

**D.O.T.
Hazardous Material Training &
Certification
For Environmental Services**

○ Who needs this training:

- All ES Managers
- ES Employees
 - **Any employee involved in collection, segregation and preparation of any regulated waste for shipment**
- Any employee involved in regulated waste stream handling:
 - **Purchasing and selection of packaging products**
 - **Administrative assistants filling out manifests**
 - **Anyone signing waste manifest (for pickup)**

○ Who else should receive this training:

- Any hospital staff that signs regulated waste streams manifest

● Why is this DOT training necessary?

- DOT has strict training regulations and require certification
- We need to be in compliance with these regulations
- The DOT enforces its regulations with very large fines
- DOT is focusing on HC facilities

Regulated Medical Waste Disposal



Fines can reach into the **\$100,000's**



Pipeline and Hazardous Materials Safety Administration



Notice of Hazardous Materials Regulations Enforcement

SUMMARY	Penalty
Offered regulated medical waste, 6.2, in an open rigid plastic container and in plastic film bags that <u>were not closed as required</u> . [173.197(d) and (e), 173.22(a)(2)] Case No. 05-0445-SBG-EA	\$5,600



Offered regulated medical waste, 6.2, in packagings with closures that were not secure and leakproof and therefore <u>unauthorized</u> ; offered asbestos, 9, accompanied by a shipping paper that failed to include an <u>emergency response telephone number</u> ; failed to provide <u>general awareness training</u> ; failed to develop and adhere to a <u>security plan</u> . [173.197(b), 173.604(a), 173.202(a)(2), (4), 172.702(a), 172.800, 172.704(a)(1), 172.704(a)] Case No. 05-0569-SIBC	\$12,355
SUMMARY	Penalty
Offered liquid regulated medical waste that was not packaged in rigid inner packaging, that leaked and was free-flowing throughout the bulk outer packaging; Offered regulated medical waste in plastic film bags that <u>were not properly closed</u> and therefore, unauthorized packaging. [173.22(a)(2), 173.197(e)(2), and 173.197(e)(1)(i)] Case No. 05-0099-SBG-EA.	\$5,920



Pipeline and Hazardous Materials Safety Administration



Notice of Hazardous Materials Regulations Enforcement

SUMMARY	Penalty
Offered regulated medical waste, 6.2, in non-bulk packaging that was <u>not filled, closed, and maintained as required, resulting in leakage.</u> [173.134(b)(3)(ii) and 173.24(b)] Case No. 01-630-SB-EA	\$5,400
Offered regulated medical waste, 6.2 in inner packagings that were <u>not closed as required</u> and offered sharps in inner plastic bags; offered sharps in roll-on cart bulk containers with no inner packaging; offered regulated medical waste, 6.2, <u>in unauthorized inner packagings that were not manufactured in accordance with ASTM standards.</u> [173.197(e)(1)(i) and (e)(3), 173.22(a)(2)] Case No. 04-378-SBG-EA	\$17,235
<u>Failed to conduct and maintain records of security awareness training;</u> and other infractions of the HMR. [172.800(b), 172.702(b), 172.704(d), 172.704(a)(4)] Case No. 05-0588-SC-SW	\$4,145

- **DOT = Department of Transportation**
- **OSHA = Occupational Safety & Health Administration**
- **EPA = Environmental Protection Agency**

- What is the EPA concerned with?

Environment - air, water and soil

EPA's mission is to protect human health and to safeguard the natural environment — air, water, and land — upon which life depends.

EPA works to develop and enforce **regulations** that implement environmental **laws** enacted by Congress

- What is OSHA concerned with?

Protecting Employees

The mission of the Occupational Safety and Health Administration (OSHA) is to save lives, prevent injuries and protect the health of America's workers.

- What is the DOT concerned with?

Transportation

Ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests.

○ What is a CFR?

Code of Federal Regulations

○ Title 49 CFR

- Department Of Transportation

○ Title 29 CFR

- Occupational Safety & Health Administration

○ Title 40 CFR:

- Environmental Protection Administration

Hazardous Chemical:

A) EPA (40 CFR 370) defines a hazardous chemical as any chemical defined under **OSHA's Hazard Communication Standard** (29 CFR 1910.1200), that is a physical hazard, a health hazard, or a combination of both.

B) Additionally, OSHA's Occupational Exposure to Hazardous Chemicals in Laboratories (29 CFR 1910.1450) defines hazardous chemical as a chemical for which there is statistically significant evidence that acute or chronic health effects may occur in exposed employees.

○ **Hazwoper** (OSHA)

Hazardous Waste Operations and Emergency Response Standard

(Basically refers to emergency responses to hazardous substance spills or releases, by a HazMat Team)

The Resource Conservation and Recovery Act (RCRA)

Regulates the identification, transportation, treatment, storage, and disposal of solid and hazardous wastes. The act regulates such matters as:

- Hazardous waste generators and transporters;
- Land disposal restrictions (LDR);
- Federal procurement of products that contain recycled materials;
- Municipal solid waste landfill criteria;
- Solid and hazardous waste recycling;
- Treatment, storage and disposal facilities; and
- Waste minimization and hazardous waste combustion

***RCRA is overseen by the EPA**



PHMSA

Pipeline and Hazardous Materials Safety Administration

The **Hazardous Materials Information Center** can be contacted on **(1-800-467-4922)** Monday through Friday from 9:00 am to 5:00 p.m. (EST) or through their web site: <http://www.phmsa.dot.gov/>

Office of Hazardous Materials Safety

PHMSA
U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

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Hazardous Materials Information Center

1-800-HMR-4922
1-800-467-4922
For Washington, DC / Metro area residents: 202-366-4488

PHMSA (Pipeline and Hazardous Materials Safety Administration) operates the Hazardous Materials Information Center (HMIC) for help on use of the Hazardous Materials Regulations 49 CFR Parts 100-185. The phone number is menu driven when calling from a touch tone phone. Non-touch tone phone callers must use the telephone number 202-366-8553. Callers will be directed through an automated menu that provides options to:

1. Obtain answers to questions on the Hazardous Materials Regulations 49 CFR Parts 100-185;
2. Receive recent copies of Federal Register publications, copies of DOT special permits or letters of interpretation
3. Receive copies of training material, such as Chart 12 or information packages;
4. Report violations of the HMR;
5. Leave a voice mail message concerning a question on the HMR (messages will be returned within 24 hours).

Callers needing assistance on questions relating to the HMR will be forwarded to the HMIC after selecting the correct menu item. Calls to the center are handled on a first call first answered manner through an automatic stacking system. The HMIC is open for direct calls from 9:00 am to 5:00 pm EST, however you may leave a message at any time, or you may [email your question to the HMIC](#). Or you may write to:

Mr. Edward T. Mazzullo
Director, Office of Hazardous Materials Standards
U.S. DOT/PHMSA (PHH-10)
1200 New Jersey Avenue, SE East Building, 2nd Floor
Washington, DC 20590

Home

About PHMSA
• Mission and Goals



HAZARDOUS WASTE CLASSIFICATIONS



Class #	Division #	Name of class or division	49 CFR
1	1.1	Explosives (with a mass explosion hazard)	173.50
1	1.2	Explosives (with a projection hazard)	173.50
1	1.3	Explosives (with predominately a fire hazard)	173.50
1	1.4	Explosives (with no significant blast hazard)	173.50
1	1.5	Very insensitive explosives; blasting agents	173.50
1	1.6	Extremely insensitive detonating substances	173.50
2	2.1	Flammable gas	173.115
2	2.2	Non-flammable compressed gas	173.115
2	2.3	Poisonous gas	173.115
3	NONE	Flammable and combustible liquid	173.120
4	4.1	Flammable solid	173.124
4	4.2	Spontaneously combustible material	173.124
4	4.3	Dangerous when wet material	173.124
5	5.1	Oxidizer	173.127
5	5.2	Organic peroxide	173.128
6	6.1	Poisonous materials	173.132
6	6.2	Infectious substance	173.134
7	NONE	Radioactive material	173.403
8	NONE	Corrosive material	173.136
9	NONE	Miscellaneous hazardous material	173.140
NONE	NONE	Other regulated material (ORM-D)	173.144



CLASSIFICATION OF REGULATED MEDICAL WASTE



§ 173.134 Class 6, Division 6.2—Definitions and exceptions.

(a) *Definitions and classification criteria.* For the purposes of this subchapter, the following definitions and classification criteria apply to Division 6.2 materials.

(1) **Division 6.2 (Infectious substance)** means a material known or reasonably expected to contain a pathogen. A pathogen is a microorganism (including bacteria, viruses, rickettsiae, parasites, fungi) or other agent, such as a proteinaceous infectious particle (prion), that can cause disease in humans or animals. An infectious substance must be assigned the identification number UN 2814, UN 2900, UN 3373, or UN 3291 as appropriate, and must be assigned to one of the following categories:

(5) **Regulated medical waste or clinical waste or (bio) medical waste** means a waste or reusable material derived from the medical treatment of an animal or human, which includes diagnosis and immunization, or from biomedical research, which includes the production and testing of biological products. **Regulated medical waste or clinical waste or (bio) medical waste containing a Category A infectious substance** must be classed as an **infectious substance**, and assigned to UN2814 or UN2900, as appropriate.

CLASSIFICATION OF REGULATED MEDICAL WASTE



- § 173.134 Class 6, Division 6.2—Definitions and exceptions.
 - (i) **Category A: An infectious substance in a form** capable of causing permanent disability or life-threatening or fatal disease **in otherwise healthy humans or animals when exposure to it occurs. An exposure occurs when an infectious substance is released outside of its protective packaging, resulting in physical contact with humans or animals. A Category A infectious substance must be assigned to identification number UN 2814 or UN 2900, as appropriate. Assignment to UN 2814 or UN 2900 must be based on the known medical history or symptoms of the source patient or animal, endemic local conditions, or professional judgment concerning the individual circumstances of the source human or animal.**
 - (ii) **Category B: An infectious substance that is not** in a form generally capable of causing permanent disability or life-threatening or fatal disease **in otherwise healthy humans or animals when exposure to it occurs. This includes Category B infectious substances transported for diagnostic or investigational purposes. A Category B infectious substance must be described as “Biological substance, Category B” and assigned identification number UN 3373. This does not include regulated medical waste, which must be assigned identification number UN 3291.**



A Sodexo Initiative



- **Segregation**
Regulated Medical Waste
RCRA Hazardous Waste
- **Manifesting**
- **Labeling**
- **Treatment - Incineration**

- (1) A regulated medical waste transported by a private or contract carrier is excepted from -
 - (i) **The requirement for an "INFECTIOUS SUBSTANCE" label if the outer packaging is marked with a "BIOHAZARD" marking in accordance with 29 CFR 1910.1030; and**



Marking plays an important role in hazmat transportation because they provide information about the hazmat inside the packaging, freight container or transport vehicle.

Markings should not be confused with Labeling or Placarding.

- **Labels and Placards communicate the hazard class or division**
- **Markings provide additional and more specific information about the hazmat.**

Marking Requirements.

1) Specifications:

- (a)** Must be durable, in English and printed on or affixed to the surface of a package or on a label, tag, or sign.
- (b)** Must be displayed on a background of sharply contrasting color;
- (c)** Must be un-obscured by labels or attachments; and
- (d)** Must be located away from any other marking (such as advertising) that could substantially reduce its effectiveness.

Proper Shipping Name

Note: This module assumes that (1) the proper shipping name, ID No., hazard class and packing group were assigned, and (2) the student is able to correctly use the Hazardous Materials Table.

Proper Shipping Name

Identification Number



2) Non-Bulk Marking must be marked with the proper shipping name, the UN/NA identification number, the consignee's or consignor's name and address and a DOT-E (exemption number), if required.

The consignee's or consignor's name and address are not required if the non-bulk package is transported by highway only and will not be transferred from one motor carrier to another, or if it is transported as part of a carload lot, truckload lot, or freight container load, and the entire contents are shipped from one consignor to one consignee.



Regulated Medical Waste must be packaged in packaging conforming to the requirements of part 178 of this subchapter at the packing group II performance level.

The packaging must be:

- Rigid
- Leak Resistant
- Impervious to moisture
- Of sufficient strength to prevent tearing or bursting under normal conditions of use and handling
- Sealed to prevent leakage during transport
- Puncture resistant for sharps and sharps with residual fluid
- Break-resistant and tightly lidded or stopped for fluids in quantities greater than 20 cubic cm.

Packing Groups

Packing Groups are used to indicate the degree of danger presented by a hazardous material during transportation.

Packing Group I
Packing Group II
Packing Group III

PG I
PG II
PG III

Great Danger
Medium Danger
Minor Danger



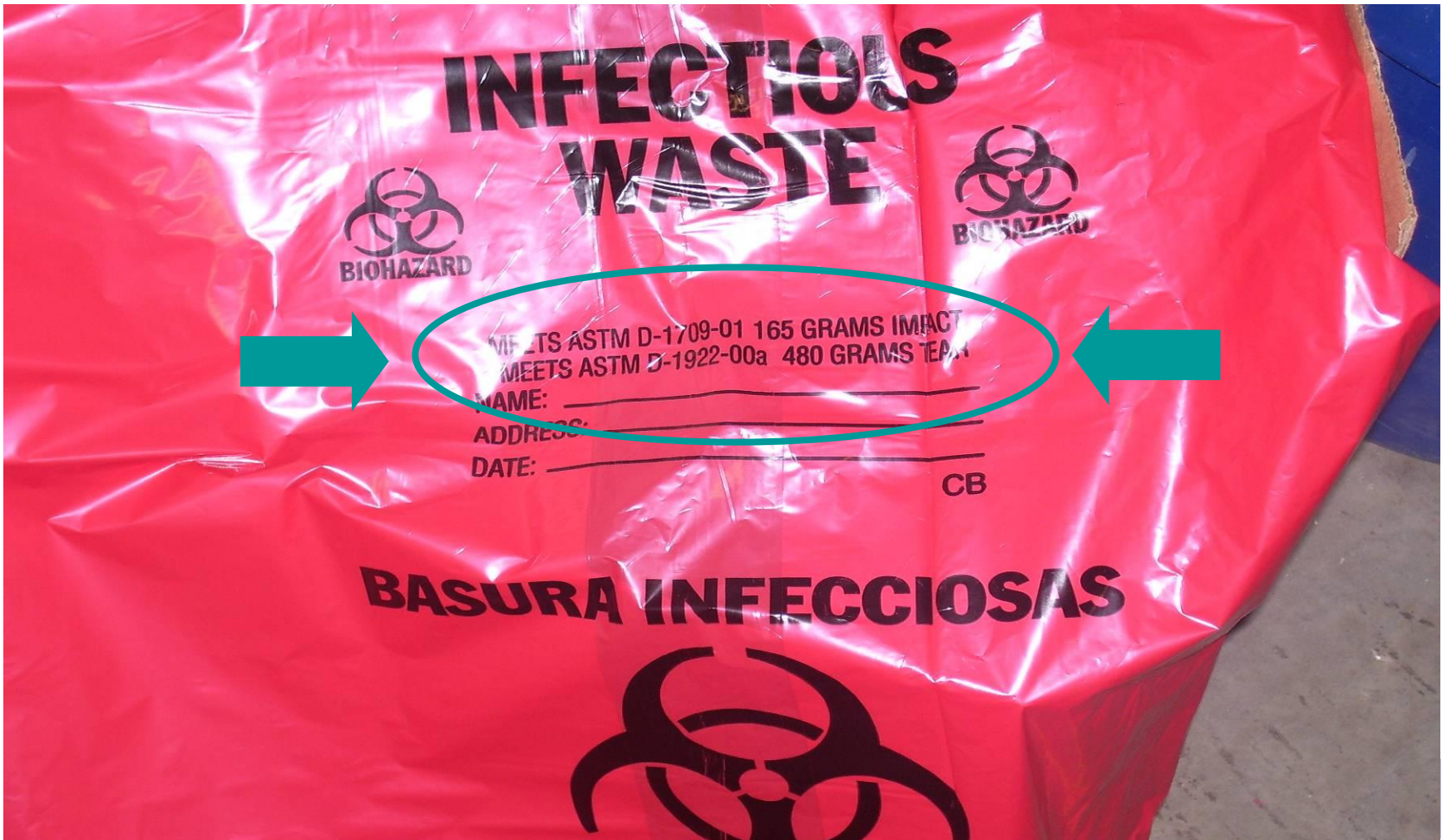
The film bag may not exceed a volume of 175 L (46 gallons). The film bag must be marked and certified by its manufacturer as having passed the tests prescribed for:

tear resistance in **ASTM D 1709-01**, Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method (see § 171.7 of this subchapter), and for **impact resistance** in **ASTM D 1922-00a**, Standard Test Method for Propagation Tear Resistance of Plastic Film and Thin Sheeting by Pendulum Method (see § 171.7 of this subchapter). The film bag must meet an impact resistance of 165 grams and a tearing resistance of 480 grams in both the parallel and perpendicular planes with respect to the length of the bag. You must keep this certification on file.

(ii) The plastic film bag must be closed with a minimum of entrapped air to prevent leakage in transportation. **The bag must be capable of being held in an inverted position with the closed end at the bottom for a period of 5 minutes without leakage.**

(iii) When used as an inner packaging for Carts or BOPs, **a plastic film bag may not weigh more than 10 kg (22 lbs.) when filled.**

Common Packaging Issues



Common Packaging Issues



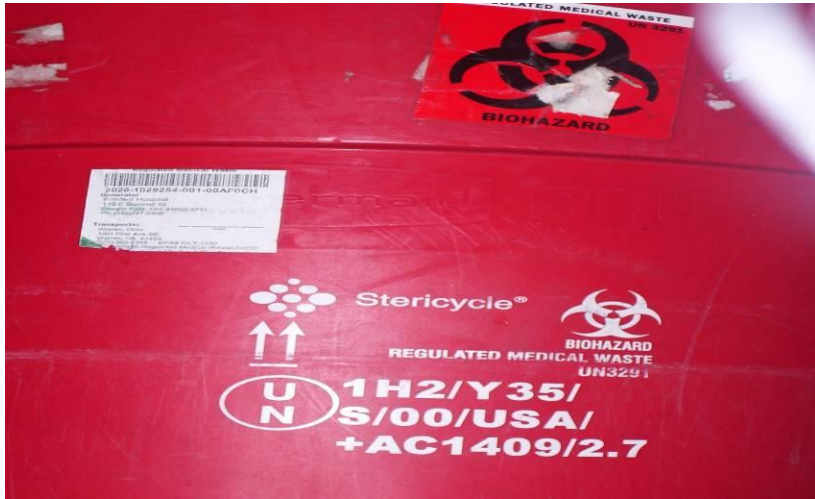
Common Packaging Issues



Common Packaging Issues



Common Packaging Issues



Common Packaging Issues



Common Packaging Issues



Common Packaging Issues



Common Packaging Issues



Commingled Waste



- 49 CFR 172, subpart H mandated training in (4) specific areas
 - Training Purpose and Scope
 - Training Requirements
 - Initial and Recurrent Training
 - Record Keeping

Training

§172.700 Purpose and scope.

(a) **Purpose.** This subpart prescribes requirements for training hazmat employees.

(b) **Scope.** Training as used in this subpart means a systematic program that ensures a hazmat employee:

- Has familiarity with the general provisions (familiar with regulations)
- is able to recognize and identify hazardous materials,
- has knowledge of specific regulations, applicable to functions they performed
- has knowledge of emergency (spill) response information,
- understands self-protection measures (PPE) and accident prevention methods and procedures

§172.702

Applicability and responsibility for training and testing.

- (a) A hazmat employer shall ensure that each of its hazmat employees is trained in accordance with the requirements prescribed in this subpart.
- (b) a hazmat employee who performs any function subject to the requirements of this subchapter may not perform that function unless instructed in the requirements of this subchapter that apply to that function. It is the duty of each hazmat employer to comply with the applicable requirements of this subchapter and to thoroughly instruct each hazmat employee in relation thereto.
- (c) Training may be provided by the hazmat employer or other public or private sources.
- (d) A hazmat employer shall ensure that each of its hazmat employees is tested by appropriate means on the training subjects covered in §172.704.

§172.704

Training requirements.

(a) **HazMat employee training must include the following:**

(1) General awareness/familiarization training. Each hazmat employee shall be provided general awareness/familiarization training designed to provide familiarity with the requirements of this subchapter (49 CFR 172), and to enable the employee to recognize and identify hazardous materials consistent with the hazard communication standards of this subchapter (49 CFR 172),.

(2) Function-specific training.

(i) Each hazmat employee shall be provided function-specific training concerning requirements of this subchapter, or exemptions issued under subchapter A of this chapter, which are specifically applicable to the functions the employee performs.

(ii) As an alternative to function-specific training on the requirements of this subchapter, training relating to the requirements of the ICAO Technical Instructions and the IMDG Code may be provided to the extent such training addresses functions authorized by §§171.11 and 171.12 of this subchapter.

- (3) **Safety training.** Each hazmat employee shall receive safety training concerning-
- (i) Emergency (spill) response information required by subpart G of part 172;
 - (ii) Measures to protect the employee from the hazards associated with hazardous materials to which they may be exposed in the work place (PPE), including specific measures the hazmat employer has implemented to protect employees from exposure; and
 - (iii) Methods and procedures for avoiding accidents, such as the proper procedures for handling packages containing hazardous materials.



(4) Security awareness training. No later than the date of the first scheduled recurrent training after March 25, 2003, and in no case later than March 24, 2006, each hazmat employee must receive training that provides an awareness of security risks associated with hazardous materials transportation and methods designed to enhance transportation security. This training must also include a component covering how to recognize and respond to possible security threats. After March 25, 2003, new hazmat employees must receive the security awareness training required by this paragraph within 90 days after employment.

- Identify the area (signage)
- Locked & secured
- Protected from the elements

(5) **In-depth security training.** By December 22, 2003, each hazmat employee of a person required to have a security plan in accordance with subpart I of this part must be trained concerning the security plan and its implementation. Security training must include company security objectives, specific security procedures, employee responsibilities, actions to take in the event of a security breach, and the organizational security structure.

Security Plan §172.800

(b) **Applicability.** By September 25, 2003, each person who offers for transportation in commerce or transports in commerce one or more of the following hazardous materials must develop and adhere to a security plan for hazardous materials that conforms to the requirements of this subpart:

- (1) A highway route-controlled quantity of a Class 7 (radioactive) material, as defined in § 173.403 of this subchapter, in a motor vehicle, rail car, or freight container;
- (2) More than 25 kg (55 pounds) of a Division 1.1, 1.2, or 1.3 (explosive) material in a motor vehicle, rail car, or freight container;
- (3) More than one L (1.06 qt) per package of a material poisonous by inhalation, as defined in § 171.8 of this subchapter, that meets the criteria for Hazard Zone A, as specified in § 173.116(a) or 173.133(a) of this subchapter;
- (4) A shipment of **a quantity of hazardous materials in a bulk packaging having a capacity equal to or greater than 13,248 L (3,500 gallons) for liquids or gases or more than 13.24 cubic meters (468 cubic feet) for solids;**

(b) **OSHA,EPA, and other Training.** Training conducted by employers to comply with the hazard communication programs required by the Occupational Safety and Health Administration of the Department of Labor (29 CFR 1910.120 or 1910.1200) or the Environmental Protection Agency (40 CFR 311.1), or training conducted by employers to comply with security training programs required by other Federal or international agencies, may be used to satisfy the training requirements in paragraph (a) of this section **to the extent that such training addresses the training components specified in paragraph (a) of this section.**

(c) **Initial and recurrent training**

(1) **Initial training.** A new hazmat employee, or a hazmat employee who changes job functions may perform those functions prior to the completion of training provided-

(i) The employee performs those functions **under the direct supervision of a properly trained and knowledgeable hazmat employee;** and

(ii) The training is **completed within 90 days after employment** or a change in job function.

(2) **Recurrent training.** A hazmat employee shall receive the training required by this subpart at **least once every three years.**

(d) **Record keeping.** A record of current training, inclusive of the preceding three years, in accordance with this section shall be created and retained by each hazmat employer for as long as that employee is employed by that employer as a hazmat employee and for 90 days thereafter. The record shall include:

- (1) The hazmat employee's name;
- (2) The most recent training completion date of the hazmat employee's training;
- (3) A description, copy, or the location of the training materials used to meet the requirements in paragraph (a) of this section;
- (4) The name and address of the person providing the training; and
- (5) Certification that the hazmat employee has been trained and tested, as required by this subpart.

Description

Each hazardous material must be clearly described using the applicable information from the HMT. At a minimum, the shipping description must include the following information in sequential order: Proper shipping name (column 2), Hazard class or division (column 3), UN or NA Identification number (column 4), and Packing group (column 5).

Shipper's Certification

A required entry on the shipping paper is the certification that the hazardous materials have been prepared in accordance with the regulations. The certification must be printed on the shipping paper. The signature must be legibly signed by a principle, officer, partner, or employee of the shipment or their agent and may be signed manually, by typewriter, or by other mechanical means.

Certification Wording

“This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.”

The person signing this shipping paper is verifying that the shipment meets all hazmat regulations for transport. Logically, it must be someone who can be proven to have received hazmat training.

Hazardous Materials Table



CFR 49 Hazardous Materials

Sym- bols	Hazardous materials description and proper shipping names	Hazard class or Division	Identification Numbers	PG	Label Codes	Special provisions (172.102)	Packaging (173.***)			Quantity limitations		Vessel stow- age	
							Excep- tions	Non Bulk	Bulk	Passenger aircraft / rail	Cargo aircraft only	Location	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Regulated medical waste	6.2	UN3291	II	6.2	A13	134, 197	197	197	No limit	No limit	A	40
	Release devices, explosive	1.4S	UN0173	II	1.4S		None	62	None	25 kg	100 kg	5	
	Resin solution, <i>flammable</i>	3	UN1866	I	3	B52, T11, TP1, TP8	150	201	243	1 L	30 L	E	
	Resin solution, <i>flammable</i>	3	UN1866	II	3	B52, IB2, T4, TP1,	150	173	242	5 L	60 L	B	

Hazardous Materials Table

§172.101 Purpose and use of hazardous materials table.

(a) **The Hazardous Materials Table** (Table) in this section designates the materials listed therein as hazardous materials for the purpose of transportation of those materials. For each listed material, the Table identifies the hazard class or specifies that the material is forbidden in transportation, and gives the proper shipping name or directs the user to the preferred proper shipping name. In addition, the Table specifies or references requirements in this subchapter pertaining to labeling, packaging, quantity limits aboard aircraft and stowage of hazardous materials aboard vessels.

(b) **Column 1:** Symbols. Column 1 of the Table contains six symbols ("+", "A", "D", "G", "I" and "W" as follows:

(c) **Column 2:** Hazardous materials descriptions and proper shipping names. Column 2 lists the hazardous materials descriptions and proper shipping names of materials designated as hazardous materials. Modification of a proper shipping name may otherwise be required or authorized by this section. Proper shipping names are limited to those shown in Roman type (not italics).

(d) **Column 3:** Hazard class or Division. Column 3 contains a designation of the hazard class or division corresponding to each proper shipping name, or the word "Forbidden".

(e) **Column 4:** Identification number. Column 4 lists the identification number assigned to each proper shipping name. Those preceded by the letters "UN" are associated with proper shipping names considered appropriate for international transportation as well as domestic transportation. Those preceded by the letters "NA" are associated with proper shipping names not recognized for international transportation, except to and from Canada.

Thank you



Thank you

Steven.p.shea@lahey.org

