



Hazardous Materials Transportation Training & Security Requirements

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<http://phmsa.dot.gov/hazmat>

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Objectives

- Clarify training requirements in the HMR, to identify those employees who must be trained and to determine what type of training may be best for the employees
- Increase awareness and understanding of the proper transportation of hazardous materials
- Familiarize the hazmat community with publications and training materials available from PHMSA
- Provide training aids to better meet the HMR requirements.
- To determine who needs a security plan



It's the Law



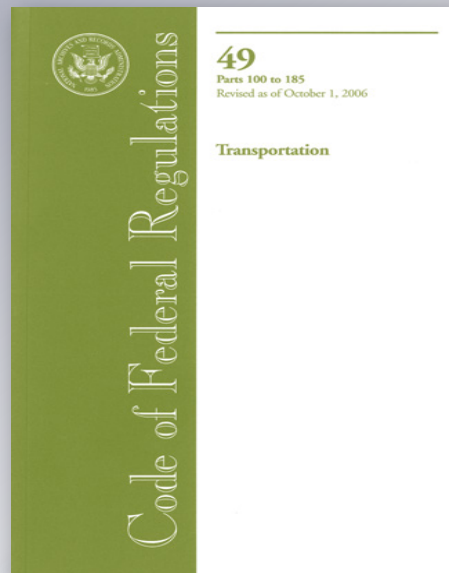
The Federal hazardous materials transportation law requires training of all hazmat employees.

49 U.S.C. Section 5107



Training Requirements

HMR training requirements are found in **49 CFR, Part 172, Subpart H**





Inspections Trends

Common issues identified during inspections include:

- **Failure to maintain training records**
- **Failure to train hazmat employees**
- Packages not properly marked and labeled
- Incorrect shipping papers
- Failure to register with PHMSA
- **Lack of a Security Plan**





Human Error

Human error may result from a variety of factors including:

- Lack of knowledge leading to mishandling of hazmat
- Lack of knowledge leading to undeclared shipments
- Lack of awareness that hazmat is present
- Failure to follow established safety procedures
- Lack of knowledge of how to respond to an incident



HAZMAT INCIDENTS



Hazmat incidents caused by human error can be reduced by implementing an effective training program.



What is DOT Hazmat Training?

Training...means a systematic program that ensures hazmat employees are:

- Familiar with the general provisions of Subchapter C
- Able to recognize and identify hazardous materials
- Knowledgeable of specific requirements of Subchapter C applicable to functions performed by the employee, and
- Knowledgeable of emergency response information, self-protection measures, and accident prevention methods and procedures



Effective Training Program

- Develops strong safety culture
- Heightens employee safety and skills
- Improves a company's effectiveness, efficiency and productivity
- Aids in ensuring safe and secure shipments
- Reduces likelihood of catastrophic event such as fire aboard aircraft
- Provides employees an understanding of compliance



Who Needs Hazmat Training?

- US DOT “Hazmat Employee” training rules apply to any company which performs any function in any way regulated by the US DOT Hazardous Material Regulations (HMR)
- The HMR requires all Hazmat employees to be trained.





Applicability and Responsibility

- A *hazmat employer* shall ensure that each of his or her *hazmat employees* is trained.
- The responsibility for training (*and the civil penalties for not training*) rests with the *employer*.



§172.702(a)



Who is a Hazmat Employee

A person who is:

- Employed full-time, part time, or temporarily
- Directly affecting hazmat transportation safety
- Self-employed
- Loads, unloads or handles hazmat
- A railroad signalman or maintenance-of-way employee
- Designs, manufactures, inspects, marks, tests, or reconditions containers
- Prepares hazmat for transportation
- Operates a transport vehicle





Training Frequency

- Initial training must be completed within 90 days of hazmat employment or change in job function.
- Hazmat employees must be directly supervised by a trained and knowledgeable employee until trained themselves.
- Recurrent (refresher) training is required *at least* every three years.
- Security Plan training is required at least every three years or when it has been revised.

§172.704(c)(1) & (2)



Additional Modal Training Requirements



Air - §175.20



**Highway -
§177.800 &
§177.816**



Vessel - §176.13



Training Requirements

Hazmat employee training must include:

- General awareness / familiarization training
- Function-specific training
- Safety training
- Security awareness training
- In-depth security training (when applicable)

§172.704(a)



General Awareness/Familiarization

Designed to:

- Provide familiarity with the requirements of the HMR
- Enable hazmat employees to recognize and identify hazardous materials using the hazard communication standards
- All hazmat employees **must** receive General Awareness Training.

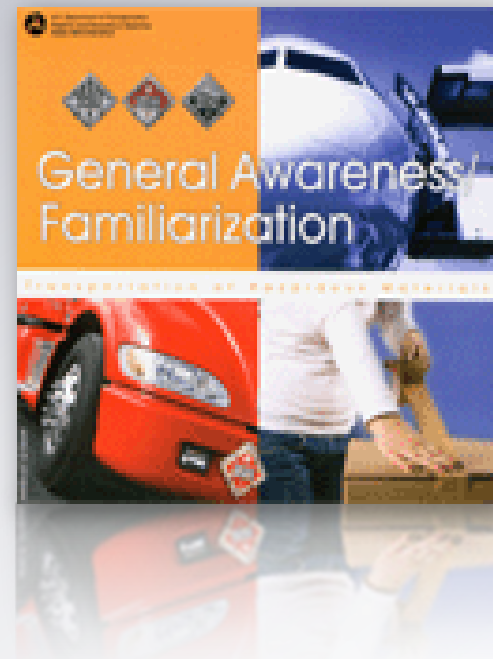
§172.704(a)(1)



General Awareness/Familiarization

Training CD Highlights:

- Familiarization of the Hazardous Materials Regulations (HMR) and requirements
- Recognize and identify hazardous materials
- Help satisfy the general awareness/familiarization training requirements.
- Does not include testing only knowledge checks.
- Testing must be developed and implemented by your employer.
- Approximately one hour in duration with 6 training modules





Function-Specific Training

- Provides a detailed understand of the HMR.
- Each employee must be trained on the specific functions they are required to perform.
- Training needs will depend on the company operations and the employee's responsibilities.
- Meets requirements of Subpart H, or special permits issued under subchapter A

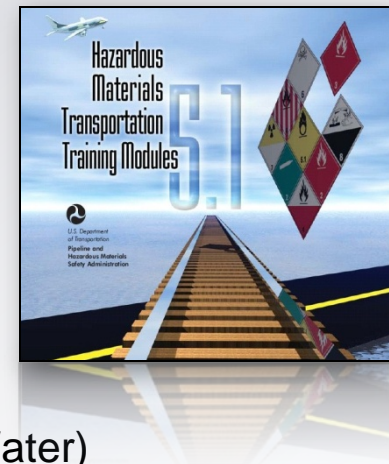
§172.704(a)(2)(i)



PHMSA Hazardous Materials Transportation Training Modules 5.1

Training CD-ROM Highlights:

- Introduces the HMR
- Meets requirements for general awareness/familiarization training
- Provides a basis for a function-specific training program
- Six Training Modules:
 1. The Hazardous Materials Shipping Table
 2. Shipping Papers
 3. Marking and Labeling
 4. Placarding
 5. Packaging
 6. Carrier Requirements (Highway, Air, Rail, and Water)





Safety Training

Safety training must cover:

- Hazards presented by hazardous material
- Safe handling
- Emergency response information
- Methods and procedures for accident avoidance
- All hazmat employees must receive this training
- Example: Proper procedures for handling packages containing hazardous materials.

§172.704(a)(3)



Security Awareness

Security awareness training must provide:

- Awareness of security risks associated with hazmat transportation
- Methods to enhance transportation security
- How to recognize and respond to possible security threats
- All hazmat employees must receive Security Awareness Training.
- Examples are:
 - Potential Threats
 - Potential Targets
 - Prevention Tools

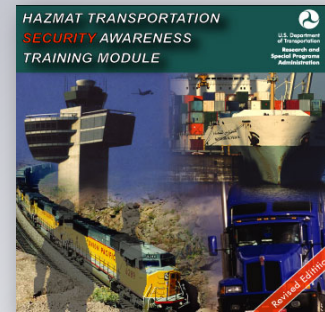
§172.704(a)(4)



PHMSA Hazmat Transportation Security Awareness Training Module

Training CD Highlights:

- Provides overview of hazmat transportation security issues
- Helps identify and address security risks
- Satisfies HMR security awareness training requirement
- Available Only on Digipack





In-Depth Security Training

- Required for each hazmat employee of an employer **required** to have a security plan.
- In-Depth Training must include:
 - Company security objectives
 - Specific security procedures
 - Actions to take in the event of a security breach
 - Employee responsibilities
 - Company organizational security structure

§172.704(a)(5)



Testing

- Each hazmat employer must ensure that every hazmat employee is tested on the required training subjects.
- The HMR does not set testing methods or standards. The responsibility is on the hazmat employer.
- The regulation does not specify the type of test or grading. This could be a **written** test, **verbal** test or **performance** test. Remember that this must be properly documented.



Employee Training Record

HAZMAT EMPLOYEE TRAINING RECORD			
Employee Name: _____			
I certify that the hazmat employee identified on this training record has been trained and tested as required by the Hazardous Materials Regulations, Subpart H.			
Signed: _____ Title: _____			
GENERAL AWARENESS / FAMILIARIZATION			
Description, Copy, and Location of Training	Training Provided By	Test / Score (not mandatory)	Date Trained
Hazmat DigiPack located in main office	Employer Training Officer Jane Doe	No Test	July 14, 2007
Hazardous Materials Transportation Training Modules - Copy located in main office	Employer Training Officer Jane Doe	Test attached to file: 98%	July 14, 2007
FUNCTION SPECIFIC			
Description, Copy, and Location of Training	Training Provided By	Test / Score (not mandatory)	Date Trained
DOT Hazardous Materials Transportation Training Modules 3 and 4: Packaging, Marking and Labeling - Copy located in main office	Employer Training Officer Jane Doe	Test attached to file: 100%	July 14, 2007
Performance Demonstration of Packaging, Marking and Labeling - Checklist of items performed attached to this training record	Supervisor Dan	Successfully demonstrated: 100%	July 28, 2007
SAFETY TRAINING			
Description, Copy, and Location of Training	Training Provided By	Test / Score (not mandatory)	Date Trained
Hazardous Materials Transportation Safety - Copy of training materials available in main office	Hazmat Safety Consultative Service 123 Anywhere St. Somewhere, USA	Certificate of Completion and test attached to file: 97.5%	July 14, 2007
SECURITY AWARENESS TRAINING			
Description, Copy, and Location of Training	Training Provided By	Test / Score (not mandatory)	Date Trained
Hazmat Transportation Security Awareness Training Module - USDOT/PHMSA. Copy of CD-ROM and test available in main office	Supervisor Dan	Certificate of Completion and test attached to file: 97.5%	July 14, 2007
INDEPTH SECURITY TRAINING			
Description, Copy, and Location of Training	Training Provided By	Test / Score (not mandatory)	Date Trained
Company Security Plan and Training - Copy of training materials available in main office	Supervisor Dan	Verbal Test given: Passed	July 30, 2007

Sample Training Record



OSHA or EPA Training

Training completed to meet OSHA or EPA requirements that addresses training specified in §172.704(a) may be used to satisfy the HMR training requirements.



§172.704(b)



Recordkeeping

The training record must include:

- Hazmat employee's name
- Most recent training completion date
- Description, copy, or location of the training materials
- Name and address of person providing the training
- "Certification" that the hazmat employee has been trained and tested



§172.704(d)



Record Retention

A record shall be:

- Created and retained by hazmat employer
- A current training record must be retained as long as hazmat employee is employed by that employer, and
- Retained for 90 days after employee is no longer employed by that employer



§172.704(d)



Training Source

- Training may be provided by the employer or other public or private sources
- USDOT does not *approve, endorse, or certify* anyone's training program or product.
- The hazmat employer *certifies* that a hazmat employee has been trained.
- Hazmat training received from a previous employer or other source can be used to meet the HMR requirements provided that a current record of training is obtained from the previous employer.

§172.702(c) & (3)



Who needs a security plan?



HM Risk-Based Adjustment of Transportation Security Plan Requirements

- Narrows the list of materials subject to current security plan requirements for the transportation of hazardous materials
- Only certain types and quantities of hazardous materials will be covered under the new security plan regulation
- Considers physical and chemical properties, quantities shipped, mode of transportation, past terrorist use, potential use, availability of the materials and how they could contribute to a security incident



Class/Division PHMSA Final Rule Security Plan Revisions

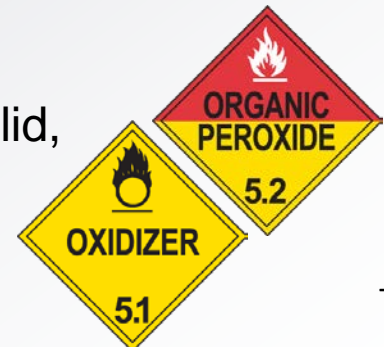
- 1.1 Any quantity
- 1.2 Any quantity
- 1.3 Any quantity
- 1.4 Placarded quantity
- 1.5 Placarded quantity
- 1.6 Placarded quantity
- 2.1 A large bulk quantity
- 2.2 A large bulk quantity of materials with an oxidizer subsidiary
- 2.3 Any quantity





Class/Division PHMSA Final Rule Security Plan Revisions (Cont...)

- 3. PG I and II in a large bulk quantity; Placarded quantity desensitized explosives - liquid
- 4.1 Placarded quantity desensitized explosives - solid
- 4.2 PG I and II in a large bulk quantity
- 4.3 Any quantity
- 5.1 Division 5.1 materials in PG I and II, and PG III perchlorates, ammonium nitrate, ammonium nitrate fertilizers, or ammonium nitrate emulsions or suspensions or gels in a large bulk quantity
- 5.2 Any quantity of Organic peroxide, Type B, liquid or solid, temperature controlled





Class/Division PHMSA final Rule Security Plan Revisions (cont...)

- Any quantity of organic peroxide, Type B, liquid or solid, temperature controlled.
- Large bulk quantity of Division 6.1 (PIH)
- A select agent or toxin regulated by the Centers for Disease Control and Prevention.
- A quantity of uranium hexafluoride requiring placards
- RAM (see 172.800(b)(15))
- A large bulk quantity of Class 8, packing Group I



Large Bulk Quantity

Definition of Large Bulk Quantity:

- “Large Bulk Quantity” refers to a quantity greater than >
- 3,000 kg (6,614 pounds) for solids
- 3,000 liters (792 gallons) for liquids
- gases in a single packaging such as a cargo tank motor vehicle, portable tank, tank car, or other bulk container





Security Plan Exception

- Transportation activities of a farmer, who generates less than \$500,000.00 annually in gross receipts from sale of agricultural commodities or products – not subject if activities are:
 - Conducted by highway or rail
 - In direct support of their farming operation and
 - Conducted within a 150 mile radius of those operations



Security Threat Assessment

Security threat assessment for hazardous material transportation created and prepared for:

- Hazardous materials in transportation
- Storage incidental to transportation



Elements of a Security Plan

Security plans must include the following elements:

- Personnel security
- Unauthorized access
- En route security





Personnel Security



- Verify information provided on employment applications
- Ensure employees are familiar with security plans
- Encourage employees to report suspicious incidents or events
- Implement routine security inspections
- Meet regularly to discuss security measures and improve awareness
- Provide information on security issues
- Provide awareness and in-depth security training



Unauthorized Access

- Partner with local law enforcement and emergency responders
- Request review of facility
- Restrict access to facility activities and procedures
- Add security guards/off-hour patrols as needed
- Improve fencing and lighting
- Limit visitor access
- Require identification badges for staff





Unauthorized Access (cont'd)

- Improve security procedures for pick-up and deliveries
- Secure hazmat in locked buildings or fenced areas
- Lock vehicles and secure containers when stored at facilities
- Use tamper resistant seals and locks
- Inventory on-site hazmat periodically
- Keep records of security incidents
- Report suspicious activities to local FBI or local law enforcement





En Route Security



- Shippers know your carrier
- Identify preferred routes and alternatives
- Minimize stops
- If hazmat must be stored during transportation, ensure storage facility is secure
- Consider escorts or guards



En Route Security (cont'd)

- Consider using advanced technologies
- Install tamper-proof seals on valves and packages or container openings
- Establish communication system
- Consignees: alert shipper if shipment is late; check carrier's identity
- Report suspicious activities to local FBI or local law enforcement





Security Plan Components

Required components are:

- Security plan must be in writing
- Plan must address security threat assessment
- Must detail security duties for each position or department responsible for implementing the plan
- Plan must be revised and/or updated as necessary to reflect changing circumstances
- Retained for as long as it remains in effect.
- Plan must be reviewed at least annually

§172.802



Security Plan Components (Cont...)

- Most recent version of the plan must be available to employees
- All employees must be notified of any revised or updated changes
- A plan for training hazmat employees in accordance with 172.704 (a) (4) and (a) (5)
- Must make the plan available upon request to authorized official of the US DOT and Homeland Security

§172.802



In-Depth Security Training

- Each hazmat employee required to have a security plan who handles hazardous materials, performs a regulated function or is responsible for implementing the plan must be trained concerning the plan and its implementation
- Security training must include:
 - Company security objectives
 - Organizational security structure
 - Specific procedures
 - Specific security duties and responsibilities for each employee
 - Actions to be taken by each employee in the event of a security breach



In-Depth Security Training Recordkeeping

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Security Plans Approved by Other Organizations

- HM-232 permits security plans that conform to regulations or standards issued by other Federal agencies, international organizations, or industry groups
- Examples may include security requirements imposed by USCG, DOD, NRC, UN, IMO, or TSA

§172.804



Got A
Question?



Where to Find More Information...

PHMSA
Pipeline and Hazardous Materials
Safety Administration

U.S. Department of Transportation

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- > [2011 Hazmat Penalty Action Report](#)
- > [Hazmat Harmonization Rule on Air Packaging Issued](#)
- > [PHMSA seeks comment on transportation of lithium batteries](#)
- > [PHMSA Proposes Updating Hazmat Rules to Better Balance Safety Standards and Regulatory Requirements](#)

2012 EMERGENCY RESPONSE GUIDEBOOK

DOT Distributes Over 2 Million New Hazardous Materials Emergency Guidebooks to Nation's First Responders

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PHMSA/Hazmat Resources

Regulations & Rulemakings
PHMSA regulates and ensures the safe movement of hazardous materials.

Data & Reports
PHMSA tracks data on the frequency of failures, incidents and accidents.

Permits & Approvals

<http://hazmat.dot.gov>



Hazardous Material Info-Center

1-800-HMR-4922

(1-800-467-4922)

E-mail: infocntr@dot.gov

Hours of Operation: 9 am – 5 pm ET



- Obtain answers to HMR questions
- Request copies of Federal Register, special permits or training materials
- Report HMR violations
- Fax on Demand