awareness training. This training must include an awareness of security risks associated with hazardous materials transportation and methods designed to enhance transportation security. **New hazmat employees must receive this training within 90 days of employment.**

Note: States may impose more stringent requirements on motor vehicle drivers, as long as those requirements do not conflict with the hazardous materials regulations, and the state requirements only apply to *drivers* domiciled in that state.

Additional Information

- [How to Comply with Federal Hazardous Materials Regulations \(FMCSA\)](#)
- [Federal Motor Carrier Safety Administration Hazardous Materials FAQs](#)