

HMPT: HAZARDOUS WASTE TRANSPORTATION LIVE

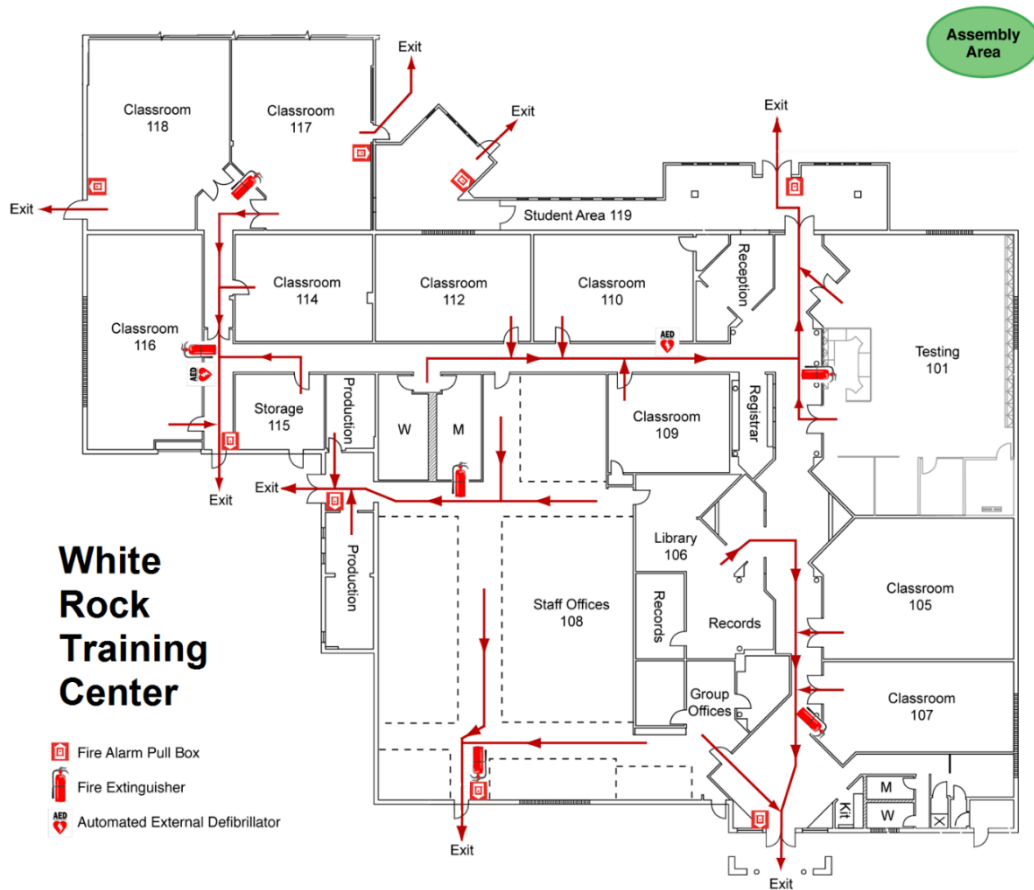
#27928

STUDENT MANUAL

MARCH 2026



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Course Information

HMPT: Hazardous Waste Transportation (#27928)

This course addresses the Department of Transportation (DOT) training requirements for hazardous materials packaging and transportation (HMPT) at Los Alamos National Laboratory (LANL). The hazardous materials training and testing requirements are located in [49 CFR 172, Subpart H, Training](#).

Course Overview

This course focuses on the requirements of the DOT, OSHA, and the EPA that pertain to the transportation of hazardous materials, waste, and substances. The primary consideration in operation of LANL's facilities is the safety of the public, workers, environment, and national security assets and to perform its operations effectively. It is required that all activities and operations involving the use of hazardous materials and generation of hazardous waste be managed thoughtfully and carefully.

Course Purpose

This course is intended to provide students with necessary training to successfully carry out their responsibilities in the transportation of hazardous waste.

Course Objectives

After completing this course, you will be able to recognize the following:

- *Department of Transportation (DOT) regulations in Title 49 Code of Federal Regulations (CFR);*
- *Hazardous Materials Regulations (HMR);*
- *How these regulations apply when working with the transportation of hazardous waste.*

Target Audience

HMPT training is required for each Hazardous Materials Response Group (HAZMAT) employee who prepares hazardous waste material for shipment; loads, unloads, or handles hazardous waste materials; operates a vehicle used to transport hazardous waste materials; and is responsible for the safety of transporting hazardous waste materials.

Training Requirements

This course and its accompanying test are required every 36 months:

- *HMPT: Hazardous Waste Transportation (#27928)*
- *HMPT: Hazardous Waste Transportation Test (#27929); Test is given at the end of the course or at a proxied terminal and must be passed with a score of 80% or better.*

Training Requirements		
Required for:	Required Courses/Tests:	49 CFR 172.704 , Training Requirements
All HAZMAT employees	<i>HMPT: Introduction (Live Course 27916, Test 27917)</i>	General Awareness/Familiarization, Security Awareness & Safety Training
Employees responsible for packaging hazardous materials	<i>HMPT: Introduction (Live Course 27916, Test 27917)</i>	General Awareness/Familiarization, Security Awareness & Safety Training
	<i>HMPT: Identification of Hazardous Materials (Live Course 27918, Test 27919)</i>	Function- Specific Training
	<i>HMPT: Preparing Shipments (Live Course 27920, Test 27921)</i>	Function-Specific Training
Employees responsible for preparing the shipping papers and/or for transporting the materials	<i>HMPT: Introduction (Live Course 27916, Test 27917)</i>	General Awareness/Familiarization, Security Awareness & Safety Training
	<i>HMPT: Identification of Hazardous Materials (Live Course 27918, Test 27919)</i>	Function- Specific Training
	<i>HMPT: Preparing Shipments (Live Course 27920, Test 27921)</i>	Function-Specific Training
	<i>HMPT: Movement by Highway (Live Course 27922, Test 27923)</i>	Function-Specific Training.
Any HAZMAT employee who directly affects hazardous waste material transportation safety	<i>HMPT: Hazardous Waste Transportation (Live Course 27928, Test 27929)</i>	Hazardous Waste Transportation

Prerequisites for this course:

- *HMPT: Introduction Live (#27916) / HMPT: Introduction Test (#27917)*
- *HMPT: Identification Live (#27918) / HMPT: Identification Test (#27919)*
- *HMPT: Preparing Shipments Live (#27920) / HMPT: Preparing Shipments Test (#27921)*
- *HMPT: Movement by Highway Live (#27922) / HMPT: Movement by Highway (#27923)*

Course Limitations

Unless otherwise specified, this training pertains only to the transportation of *non-bulk packages* of hazardous waste material by highway. Non-bulk packaging has a maximum capacity of less than or equal to 119 gallons for a liquid or a maximum net mass of less than or equal to 882 pounds for a solid; or a water capacity of 1000 pounds or less as a receptacle for a gas.

Note: *Additional requirements for the transportation of hazardous materials, radioactive materials, and explosives are addressed in other courses and may be required for specific jobs.*

The HAZMAT employer is responsible for ensuring that each designated HAZMAT employee receives the required training to perform his or her function. HAZMAT employees are responsible for keeping their supervisors or managers informed of their current training status.

Registration and Attendance

Attendance is crucial in order to receive credit for this course. All participants must complete registration prior to the beginning of the course, sign the attendance roster for each day of the course, and attend and actively participate in the course. (No credit will be given for participants that miss 15 minutes or more of class time.)

Delivery Methods

Course delivery consists of lecture, group discussions, and participant activities.

Evaluation Strategy

Formative Assessment: The instructor will use oral questioning during the presentation of each module to assess participants' mastery of the material. Problem areas identified during questioning will be reviewed in further detail. Participants will be evaluated with classroom discussion and a participant activity.

Summative assessment: There is an accompanying quiz (in UTrain) on which students must achieve a score of 80% or better.

Administrative Details

Details will be given about facility safety features and any additional resources or equipment available. Participants must adhere to all safety requirements during training sessions and notify instructor of any questions or concerns about safety .

Acronyms

ASD	Accumulation Start Date
CFR	Code of Federal Regulations
DOE	Department of Energy
DOT	Department of Transportation
EPA	Environmental Protection Agency
HAZMAT	hazardous material
HMPT	hazardous materials packaging and transportation
HMTA	Hazardous Material Transportation Act
LANL	Los Alamos National Laboratory
LDR	Land Disposal Restriction
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
n.o.s.	not otherwise specified (also N.O.S.)
NWW	non wastewater
PCS	petroleum-contaminated soils
PG	packing group
PIH	poison-inhalation hazard
PSN	proper shipping name
RCRA	Resource Conservation and Recovery Act
RQ	reportable quantity
SP	special provision
STP	standard temperature and pressure
TSCA	Toxic Substances Control Act
TSDF	treatment, storage, and disposal facility
UCH	underlying hazardous constituents
UHWM	uniform hazardous waste manifest
US	United States
UTS	Universal Treatment Standards
WCATS	Waste Compliance and Tracking System
WDR	Waste Disposal Request
WMC	Waste Management Coordinator
WSP	waste stream profile
WW	wastewater

Glossary

Term	Definition (as found in 49 Code of Federal Regulations [CFR] 171.8)
Accumulation Start Date (ASD)	This is the date that the waste is initial placed into the waste storage container per Central Accumulation Area and Treatment, Storage and Disposal Facility requirements.
Bulk Packaging	A packaging, such as a transport vehicle or freight container, that has (1) a maximum capacity >450 L (>119 gal.) for a liquid and (2) a maximum net mass of >400 kg (>882 lb.) for a solid.
Certification	Documentation indicating that training has been successfully attended by the worker.
Characteristic Waste	A waste that exhibits one or more of the following characteristics: ignitability (D001), corrosivity (D002), reactivity (D003), and toxicity (D004-D043). (40 CFR 261, Subpart C.)
Function-Specific Training	Training conducted to prepare a HAZMAT employee to perform specific HAZMAT functions. (See 49 CFR 172.704(a)(2)).
General- Awareness Training	Training conducted to give HAZMAT employees a general understanding of DOT regulations and requirements. Reference: 49 CFR 172.704(a)(1).
Hazardous Material (HAZMAT)	hazardous material – A substance or material that the Secretary of Transportation has determined can pose an unreasonable risk to health, safety, or property when transported in commerce and has been designated as hazardous under Section 5103 of the federal hazardous materials transportation law (49 U.S.C. § 5103). The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions in 49 CFR 173.
Hazardous Waste (DOT 49 CFR 171.8)	hazardous waste – A solid waste that is not excluded from regulation under 40 CFR 261.4(b) and that is listed in 40 CFR 261, Subpart D; exhibits any of the characteristics identified in 40 CFR 261, Subpart C; or is a mixture of solid waste and one or more hazardous wastes listed in 40 CFR 261, Subpart D. For purposes of corrective action, hazardous waste will have the meaning set forth in the New Mexico Hazardous Waste Act (HWA), Section 74-4-3(K). Hazardous waste may be a “mixed waste,” which is waste that contains hazardous waste that is subject to the HWA and the Resource Conservation and Recovery Act and source, special nuclear, or byproduct material subject to the Atomic Energy Act, 42 U.S.C. § 2011, et seq.

Term	Definition (as found in 49 Code of Federal Regulations [CFR] 171.8)
<p>HAZMAT employee <i>Note: At LANL, the term “HAZMAT employee” includes Department of Energy (DOE) employees and employees of contractors and subcontractors.</i></p>	<p>A person who is employed by a HAZMAT employer and who in the course of employment directly affects hazardous materials transportation safety. This term includes an owner-operator of a motor vehicle that transports hazardous materials in commerce. This term includes an individual, including a self-employed individual, employed by a HAZMAT employer who, during employment:</p> <ol style="list-style-type: none"> 1. loads, unloads, or handles hazardous materials; and/or 2. designs, manufactures, fabricates, inspects, marks, maintains, reconditions, repairs, or tests a package, container, or packaging for use in transporting hazardous materials; and/or 3. prepares hazardous materials for transportation; and/or 4. is responsible for safety of transporting hazardous materials; and/or 5. operates a vehicle used to transport hazardous materials.
<p>HAZMAT employer</p>	<p>A person who uses one or more of its employees in connection with transporting hazardous materials in commerce; causing hazardous materials to be transported or shipped in commerce; or representing, marking, certifying, selling, offering, manufacturing, reconditioning, testing, repairing, or modifying containers, drums, or packaging as qualified for use in the transportation of hazardous materials. This term includes an owner-operator of a motor vehicle that transports hazardous materials in commerce. This term also includes any department, agency, or instrumentality of the United States, a state, a political subdivision of a state, or an Indian tribe engaged in an activity described in the first sentence of this definition.</p>
<p>Land disposal restriction (LDR) treatment standards</p>	<p>Treatment standards (under 40 CFR 268) that a Resource Conservation and Recovery Act (RCRA) hazardous waste must meet before it may be disposed of in a RCRA hazardous waste land disposal unit.</p>
<p>Land Disposal Restriction (LDR) Form</p>	<p>A document used by a hazardous waste generator to notify a treatment, storage, and disposal facility (TSDF) whether their waste meets the necessary treatment standards before being disposed of in a landfill, indicating if the waste can be land disposed of without further treatment; it must accompany the hazardous waste manifest for each shipment and is required under the EPA's Land Disposal Restriction (LDR) program. The generator must send a one-time written notice to each facility receiving the waste and place a copy in the file. This is a certified waste that the generator is required to document and as it changes so does the notice. 40 CFR 268.7</p>
<p>Listed Waste</p>	<p>This is identified as waste that exhibits any of the characteristics identified in 40 CFR 261.10 (ignitability, corrosivity, reactivity, and toxicity) and found to be fatal to humans in low doses. The four listings are:</p> <ul style="list-style-type: none"> U – listed for discarded commercial chemical products F - listed for non-industry-specific/process-specific waste streams P - listed for acutely hazardous discarded commercial chemical product K - listed for industry-specific/non-process-specific waste streams

Term	Definition (as found in 49 Code of Federal Regulations [CFR] 171.8)
Mixed Waste	Any waste containing hazardous waste and source, special nuclear, or by- product material. The use of the generic term “mixed waste” shall refer to both mixed LLW waste and mixed TRU waste.
Non-bulk Packaging	A packaging that has (1) a maximum capacity of ≤450 L (≤119 gal.) for a liquid or (2) a maximum net mass of ≤400 kg (≤882 lb.) for a solid or (3) a water capacity of 454 Kg (1000 lb.) or less for a gas. Reference: 49 CFR 173.115.
Recurrent Training	Refresher training that must be conducted at specific time intervals (every three years). Reference: 49 CFR 172.704(c)(2). Note: <i>The International Air Transport Association/International Civil Air Organization (IATA/ICAO) requires retraining every two years.</i>
Reportable Quantity (RQ)	The quantity specified in Table 1 to Appendix A to Part 172.101 (the Hazardous Materials Table).
residue	The hazardous material that remains in packaging after its contents have been unloaded to the maximum extent practicable, but before the packaging is either refilled or cleaned of hazardous material and purged to remove any hazardous vapors.
Safety Training	Training conducted to ensure HAZMAT employees recognize emergency response information in accordance with 49 CFR 172.602, recognize hazards associated with hazardous materials and measures to protect HAZMAT employees, and recognize methods and procedures for avoiding accidents. Reference: 49 CFR 172.704(a)(3).
Treatment, Storage, and Disposal Facility (TSDF)	This is a facility where any permitted or interim status hazardous waste management unit where hazardous or mixed waste may be stored or treated before disposal.
Waste	A waste is a material that is no longer being used for its intended purpose, has no further use, or has been discarded. 40 CFR 261.20 to 261.30
Waste Management Coordinator (WMC)	The individual responsible for coordinating waste management activities on behalf of waste generators, line managers, facility managers, field project leaders, waste management groups, and other LANL organizations. This individual also coordinates resolution of waste management issues on behalf of his/her waste-generating organization and reviews documents pertaining to the management of waste.

Module

1



Module 1: Hazardous Waste Transportation Regulations

Module Objectives

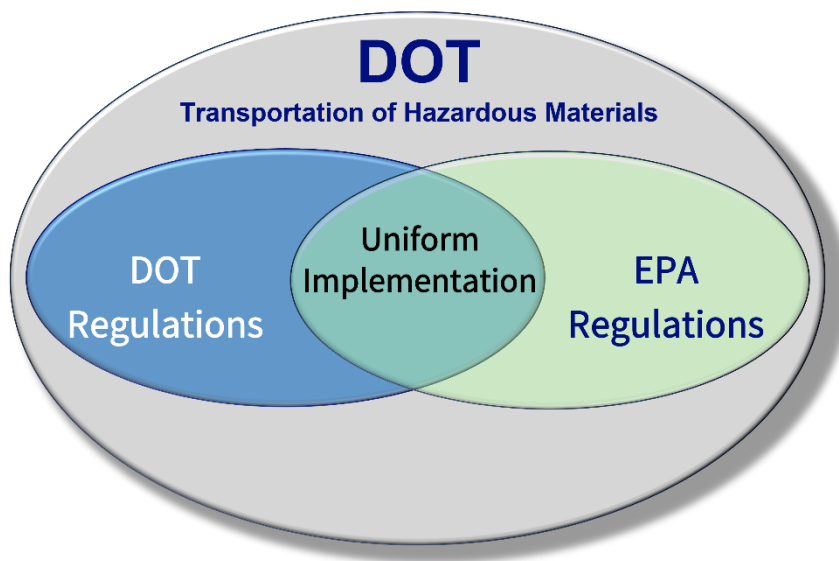
After completing this module, you will be able to:

- *describe the roles and regulatory authority of the DOT ([49 CFR Parts 171-180](#)) and EPA ([40 CFR Parts 260-282](#)) in the packaging and transportation of hazardous waste, including how their regulations interconnect;*
- *differentiate between the terminology used by the EPA and DOT for hazardous waste transportation;*
- *reference the appropriate EPA and DOT regulations for specific hazardous waste transportation requirements; and*
- *recognize the importance of compliance with both EPA and DOT regulations to ensure the safe and legal transport of hazardous waste.*

Transportation of Hazardous Waste

Authorities

The DOT has regulatory authority over the transportation of all hazardous materials, including *hazardous wastes*. The DOT and the EPA work together to ensure that hazardous waste is transported safely. As necessary, DOT and EPA regulations pertaining to the management of hazardous waste reference each other to ensure uniform implementation of the requirements.



Standards	Location	Description
hazardous materials packaging and transportation	Title 49 CFR Parts 171 – 180	<ul style="list-style-type: none"> Provides the packaging and transportation requirements for hazardous materials Establishes a safe and consistent program for moving hazardous materials.
hazardous waste management	Title 40 CFR Parts 260 – 282	<ul style="list-style-type: none"> Defines RCRA hazardous waste Provides a regulatory framework for managing solid and hazardous waste.



Code of Federal Regulations

A point in time eCFR system



A memorandum of understanding between the DOT and the EPA established that all EPA hazardous wastes in transportation are fully regulated by the DOT. The DOT regulations for transporting hazardous or *mixed* waste include requirements for:

- *DOT shipping information,*
- *packaging,*
- *labeling,*
- *marking,*
- *placarding, and*
- *shipping papers.*



Agency	Terminology		
EPA	generator	transporter	TSDf
DOT	shipper	carrier	receiver
DOT	consignor	-----	consignee

The EPA pre-transport regulations reference applicable parts of the DOT requirements in Title 49. The EPA also has additional transportation requirements that will be discussed in this course. The following table provides references to EPA and DOT citations governing specific requirements.

Requirements for . . .	EPA Reference 40 CFR Parts . . .	DOT Cross Reference 49 CFR Parts . . .
Shipping Papers	262.20 (Subpart B)	172.200 (Subpart C)
Packaging	262.30 (Subpart C)	173 (General requirements)
		178 (Specifications for packaging)
Labeling	262.31 (Subpart C)	172.400 (Subpart E)
Marking	262.32 (Subpart C)	172.300 (Subpart D)
Placarding	262.33 (Subpart C)	172.500 (Subpart F)

Module

2



Module 2: Marking Requirements

Module Objectives

After completing this module, you will be able to

- *select the basic, required markings for packages of hazardous waste; and*
- *recognize when a hazardous waste is considered a DOT hazardous substance; and*
- *recognize that the EPA hazardous waste number can be used to identify the package constituents of a hazardous substance; and*
- *identify the packaging exceptions associated with open head drums, lab packs, and reuse of packaging.*

Marking:

DOT Marking [49 CFR 172.300]

In general, DOT markings must be [49 CFR 172.304]:

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

DOT Basic Marking Requirements include the PSN, 4- digit identification number, and name/address of consignee or consignor. [49 CFR 172.301]

Additional EPA Marking [40 CFR 262.32]

In addition to the DOT basic marking requirements, the EPA requires additional markings. Under the EPA, before transporting or offering hazardous waste for transportation, a generator must mark each container of 119 gal. or less used in such transportation with the following information:

- *hazardous waste in accordance with applicable DOT regulations;*
- *the generator’s name and address;*
- *generator EPA ID number; EPA hazardous waste code number; and*
- *manifest tracking number, accumulation start date (ASD);*

Additional DOT Marking/Labeling Requirements: The package must be marked with the manufacturer’s identification codes for packaging [49 CFR 178.502/503]. The package must also be labeled according to 49 CFR 172.400.

If the package bears the EPA hazardous waste sticker (label/markings), as required by 40 CFR 262.32 [see [49 CFR 172.301\(a\)\(2\)](#)], then the DOT PSN is **not** required to include the word “waste.” Also see Polychlorinated biphenyls (PCBs) see also TSCA regulations 40 CFR 761. Marking for PCBs greater than 50 ppm may be required.

The EPA hazardous waste label below provides a means for consolidating required EPA and DOT markings.

HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE, PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERATOR'S INFORMATION:

NAME: **TRIAD on behalf of US Department of Energy**

ADDRESS: **P.O. Box 1663, Los Alamos, NM 87545**

EPA ID NO: **NM0890010515** EMERGENCY PHONE NO: **505 - 667 - 2400**

MANIFEST NO: ACCUMULATION START DATE: **26 - SEP - 23**

EPA WASTE NUMBER:

D001

PROPER SHIPPING NAME :

UN1309, WASTE ALUMIUM POWDER, COATED, 4. 1, II (LABPACK)

*This EPA hazardous waste label is not a DOT label but is a required **EPA marking** for each hazardous waste container of 119 gal. or less.*

Hazardous Materials

The DOT categorizes hazardous materials into hazardous classes and divisions based on the characteristics of the material. Hazardous substances and hazardous wastes are a subset of hazardous materials under the DOT. A more detailed discussion of hazardous substances and hazardous wastes is provided below.

Hazardous materials are defined by the DOT as those substances or materials that pose unreasonable risks to health, safety, and property when transported in commerce [49 CFR 171.8].

Hazardous Substances

The DOT regulates hazardous substances through an agreement with the EPA. A **hazardous substance** is a material, including its mixtures and solutions, that:

- is listed in [49 CFR 172.101 Appendix A](#) to the Hazardous Materials Table;
- is in a quantity, in one package, that equals or exceeds the reportable quantity (RQ) listed in Appendix A; and
- when in a mixture or solution,
 - for radionuclides, conforms to paragraph 7 of Appendix A to 49 CFR 172.101; or
 - for other than radionuclides, is in a concentration by weight that equals or exceeds the concentration corresponding to the RQ of the material identified in the table in [49 CFR 171.8](#) “Hazardous substance” (3)(ii).

Note: The shipper is responsible for identifying the hazardous substance.

Furthermore, [49 CFR 172.324 \(a\)](#) explains that as a hazardous waste, the waste code may be used, if appropriate, to identify the hazardous substance.

§ 172.324 Hazardous substances in non-bulk packagings.

For each non-bulk package that contains a hazardous substance—

- (a) Except for packages of radioactive material labeled in accordance with [§ 172.403](#), if the proper shipping name of a material that is a hazardous substance does not identify the hazardous substance by name, the name of the hazardous substance must be marked on the package, in parentheses, in association with the proper shipping name. If the material contains two or more hazardous substances, at least two hazardous substances, including the two with the lowest reportable quantities (RQs), must be identified. For a hazardous waste, the waste code (e.g., D001), if appropriate, may be used to identify the hazardous substance.
- (b) The letters “RQ” must be marked on the package in association with the proper shipping name.
- (c) A package of limited quantity material marked in accordance with [§ 172.315](#) must also be marked in accordance with the applicable requirements of this section.

[73 FR 4716, Jan. 28, 2008, as amended at 76 FR 3367, Jan. 19, 2011]

Hazardous Waste

EPA and DOT Hazardous Waste Definitions		
EPA	hazardous waste	40 CFR 261.3 (Subpart A)
DOT	hazardous waste	49 CFR 171.8

Note: A hazardous waste may also be a hazardous substance.

All hazardous wastes are regulated by the DOT during transportation; therefore, all DOT and EPA marking requirements must be met. Hazardous wastes are subject to additional rules other than those applied to hazardous materials because of the overlap between DOT and EPA regulations.

To define the term RCRA hazardous waste, one must first define waste. According to [40 CFR 261.2](#) Definition: A WASTE is a material that is no longer being used for its intended purpose, has no further use, or is discarded.



A material that is **discarded** has the potential to enter the environment by a mechanism that is not associated with the material's intended use as a product.

Before a *waste* is disposed of under the EPA, it must be characterized to determine whether it meets the definition of a RCRA hazardous waste. When making a hazardous waste determination, establish, in the following order if the **discarded** material:






- is a solid waste [[40 CFR 261.2](#)],
- is not excluded [[40 CFR 261.4](#)],
- is a listed hazardous waste [[40 CFR 261.30](#)], and/or
- exhibits a characteristic [[40 CFR 261.20](#)].

Note: Some materials being discarded may not meet the EPA's definition of a hazardous waste yet are regulated by the DOT for shipping [e.g., corrosive solid (Class 8)]

Listed Waste

Types of Listed Waste		
Waste Type	Description	Examples
F-listed	Non-industry-specific/process-specific waste stream	spent solvents from specific processes
K-listed	industry-specific/non-process-specific waste stream	waste generated from the manufacturing of explosives
F and K codes may be used only if the source of the waste is known.		
U-listed	discarded commercial chemical products	benzene
P-listed	acutely hazardous discarded commercial chemical products	beryllium powder
<p><i>P and U codes are to be used for pure and unused compounds only. In a mixture, the P and U codes can be used only if the compound is the sole active ingredient.</i></p>		

Characteristic Waste

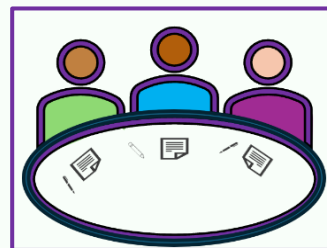
Types of Characteristic Waste		
Waste type	Description	Examples
Ignitable D001 	<ul style="list-style-type: none"> a liquid with a flashpoint <math><60^{\circ}\text{C}</math> (<math>140^{\circ}\text{F}</math>) a solid waste that exhibits characteristics of ignitability or subject to spontaneous combustion, flammable compressed gas as defined by the DOT DOT oxidizer 	naphtha ethanol potassium permanganate
Corrosive D002 	<ul style="list-style-type: none"> pH of ≤ 2.0 or ≥ 12.5 OR a liquid that corrodes steel at a rate >0.25 in. (6.35 mm) per year at a test temperature of 55°C a solid waste that exhibits characteristics of corrosivity 	sulfuric acid nitric acid potassium hydroxide
Reactive D003 	<ul style="list-style-type: none"> normally unstable and readily undergoes violent change without detonating reacts violently when mixed with water or generates toxic gases, vapors, or fumes forms potentially explosive mixtures when mixed with water cyanide- or sulfide-bearing waste that can generate toxic gases, vapors, or fumes when exposed to pH conditions between 2.0 and 12.5 readily capable of detonation at standard temperature and pressure (STP) DOT Division 1.1, 1.2, or 1.3 explosive A solid waste that exhibits characteristics of reactivity 	high explosives cyanide salts sodium metal
Toxic D004–D043  	<ul style="list-style-type: none"> meets or exceeds the maximum toxic concentration limits that are based on the toxicity characteristic leaching procedure (TCLP) test 	certain metals <i>(e.g., lead)</i> certain organics <i>(e.g., trichloroethylene)</i>

Note: For a complete list of characteristic (D-coded), F-listed, and K-listed constituents, see [Appendix A to 49 CFR 172.101, Table 1](#). For a complete list of U-listed and P-listed constituents, see [40 CFR 261.33](#).

Class Activity 1: Hazardous Substance Determination

See handout packet.

Answers are in Appendix A, pg. 40.



EPA Hazardous Waste Numbers

When a hazardous waste must be managed as a hazardous substance under the DOT, the hazardous waste number may be used to identify the hazardous substance in the package. The table below describes the requirements for using hazardous waste numbers in association with the basic description on a package.



Requirement	Explanation	
Proper Shipping Name (PSN)	The word “waste” is NOT required in the PSN on the package if the package bears the EPA Hazardous Waste Sticker (label), but shippers will not be penalized if they put “waste” in the PSN on the package. NOTE: At LANL, waste shipping labels are generated by the Waste Compliance and Tracking System (WCATS), which puts the word “waste” in the PSN on all packages. However, all packages must be identified with a EPA hazardous waste number.	
Technical Name Requirement	With hazardous waste mixtures and solutions , often it is not possible to use a PSN that identifies the hazardous material by a chemical or technical name.	The chemical or technical name of the hazardous material must be added in parentheses, in association with the basic description. EPA hazardous waste number may be used to identify these chemical and technical name.
EXCEPTION from the Technical Name Requirement	<p>“Hazardous Waste Liquid, n.o.s.” or “Hazardous Waste Solid, n.o.s.”</p> <p>Lab Packs identified in 49 CFR 173.12</p>	<p>The PSNs that can be used with the EPA hazardous waste numbers to identify constituents with one or more waste stream constituents [49 CFR 172.203(k)(2)(i)]. Is not required on the container unless it is a hazardous substance.</p> <p>Note: Applies only to hazard Class 9 materials. For all other hazard classes, the constituents must be listed. Unless they are lab packs.</p>
Hazardous Substances [49 CFR 172.101, Appendix A]	May be identified by an EPA Hazardous Waste Number (i.e., D001, F002, etc.) rather than a specific chemical or technical name when the hazardous substance is also a hazardous waste [49 CFR 172.203 (c)(1)] .	
	The letters “ RQ ” for a hazardous waste that is a hazardous substance is a marking that must appear on the package of hazardous waste and on the shipping paper.	

Class Activity 2:

Acceptable Proper Shipping Name

See handout packet.

Answers are in Appendix A, pg. 41.



Packaging Exceptions

Open Head Drum [[49 CFR 173.12\(a\)](#)]

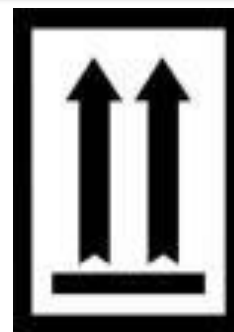
If a hazardous material that is a hazardous waste is required to be shipped in a closed head drum, and the hazardous waste contains solids or semisolids that make its placement in a closed head drum impracticable, an equivalent open head drum may be used for the hazardous waste.

Lab Packs [[49 CFR 173.12\(b\)](#)]

The DOT allows certain hazardous waste to be transported in combination packaging (lab packs), provided certain requirements are met. This exception is for hazardous waste only and limited in application based on the material's primary hazard class.

DOT Orientation Arrows must be displayed on the outer packages of lab packs containing liquids.

The DOT and the EPA do not require special package markings or shipping paper entries to identify that the waste package is prepared under the lab pack provision. LDR specific notice must be sent by generator for treatment of lab packs to the TSDF.



The table below lists acceptable hazard classes or divisions, packaging requirements and prohibited materials.

Acceptable Materials			Prohibited Materials [173.12(b)(3)]
Hazard Classes or Divisions [173.12(b)(1)]	Packaging Requirements [Gross weight must NOT exceed 205 kg (452 lb.)]		
	Outer [173.12(b)(2)(ii)]	Inner [173.12(b)(2)(i)]	
3	UN 1A2 steel drum, UN 1B2 aluminum drum, UN 1D plywood drum, UN 1G fiberboard drum, a UN 1H2 plastic drum or UN 1N2 drum tested and marked for the Packing Group III performance level for liquids or solids Each outer packaging may contain only one primary class of hazardous material [173.12(b)(2)(ii)].	Must be either glass, not exceeding 4 L (1 gal.) rated capacity, or metal or plastic, not exceeding 20 L (5.3 gal.) rated capacity. A chemically compatible absorbent material in sufficient quantity to absorb the total liquid contents must surround inner packaging(s) containing liquid.	Poison-inhalation hazard (PIH) material
4.1			6.1 PG I
4.2 PG I (see Note) 4.2, PG II and III			A temperature-controlled material unless it complies with 173.21(f)(1)
4.3			Chloric acid aqueous solution
5.1, 5.2			Oleum (sulfuric acid, fuming)
6.1 II and III			
8			
9			

Note: Division 4.2 PG I must be packaged using UN standard steel or plastic drums marked and tested for PG I.

Note: The technical names for n.o.s. descriptions [49 CFR 173.12(d)] exception provides for the exclusion of chemical or technical names on packages and shipping papers for acceptable lab packs. However, all poisons and hazardous substances must always be identified by their chemical or technical names or RCRA code exception.

Reuse of Packaging [[49 CFR 173.12\(c\)](#)]

According to [49 CFR 173.28](#), packaging can be used only once unless rechecked and remarked. However, hazardous wastes have a packaging reuse exception, which allows the reuse of a package.

Hazardous waste packaging:

- *must be used for highway transport only; and*
- *must meet the more-than-24-hour wait-to-ship restriction (static check);*
- *must meet loading and unloading restrictions; and*
- *may be used only once or must be checked, tested, and marked according to [49 CFR 173.28\(b\)\(2\)](#) for reuse.*

Remember to perform a visual inspection of the packaging before loading.

If a packaging is reused, it must be marked and labeled for the hazardous waste the packaging currently contains.

TRUPACT Containers:

- *Have a stainless-steel skin over a 10-in. layer of polyurethane foam designed to absorb shock and resist fire.*
- *10 ft tall and 8 ft in diameter.*
- *One can hold up to 14 55-gal. drums.*
- *Hold transuranic waste from past nuclear weapons work.*



Workers load drums containing transuranic waste into a TRUPACT container.

Segregation requirements [[49 CFR 173.12\(e\)](#)]

According to 49 CFR 173.12(e), waste material packaged as lab packs are not subjected to same segregation requirements in [174.81\(d\)](#), [176.83\(b\)](#), and [177.848\(d\)](#) as long as the following conditions are met:

- *Waste packages are blocked and braced.*
- *Horizontal distance of 1.2m (4 feet) is segregated from incompatibles.*
- *Packages are 100mm (4 inches) off the floor (on pallet).*
- *No Class 1 explosives, Radioactive material or unpackaged hazardous materials are on transport vehicle.*
- *Waste cyanides and acids, and 4.2 materials and corrosives may not exceed:*
 - *Inner package less than 2 Kg (4.4 pounds)*
 - *Net weight is less than 10Kg (22 pounds)*
 - *Volume limit cyanide less than 2 L (.6 gallons) for inner packaging and 10L (3 gallons) per outer packaging.*
 - *Acids or corrosives must be packaged as lab packs less than 208 L (55 gallons)*
- *Waste 6.1 Poison by Inhalation Zone A with all other incompatible hazard classes may be transported together so long as:*
 - *Overpack in 1A2 or 1H2 has a performance rating for PGI for the 6.1 Zone A.*
 - *Class 8 liquids lab packs do not exceed 208L (55 gallons)*
 - *Division 4.2 and 5.1 do not exceed 2Kg (4.4 pounds) inner and 10Kg (22 pounds) outer packaging.*
 - *Division 5.2 does not exceed 1Kg (2.2 pounds) inner and 5Kg (11 pounds) outer packaging, and Type B does not exceed .5 Kg (1.1 pounds) inner, and 2.5 Kg (5.5 pounds) outer packaging.*
 - *The aggregate gross weight is less than 50 Kg (110 pounds).*

Class Activity 3: Acceptable Lab Packs See handout packet.



Answers Note: The answers are provided by instructor and generated by hands on activity from class.

Module

3



Module 3: Hazardous Waste Shipping Papers

Module Objectives

After completing this module, you will be able to identify:

- *the appropriate shipping paper requirements for a shipment of hazardous waste;*
- *the form-field requirements for the UHWM;*
- *the basic requirements regarding the EPA identification number;*
- *when the word “waste” must precede the DOT proper shipping name on the shipping paper; and*
- *the additional shipping paper requirements for hazardous waste LDR notification or certification.*

Background

Before the passing of the RCRA in 1976, DOT shipping papers were required only for tracking the movement of industrial and chemical wastes. After RCRA was signed into law, Congress required the EPA to create a manifest system for tracking shipments of hazardous waste from a **generator's** site to the final receiving facility.

On March 20, 1984, the EPA and the DOT finalized a rule requiring the use of the Uniform Hazardous Waste Manifest (UHW) for hazardous waste shipments. On the same day, the DOT added a requirement for all hazardous waste shipments to be accompanied by a UHW [\[49 CFR 172.205 \(a\)\]](#).

A generator is any person, by site, whose act or process produces hazardous waste identified or listed in 40 CFR part 261 or whose act first causes hazardous waste to become subject to regulation [\[40 CFR 260.10\]](#).

Note: LANL is a large-quantity generator of hazardous waste.

Waste Compliance and Tracking System (WCATS)



At LANL, manifests for waste shipment are created using WCATS. The manifest profile subsystem provides support for defining, creating, printing, and tracking waste manifests needed for shipment of waste both within the laboratory and to an off-site treatment storage and disposal facility.

Special Waste Manifest

The EPA allows each state to design its own state manifest [\[40 CFR 262.21\]](#) if it fulfills the minimum requirements of the EPA and the DOT. LANL's special waste manifest is used for shipments of **New Mexico Special (state-regulated) Wastes**. The New Mexico special waste requirements are found in Title 20 of the [NMAC Part 9.1 \[20 NMAC 9.1\]](#).

New Mexico Special Wastes: Wastes that have unique handling, transportation, or disposal requirements to ensure the protection of the environment and the health, welfare, and safety of the public.

Types of New Mexico Special Waste

- *treated formerly characteristic hazardous wastes (no longer hazardous)*
- *packing house and killing plant offal*
- *regulated asbestos waste*
- *ash*
- *infectious waste*
- *sludge*
- *industrial solid waste that, unless specially handled or disposed, may harm the environment, or endanger the public health or safety*
- *spill of a chemical substance or commercial product*
- *petroleum-contaminated soils (PCS)*



Regulatory Changes to the UHWM

The Uniform Hazardous Waste Manifest, Paperless Manifest [49 CFR 172.205 J](#), is now available online, however LANL is currently not using it.

Electronic manifests that are obtained, completed, and transmitted in accordance with [40 CFR 262.20\(a\)\(3\)](#), and used in accordance with [40 CFR 262.24](#) in lieu of [EPA Forms 8700-22 and 8700-22A](#) are the legal equivalent of paper manifest forms bearing handwritten signatures, and satisfy for all purposes any requirements in these regulations to obtain, complete, sign, provide, use, or retain a manifest.

Electronic signatures in conformance with [40 CFR 262.25](#) are therefore acceptable in lieu of handwritten signatures required by [paragraphs \(c\) and \(d\)](#) of this section provided one printed copy of the electronic manifest bearing the electronic signature is provided to the initial transporter as required by [40 CFR 262.24\(d\)](#). A copy of the electronic manifest would satisfy the 3-year retention requirement for maintaining a copy of the manifest.

The purpose of the UHWM is to track waste from “cradle-to-grave.”

Only DOT-trained individuals may sign the UHWM as the certified shipper or generator.

Completing the UHWM [[49 CFR 172.205](#)]

Note: No person may offer, transport, transfer, or deliver a hazardous waste unless an EPA Form 8700-22 and 8700-22A (when necessary) Uniform Hazardous Waste Manifest (UHWM) is prepared in accordance with [40 CFR 262.20, Subpart B](#), [[49 CFR 172.205\(a\)](#)].

Title 40 CFR 262.20, Subpart B, identifies the manifest requirements for generators who transport, or offer for transportation, hazardous waste for off-site treatment, storage, or disposal.

EPA Instructions for completing the Uniform Hazardous Waste Manifest and the Continuation Sheet are found in 40 CFR Appendix to Part 262. They are also found on the [EPA web site](#).

The Manifest Instructions are grouped in the four sections of the EPA Form 8700-22 (Rev 3-05) as follows:

- I. *Instructions for Generators (Items 1-15),*
- II. *Instructions for International Shipment Block (Item 16),*
- III. *Instructions for Transporters (Item 17), and*
- IV. *Instructions for Owners and Operators of Treatment, Storage and Disposal Facilities (Items 18-20).*

Note: A complete copy of the UHWM Manifest form is found in Appendix C of the Student Manual.

Uniform Hazardous Waste Manifest

Instructions for the UHWM and the continuation sheet are found [here](#).

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number			
5. Generator's Name and Mailing Address				Generator's Site Address (if different than mailing address)				
Generator's Phone:								
6. Transporter 1 Company Name				U.S. EPA ID Number				
7. Transporter 2 Company Name				U.S. EPA ID Number				
8. Designated Facility Name and Site Address				U.S. EPA ID Number				
Facility's Phone:								
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
		No.	Type					
1.								
2.								
3.								
4.								
14. Special Handling Instructions and Additional Information								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Offeror's Printed/Typed Name				Signature		Month	Day	Year
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____								
17. Transporter Acknowledgment of Receipt of Materials								
Transporter 1 Printed/Typed Name				Signature		Month	Day	Year
Transporter 2 Printed/Typed Name				Signature		Month	Day	Year
18. Discrepancy								
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection								
18b. Alternate Facility (or Generator)				Manifest Reference Number: _____ U.S. EPA ID Number				
Facility's Phone:								
18c. Signature of Alternate Facility (or Generator)				Signature		Month	Day	Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1.		2.		3.		4.		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a								
Printed/Typed Name				Signature		Month	Day	Year

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. **DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM**

Instructions for the UHWM and the continuation sheet are found [here](#).

Item/Block(s) (1–15) must contain the Information Required as follows: NO longer necessary with links to replace.

Item (Field)	Information Required
4	Manifest Tracking Number - This unique tracking number is pre-printed on the manifest by the EPA-approved company printing the form. For LANL waste shipments this manifest tracking number will be printed on the purchased UHWM forms.
1, 6, 7, and 8	U.S. EPA ID Number - This 12-digit identification number is required by EPA and is unique to each hazardous waste generator; transporter; and treatment, storage, and disposal facility (TSDF). Note: Each generator, transporter, or TSDF <u>must</u> have an EPA identification number before offering, transporting, or accepting hazardous waste [40 CFR 262.12(c) and 49 CFR 171.3 Note 1].
3	Emergency Response Phone - This 10-digit number (area code plus phone number) must only be entered in Block 3 if the number applies to all materials listed in Block 9b (1-4) (e.g., a consolidated shipment). Otherwise, the phone number/s associated with each specific material should be entered after each description in Block 9b (1-4). This number must be monitored 24 hours each day that the material is in transportation.
5	Generator's Name and Mailing Address, Site Address, and Phone Number <ul style="list-style-type: none"> • Generator's name, • Generator's mailing address, • Physical site address (If different from mailing address), and • Normal business phone number including area code.
9b (1-4)	U.S. DOT Description including in this order: <ul style="list-style-type: none"> • DOT UN/NA Identification Number, and • Proper shipping name (PSN), and • Hazard Class/Division, and • Packing Group (if any). If the word "waste" is not included in the PSN in column 2 of the DOT Hazardous Materials Table, then the PSN on the shipping paper (UHWM) <u>must</u> be preceded by the word "waste" (e.g., Waste Acetone) [49 CFR 172.101(c)(9)]
6, 7	Transporter/s Company Name and each U.S. EPA ID Number.
8	Designated Facility Name, Site Address, Facility's phone number, and U.S. EPA ID Number.
9a	Hazardous Material <ul style="list-style-type: none"> • left blank for non-Hazardous material, • "X" identifies hazardous material, and • "RQ" replaces "X" if hazardous material is also a Hazardous Substance.
10, 11, 12	Containers (number and type), Total Quantity and Unit of Measure (weight/volume) using the EPA abbreviations provided in the Appendix to 40 CFR 262, Tables I and II. (Student Manual Appendix B)
13	Waste Codes – Space is provided for six waste codes. Additional waste codes may be provided in Item (Field) 14 .
14	Special Handling Instructions and Additional Information - including <ul style="list-style-type: none"> • Special circumstances or shipment-specific information necessary for proper management or tracking of the material, or • Container #, waste codes, ERG #, and • Waste Stream Profile (Triad and off-site TSDF), and • Approvals from TSDF and other compliant information like "Exclusive Use" may be entered in this section, DOT-SP, DOT-EX, excerpt from regulations for exceptions and maybe entered here if room is not allowed due to space in 9b.
15	Generator's/Offer's Printed/Typed name, Signature, and Month/Day/Year, certifying that the waste is properly prepared for shipment.

Class Activity 4:

Uniform Hazardous Waste Manifest (UHWM)

See handout packet.

Answers are in Appendix A, pg. 42.



Class Activity 5:

UHWM Abbreviations

See handout packet.

Answers are in Appendix A, pg. 42.




Land Disposal Restriction

Land Disposal Notification or Certification Form (per [40 CFR 268.7](#))

A generator of hazardous waste must determine if the waste must be treated before it can be land disposed. This is done by determining if the hazardous waste meets the treatment standards in [Part 268.40](#), [268.45](#), or [Part 268.49](#).

If the waste or contaminated soil does not meet the treatment standards, or if the generator chooses not to make the determination of whether his waste must be treated, with the initial shipment of waste to each treatment or storage facility, the generator must send a one-time written notice to each treatment or storage facility receiving the waste and place a copy in the file. The notice must include the information in column “[268.7\(a\)\(2\)](#)” of the Generator Paperwork Requirements Table in [paragraph \(a\)\(4\)](#) of this section.

Below identifies an LDR that has met these requirements:



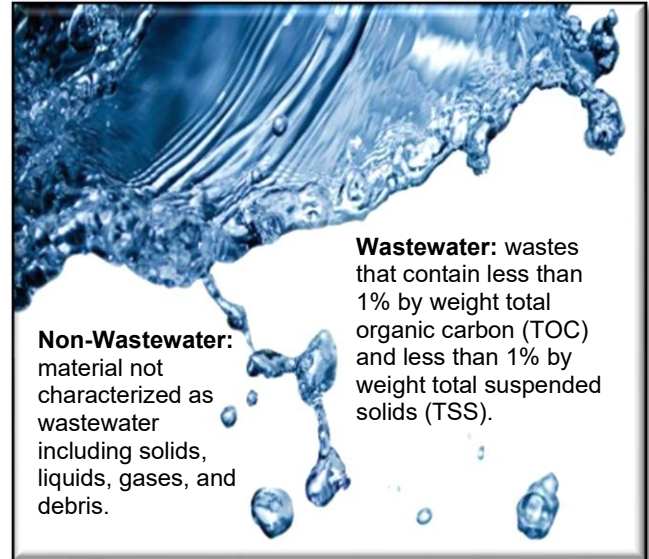
LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

Generator Name:	Manifest Tracking No: 013906044FLE
TRIAD ON BEHALF OF US DEPARTMENT OF ENERGY P.O. BOX 1663, MS M874, LORI SHELTON LOS ALAMOS, NM 87545	Internal Manifest Id: 110133

P1 L1 [W860601]	<p>Treatability Group: <input checked="" type="checkbox"/> NWW <input type="checkbox"/> WW <input type="checkbox"/> Lab Pack (Appendix IV) <input type="checkbox"/> Lab Pack (268.42[c])</p> <p>EPA Code Waste Desc / Subcategory or Constituent</p> <p>D001 Ignitable: Unspecified</p> <p>UHCs (if applicable): No Underlying Hazardous Constituents in this waste stream.</p>
P1 L2 [W860511]	<p>Treatability Group: <input checked="" type="checkbox"/> NWW <input type="checkbox"/> WW <input type="checkbox"/> Lab Pack (Appendix IV) <input checked="" type="checkbox"/> Lab Pack (268.42[c])</p> <p>EPA Code Waste Desc / Subcategory or Constituent</p> <p>D001 Ignitable: High TOC Ignitable Characteristic Liquids- >= 10% total organic carbon.</p> <p>D011 Silver</p> <p>D022 Chloroform</p> <p>D035 Methyl ethyl ketone</p> <p>F002 Spent halogenated solvents: Methylene chloride</p> <p>F003 Spent non-halogenated solvents: Acetone</p> <p>F003 Spent non-halogenated solvents: Ethyl acetate</p> <p>F003 Spent non-halogenated solvents: Ethyl ether</p> <p>F003 Spent non-halogenated solvents: Methanol</p> <p>F005 Spent non-halogenated solvents: Methyl ethyl ketone</p> <p>F005 Spent non-halogenated solvents: Toluene</p> <p>UHCs (if applicable): Acetone, Methanol, Chloroform, Methylene chloride, Ethyl ether, Triethylamine, Toluene, Acetonitrile, Ethyl acetate, Methyl ethyl ketone, Silver</p>
P1 L3 [W860507]	<p>Treatability Group: <input checked="" type="checkbox"/> NWW <input type="checkbox"/> WW <input type="checkbox"/> Lab Pack (Appendix IV) <input checked="" type="checkbox"/> Lab Pack (268.42[c])</p>

Components of the LDR:

- *Generator's name*
- *Manifest tracking #*
- *Line of item from manifest*
- *Tracking number of container*
- **Non-Wastewater (NWW)**
- **Wastewater (WW)**
- *Lab Pack notification*
- *RCRA codes to be treated*
and description of each Underlying Hazardous Constituent (UHC)
- **Certification statement**



The Certification Statement

The Certification Statement is written as follows:

"I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only wastes that have not been excluded under [Appendix IV to 40 CFR Part 268](#) and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at [40 CFR 268.42\(c\)](#). I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

Example of Universal Treatment Standards (UTS) table in [40](#)
[CFR 268.48](#):

Regulate Constituent Common Name	CAS ¹ Number	Wastewater Standard	Non-Wastewater Standard
		Concentration ² in mg/l	Concentration ³ in mg/kg unless noted as "mg/l TCLP"
Heptachlor	76-44-8	0.0012	0.066
1, 2, 3, 4, 6, 7, 8- Heptachlorodibenzo-p- dioxin (1, 2, 3, 4, 6, 7, 8- HpCDD)	35822-46-9	0.000035	0.0025
1, 2, 3, 4, 6, 7, 8- Heptachlorodibenzofluran (1, 2, 3, 4, 6, 7, 8-HpCDF)	67562-39-4	0.000035	0.0025
1, 2, 3, 4, 7, 8, 9- Heptachlorodibenzofluran (1, 2, 3, 4, 7, 8, 9-HpCDF)	55673-89-7	0.000035	0.0025

Class Activity 6: LDR Forms

See handout packet.

Answers are in Appendix A, pg. 43.



Module

4

Module 4: Emergencies



Modules Objective:

When you have completed this module, you will be able to

- *identify the spill and placarding requirements for hazardous waste as addressed in [40 CFR 263](#) and [49 CFR 172.504](#).*

Carrier Responsibility for Hazardous Waste Spills

Both the Department of Energy (DOE) and the EPA hold the carrier/ transporter responsible for response and notification in the event of a discharge of a hazardous waste during transportation (including loading and unloading).

EPA Requirements for Hazardous Waste Spills		DOT Notification Requirements for Certain Hazardous Material Incidents	
Immediate Actions*	40 CFR 263.30	General	49 CFR 171.15(a)
Discharge Cleanup**	40 CFR 263.31	Reportable Incident*	49 CFR 171.15(b)
		Written Report**	49 CFR 171.16

*Immediately but no later than 12 hours after the occurrence of any waste incident, each person in physical possession of the waste must provide notice by telephone to the National Response Center (NRC) at 800-424-8802 or 202-267-2675 or online at <http://www.nrc.uscg.mil>.

** Each person in physical possession of waste at the time that an incident occurs must also submit a written report using form [DOT F 5800.1 Rev. 01/2004](#), to the DOT per 49 CFR 171.16. The report must be written and distributed to DOT and EPA headquarters within 30 days of the date the incident occurred.

Note: [49 CFR 171.16](#) identifies detailed requirements for a hazardous materials incident report.

Placarding Requirements [[49 CFR 172.504](#)]

Vehicle placarding requirements for hazardous wastes are the same as placarding requirements for hazardous materials. If an incident occurs during transportation, the placard may be used to determine the hazardous materials or hazardous wastes involved in the incident. Therefore, it is important that placards are prominently displayed on the transportation vehicle. If the carrier does not have the appropriate placard for the shipment, it is the shipper's responsibility to provide the carrier with the appropriate placard. For non-bulk domestic transportation, a class 9 placard is not required [[49 CFR 172.504\(f\)\(9\)](#)].



DOT Placards



Class Activity 7: Emergencies

See handout packet.

Answers are in Appendix A, pg. 43.



Summary

Now that you have completed this course, you should be able to recognize:

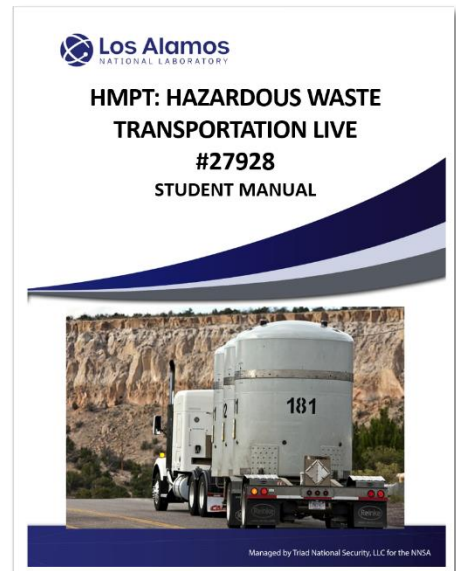
- *Department of Transportation (DOT) regulations in Title 49 Code of Federal Regulations (CFR);*
- *Hazardous Materials Regulations (HMR);*
- *How these regulations apply when working with the transportation of hazardous materials.*

Next Steps

Take the proctored test, HMPT: Transportation Test, #27929. Test will be proctored at either WRTC (Room 118) or ask instructor for other options. Once you complete the test with a score of 80% or better you will receive credit for the course.

The test is open book so you may refer to the Student Manual, the CFR and any links in manual as resources as you take the test.

For more information or concerns with this course, contact your instructor.



Lessons Learned from the 2014 WIPP Incidents

In February 2014, two serious incidents occurred at the Waste Isolation Pilot Plant (WIPP) in New Mexico, the United States' only deep geological repository for defense-related transuranic waste. These events—an underground fire and a separate radiological release—highlighted critical vulnerabilities in hazardous waste transportation and handling practices. Their consequences prompted a comprehensive reevaluation of safety protocols, infrastructure, and emergency preparedness across the nuclear waste sector.

The first incident took place on February 5, when a salt-hauling truck operating underground caught fire. The likely cause was hydraulic fluid or diesel coming into contact with a hot engine component, such as the catalytic converter. The resulting blaze generated thick smoke throughout parts of the underground facility. Fortunately, emergency alarms were promptly activated, and the site's communication systems worked effectively. All 86 personnel underground at the time were safely evacuated. However, thirteen workers required treatment for smoke inhalation, with six transported to a local hospital.

Just nine days later, on February 14, a second and more serious event occurred. A container of transuranic waste underwent a chemical reaction that caused it to rupture and release radioactive material into the underground repository. Although no personnel were underground at the time, 13 workers on the surface were exposed to low levels of radiation—amounts comparable to a routine chest X-ray. Environmental monitoring confirmed that there was no significant off-site contamination and no risk to public health or the environment.

Investigations into both incidents were swift and thorough. Two Accident Investigation Boards were convened, and an independent Technical Assessment Team was assembled to analyze the root causes. The fire was attributed to aging equipment and insufficient maintenance procedures. The radiological release, on the other hand, was traced back to a waste drum that had been improperly packed with incompatible materials—specifically, nitrate salts and organic absorbents, including organic cat litter. This combination led to a heat-producing chemical reaction inside the sealed container.

The incidents underscored the importance of rigorous safety standards and prompted a wide range of corrective actions. WIPP upgraded its underground ventilation and air filtration systems and sealed off areas that allowed contamination to spread. Decontamination of the underground space was conducted before personnel were allowed to reenter. Equipment maintenance programs were overhauled, and workers received additional training on chemical compatibility and emergency procedures. Most importantly, new protocols were introduced to ensure that only chemically compatible materials are used in waste packaging and that every drum is properly vetted before shipment.

After nearly three years of recovery and system upgrades, waste emplacement operations resumed in January 2017, followed by the restart of shipments in April. These events marked a significant transformation in the facility's safety culture and operations, emphasizing continuous training, proactive risk assessment, and a renewed commitment to protecting both workers and the environment.

The 2014 WIPP incidents serve as a powerful case study in hazardous waste management. They demonstrate how small oversights—such as neglected equipment maintenance or improper waste packaging—can lead to large-scale consequences. At the same time, they show how a robust response, grounded in transparency, scientific investigation, and systemic change, can restore public trust and enhance long-term safety in the field of radioactive waste transportation and disposal.

Appendix

A

Appendix A: Answers to Activities

Answers to Activity 1: Hazardous Substance Determination

See handout packet for activity.

Determine whether the following hazardous wastes are also hazardous substances by completing the table. You may use [Appendix A to 49 CFR 172.101, Table 1](#), to complete this activity.

Hazardous Waste Number	Net Weight Pounds (lb)	RQ Pounds	Is this a hazardous substance? (yes or no)
D011	75	1	YES
F001	8	10	NO
F004	50	100	NO
F003	1500	100	YES
D001	200	100	YES
F006	5	10	NO
F002	10	10	YES
F020	1120	1	YES
K044	5	10	NO
F005	200	100	YES
D002	99	100	NO

Answers to Activity 2: Acceptable Proper Shipping Name

See handout packet for activity.

Indicate whether the following proper shipping names are acceptable for hazardous waste package marking.

Proper Shipping Name (PSN)	Additional Marking on Package	Acceptable	
		Yes	No
Waste Acetone <i>Note: The EPA Hazardous Waste Sticker (Label) is NOT affixed to the package.</i>	D001, U002	✓	
Hazardous waste, solid, n.o.s.	D005	✓	
Hazardous waste, liquid n.o.s.	F001	✓	
RQ Waste flammable liquids, n.o.s. <i>Note: "RQ" is not a part of the PSN. It is a DOT marking, which indicates the package contains a hazardous substance.</i>	D001	✓	
Acetone <i>Note: The EPA Hazardous Waste Sticker (Label) IS affixed to the package.</i>	F003	✓	
Corrosive <i>Note: The EPA Hazardous Waste Sticker (Label) IS affixed to the package.</i>	D002		✓ 1
Solid, hazardous waste, n.o.s.	D007		✓ 1
Toxic liquid, inorganic, n.o.s	Applicable D004–D043		✓ 2
K044	—		✓1
Waste Methanol <i>Note: The EPA Hazardous Waste Sticker (Label) is NOT affixed to the package.</i>	F003	✓	

1. Not an acceptable PSN that is found in 49 CFR 172.101, the Hazardous Materials Table.
2. Waste Sticker or word waste is not included in proper shipping name. Also, the EPA Toxicity Waste Numbers can be used for hazardous waste mixtures ONLY to identify the hazardous substance when it is not possible to use a PSN to identify the hazardous substance.

Note: The answers for Activity 3 are provided by instructor and generated by hands on activity from class.

Answers to Activity 4: UHWM

See handout packet for activity.

Look at the handout titled “Uniform Hazardous Waste Manifest.” First, fill in the blanks in both sentences. Then, answer the four questions with the information you have learned. According to 40 CFR 262.20(a), a **generator** who transports, or offers for transportation, hazardous waste for off-site treatment, storage, or disposal must prepare a manifest.

1. According to 49 CFR 172.205(b), the **shipper** is equivalent to the generator.
2. Who is the generator in this manifest? **TRIAD, LLC on behalf of US DOE.**
3. Who is the transporter in this manifest? **Veolia ES Technical Solutions, LLC (NJ).**
4. Where is this manifest being shipped? **Veolia ES Technical Solutions, LLC (CO) Henderson, CO.**
5. Where are RCRA codes entered, **in section 13 (waste codes).**

Answers to Activity 5: UHWM Abbreviations

See handout packet for activity.

<u>5</u> CY	1. burlap, cloth, paper, or plastic bags	<u>5</u> L	1. metal drums, barrels, kegs	<u>1</u> N	1. cubic meters
<u>4</u> CW	2. fiber or plastic boxes, cartons, cases	<u>1</u> DM	2. dump truck	<u>4</u> TC	2. pounds
<u>6</u> DF	3. metal boxes, cartons, cases (including roll-offs)	<u>2</u> DT	3. gallons (liquid only)	<u>5</u> TP	3. tons (2000 lb.)
<u>3</u> CM	4. wooden boxes, cartons, cases	<u>6</u> M	4. kilograms	<u>2</u> P	4. tank cars
<u>1</u> BA	5. cylinders	<u>4</u> K	5. liters (liquid only)	<u>3</u> T	5. tanks portable
<u>2</u> CF	6. fiberboard or plastic drums, barrels, kegs	<u>3</u> G	6. metric tons (1000 kg)	<u>7</u> Y	6. cargo tanks (tank trucks)
				<u>6</u> TT	7. cubic yards

Answers to Activity 6: LDR Forms

See handout packet for activity.

From the LDR example on page 8 of the handout packet (and on pg. 32 of this Student Manual), answer the questions below.

- 1) What is the RCRA code being treated in P1 L1? **D001**
- 2) Does the LDR list more RCRA codes than UHWM?
Yes, The LDR will list all RCRA codes associated with that waste container, where the UHWM only lists up to 6.

(See the manifest from page 32 that is associated with the LDR from pg. 35.)

- 3) When is an LDR required to attend the shipment?
An LDR is required for each waste stream and must always accompany the UHWM for lab packs.

Answers to Activity 7: Emergencies

See handout packet for activity.

Immediate Action [40 CFR 263.30]

In the event of a discharge of hazardous waste during transportation, the **transporter** must take appropriate immediate action to protect human health and the environment.

If a discharge of hazardous waste occurs during transportation and immediate removal of the waste is necessary to protect human health or the environment, then officials may authorize the removal of the waste by transporters who do not have EPA **identification** numbers and without preparation of a **manifest**.

An air, rail, highway, or water transporter who has discharged hazardous waste must

- give notice, if required by 49 CFR 171.15, to the National Response Center (NRC); and
- report in writing, as required by 49 CFR 171.16, to the DOT.

Discharge Cleanup [40 CFR 263.31]

A **transporter** must clean up any hazardous waste discharge that occurs during transportation or take such action as may be required or approved by federal, state, or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment.

Appendix

B

Appendix B: Self-Assessment Answers

Answers to Self-Assessment

1. Because it provides spaces for both EPA marking and DOT marking requirements.
2. -DOT identification number;
-proper shipping name;
-shipper name and address (generator's according to 40 CFR 262.32);
-hazardous waste marking, including manifest document number; EPA hazardous waste code
-DOT manufacturer's identification code for packaging;
-DOT label
3. -hazardous waste marking (EPA waste sticker);
-generator's name and address (optional answer);
-manifest document number; EPA waste code number
4. EPA UHWM
5. yes
6. All Hazardous substances for PSN; hazardous waste liquid, n.o.s. and hazardous waste solid n.o.s.
7. No
8. Whenever the DOT regulated material also meets the definition of an EPA hazardous waste, and the word waste is not already part of the DOT proper shipping name
9. Whenever the package already bears the EPA hazardous waste marking requirement according to 40 CFR 262.32
10. Whenever the shipment involves RCRA hazardous waste; any hazardous waste generator, transporter, or TSDF
11. A. No B. No C. No
12. -EPA identification numbers are issued to an individual or other identity according to an EPA form submitted by the individual or identity requesting the number. Any person whose activities involve the generation, transportation, storage, treatment, or disposal of RCRA hazardous waste is required to have the EPA-issued EPA identification number. As described in 40 CFR 261 for a Large Quantity Generator.

-DOT identification numbers assist emergency response personnel in identifying the appropriate response actions for a given hazardous material accident situation. These numbers are part of the DOT hazardous material description.
13. UN 1A2, UN 1B2, UN 1D, UN 1G, UN 1H2, UN 1N2 rated at PG III unless it is 4.2 PGI
14. 3, 4.1, 4.2 PG I (see note) 4.2 PG II and III, 5.1, 6.1 PG II and III, 8, 9
15. -PIH material;
-6.1, PG I materials;
-A temperature-controlled material unless it complies with 173.21(f)(1)
-Chloric acid;
-Oleum (fuming sulfuric acid);
16. -Prepared for shipment according to all other DOT requirements;
-Transported by highway only;
-Inspected more than 24 hours after closing for transport and free from leaks;
-Used only once unless the package is retested according to 49 CFR 173.28
17. No, if reused only once
18. At least 24 hours
19. Carriers/transporters
20. -A telephone call to the DOT National Response Center within 12 hours
-A DOT written report according to 49 CFR 171.16 (to be received by the DOT within 30 days).

Appendix

C

Appendix C: Uniform Hazardous Waste Manifest (UHWM)

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone		4. Manifest Tracking Number 019266572 FLE					
		5. Generator's Name and Mailing Address					Generator's Site Address (if different than mailing address)				
Generator's Phone:		6. Transporter 1 Company Name							U.S. EPA ID Number		
Generator's Phone:		7. Transporter 2 Company Name							U.S. EPA ID Number		
Generator's Phone:		8. Designated Facility Name and Site Address							U.S. EPA ID Number		
Generator's Phone:		Facility's Phone:									
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
			No.	Type							
	1.										
	2.										
	3.										
4.											
14. Special Handling Instructions and Additional Information											
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.											
Generator's/Offeror's Printed/Typed Name							Signature		Month	Day	Year
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____											
17. Transporter Acknowledgment of Receipt of Materials											
Transporter 1 Printed/Typed Name							Signature		Month	Day	Year
Transporter 2 Printed/Typed Name							Signature		Month	Day	Year
18. Discrepancy											
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection											
Manifest Reference Number:											
18b. Alternate Facility (or Generator)							U.S. EPA ID Number				
Facility's Phone:											
18c. Signature of Alternate Facility (or Generator)									Month	Day	Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)											
1.			2.			3.		4.			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a											
Printed/Typed Name							Signature		Month	Day	Year

U.S. EPA Form 8700-22

Read all instructions before completing this form.

1. Federal regulations require generators and transporters of hazardous waste and owners or operators of receiving facilities designated on the manifest to complete this form (EPA Form 8700-22) and, if necessary, the continuation sheet (EPA Form 8700-22A) for both inter- and intrastate transportation of hazardous waste.
2. This manifest reflects formatting changes made by U.S. EPA in December 2017. Beginning on June 30, 2018, this manifest (Revision 12-17) must be used and all previous editions are prohibited. Go to www.epa.gov/e-manifest for additional information.
3. This form must be purchased from a registered printer (<https://www.epa.gov/hwgenerators/approved-registered-printers-epas-manifest-registry#how>) and has been designed to be filled out using standard computer printers; a firm point pen may also be used—press down hard. After June 30, 2018, this form can also be completed electronically in EPA's e-Manifest system.

The public burden related to the Uniform Hazardous Waste Manifest, which is approved under OMB 2050-0039, is estimated to average (per manifest) 60 minutes for generators, 20 minutes for transporters, and 30 minutes for owners and operators of receiving facilities designated on the manifest. This is a mandatory collection under 40 CFR Part 262, Subpart B, 40 CFR Part 263, Subpart B, and 40 CFR Parts 264 and 265, Subpart E. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The completed form should be submitted in accordance with the instructions accompanying the form, or as specified in the corresponding regulation. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of e-Manifest, to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Please include the OMB control number in any correspondence. Do NOT send the completed manifest forms to this address. Privacy Act Statement - None of the information collected under the Manifest Program is considered Personally Identifiable Information (PII) or Confidential Business Information (CBI).

I. Instructions for Generators

Item 1. Generator's U.S. EPA Identification Number

Enter the generator's U.S. EPA twelve-digit identification number, or the state generator identification number if the generator site does not have an EPA identification number.

Item 2. Page 1 of _____

Enter the total number of pages used to complete this manifest (i.e., the first page (EPA Form 8700-22) plus the number of continuation sheets (EPA Form 8700-22A), if any).

Item 3. Emergency Response Phone Number

Enter a phone number for which emergency response information can be obtained in the event of an incident during transportation. The emergency response phone number must:

1. Be the number of the generator or the number of an agency or organization who is capable of and accepts responsibility for providing detailed information about the shipment;
2. Reach a phone that is monitored 24 hours a day at all times the waste is in transportation (including transportation related storage); and
3. Reach someone who is either knowledgeable of the hazardous waste being shipped and has comprehensive emergency response and spill cleanup/incident mitigation information for the material being shipped or has immediate access to a person who has that knowledge and information about the shipment.

Note: Emergency Response phone number information should only be entered in Item 3 when there is one phone number that applies to all the waste materials described in Item 9b. If a situation (e.g., consolidated shipments) arises where more than one Emergency Response phone number applies to the various wastes listed on the manifest, the phone numbers associated with each specific material should be entered after its description in Item 9b.

Item 4. Manifest Tracking Number

This unique tracking number must be pre-printed on the manifest by the forms printer.

Item 5. Generator's Mailing Address, Phone Number and Site Address

Enter the name of the generator, the mailing address to which the completed manifest signed by the designated facility should be mailed, and the generator's telephone number. Note, the telephone number (including area code) should be the normal business number for the generator, or the number where the generator or his authorized agent may be reached to provide instructions in the event the designated and/or alternate (if any) facility rejects some or all of the shipment. Also enter the physical site address from which the shipment originates only if this address is different than the mailing address.

Item 6. Transporter 1 Company Name, and U.S. EPA ID Number

Enter the company name and U.S. EPA ID number of the first transporter who will transport the waste. Vehicle or driver information may not be entered here.

Item 7. Transporter 2 Company Name and U.S. EPA ID Number

If applicable, enter the company name and U.S. EPA ID number of the second transporter who will transport the waste. Vehicle or driver information may not be entered here.

If more than two transporters are needed, use a continuation sheet(s) (EPA Form 8700-22A).

Item 8. Designated Facility Name, Site Address, and U.S. EPA ID Number

Enter the company name and site address of the facility designated to receive the waste listed on this manifest. Also enter the facility's phone number and the U.S. EPA twelve-digit identification number of the facility.

Item 9. U.S. DOT Description (Including Proper Shipping Name, Hazard Class or Division, Identification Number, and Packing Group)

Item 9a. If the wastes identified in Item 9b consist of both hazardous and nonhazardous materials, then identify the hazardous materials by entering an "X" in this Item next to the corresponding hazardous material identified in Item 9b.

Item 9b. Enter the U.S. DOT Proper Shipping Name, Hazard Class or Division, Identification Number (UN/NA) and Packing Group for each waste as identified in 49 CFR part 172. Include technical name(s) and reportable quantity references, if applicable.

Note: If additional space is needed for waste descriptions, enter these additional descriptions in Item 27 on the continuation sheet (EPA Form 8700-22A). Also, if more than one Emergency Response phone number applies to the various wastes described in either Item 9b or Item 27, enter applicable Emergency Response phone numbers immediately following the shipping descriptions for those items.

Item 10. Containers (Number and Type)

Enter the number of containers for each waste and the appropriate abbreviation from Table I (below) for the type of container.

TABLE I--TYPES OF CONTAINERS

BA = Burlap, cloth, paper, or plastic bags.	DT = Dump truck.
CF = Fiber or plastic boxes, cartons, cases.	DW = Wooden drums, barrels, kegs.
CM = Metal boxes, cartons, cases (including roll-offs).	HG = Hopper or gondola cars.
CW = Wooden boxes, cartons, cases.	TC = Tank cars.
CY = Cylinders.	TP = Portable tanks.
DF = Fiberboard or plastic drums, barrels, kegs.	TT = Cargo tanks (tank trucks).
DM = Metal drums, barrels, kegs.	

Item 11. Total Quantity

Enter, in designated boxes, the total quantity of waste. Round partial units to the nearest whole unit, and do not enter decimals or fractions. To the extent practical, report quantities using appropriate units of measure that will allow you to report quantities with precision.

Waste quantities entered should be based on actual measurements or reasonably accurate estimates of actual quantities shipped. Container capacities are not acceptable as estimates.

Item 12. Units of Measure (Weight/Volume)

Enter, in designated boxes, the appropriate abbreviation from Table II (below) for the unit of measure.

TABLE II--UNITS OF MEASURE

G = Gallons (liquids only).	N = Cubic Meters.
K = Kilograms.	P = Pounds.
L = Liters (liquids only).	T = Tons (2000 Pounds).
M = Metric Tons (1000 kilograms).	Y = Cubic Yards.

Note: Tons, Metric Tons, Cubic Meters, and Cubic Yards should only be reported for very large bulk shipments, such as rail cars, tank trucks, or barges.

Item 13. Waste Codes

Enter up to six federal and state waste codes to describe each waste stream identified in Item 9b. State waste codes that are not redundant with federal codes must be entered here, in addition to the federal waste codes which are most representative of the properties of the waste.

Item 14. Special Handling Instructions and Additional Information

1. Generators may enter any special handling or shipment-specific information necessary for the proper management or tracking of the materials under the generator's or other handler's business processes, such as waste profile numbers, container codes, bar codes, or response guide numbers. Generators also may use this space to enter additional descriptive information about their shipped materials, such as chemical names, constituent percentages, physical state, or specific gravity of wastes identified with volume units in Item 12.
2. This space may be used to record limited types of federally required information for which there is no specific space provided on the manifest, including any alternate facility designations; the manifest tracking number of the original manifest for rejected wastes and residues that are re-shipped under a second manifest; and the specification of polychlorinated biphenyl (PCB) waste descriptions and PCB out-of-service dates required under 40 CFR 761.207. Generators, however, cannot be required to enter information in this space to meet state regulatory requirements.

Item 15. Generator's/Officer's Certifications

1. The generator must read, sign, and date the waste minimization certification statement. In signing the waste minimization certification statement, those generators who have not been exempted by statute or regulation from the duty to make a waste minimization certification under section 3002(b) of RCRA are also certifying that they have complied with the waste minimization requirements. The Generator's Certification also contains the required attestation that the shipment has been properly prepared and is in proper condition for transportation (the shipper's certification). The content of the shipper's certification statement is as follows: "I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent." When a party other than the generator prepares the shipment for transportation, this party may also sign the shipper's certification statement as the officer of the shipment.
2. Generator or Offerrer personnel may preprint the words, "On behalf of" in the signature block or may hand write this statement in the signature block prior to signing the generator/offerrer certification, to indicate that the individual signs as the employee or agent of the named principal.

Note: All of the above information except the handwritten signature required in Item 15 may be pre-printed. (Handwritten signatures are not applicable if the generator is preparing and signing an electronic manifest using EPA's e-Manifest system.)

Form No. 3580-0028

UNIFORM HAZARDOUS WASTE MANIFEST

II. Instructions for International Shipment Block

Item 16. International Shipments

For export shipments, the primary exporter must check the export box, and enter the point of exit (city and state) from the United States. For import shipments, the importer must check the import box and enter the point of entry (city and state) into the United States. For exports, the transporter must sign and date the manifest to indicate the day the shipment left the United States.

III. Instructions for Transporters

Item 17. Transporters' Acknowledgments of Receipt

Enter the name of the person accepting the waste on behalf of the first transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt. Only one signature per transportation company is required. Signatures are not required to track the movement of wastes in and out of transfer facilities, unless there is a change of custody between transporters.

If applicable, enter the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Note: Transporters carrying imports, who are acting as importers, may have responsibilities to enter information in the International Shipments Block. Transporters carrying exports may also have responsibilities to enter information in the International Shipments Block. See above instructions for Item 16.

This manifest reflects formatting changes made by U.S. EPA in December 2017. Beginning on June 30, 2018, this manifest (Revision 12-17) must be used and all previous editions are prohibited. Go to www.epa.gov/e-manifest for additional information.

IV. Instructions for Owners and Operators of Receiving Facilities Designated on the Manifest

Item 18. Discrepancy

Item 18a. Discrepancy Indication Space

1. The authorized representative of the designated (or alternate) facility's owner or operator must note in this space any discrepancies between the waste described on the manifest and the waste actually received at the facility. Manifest discrepancies are significant differences (as defined by §§ 264.72(b) and 265.72(b)) between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity and type of hazardous waste a facility actually receives, rejected wastes, which may be a full or partial shipment of hazardous waste that the facility cannot accept, or container residues, which are residues that exceed the quantity limits for "empty" containers set forth in 40 CFR 261.7(b).
2. For rejected loads and residues (40 CFR 264.72(d), (e), and (f), or 40 CFR 265.72(d), (e), or (f)), check the appropriate box if the shipment is a rejected load (i.e., rejected by the designated and/or alternate facility and is sent to an alternate facility or returned to the generator) or a regulated residue that cannot be removed from a container. Enter the reason for the rejection or the inability to remove the residue and a description of the waste. Also, reference the manifest tracking number for any additional manifests being used to track the rejected waste or residue shipment on the original manifest. Indicate the original manifest tracking number in Item 14, the Special Handling Block and Additional Information Block of the additional manifests.
3. Owners or operators of facilities located in unauthorized states (i.e., states in which the U.S. EPA administers the hazardous waste management program) who cannot resolve significant differences in quantity or type within 15 days of receiving the waste must submit to their Regional Administrator a letter with a copy of the manifest at issue describing the discrepancy and attempts to reconcile it (40 CFR 264.72(c) and 265.72(c)).
4. Owners or operators of facilities located in authorized states (i.e., those states that have received authorization from the U.S. EPA to administer the hazardous waste management program) should contact their state agency for information on where to report discrepancies involving "significant differences" to state officials.

Item 18b. Alternate Facility (or Generator) for Receipt of Full Load Rejections

Enter the name, address, phone number, and EPA Identification Number of the Alternate Facility which the rejecting facility has designated, after consulting with the generator, to receive a fully rejected waste shipment. In the event that a fully rejected shipment is being returned to the generator, the rejecting facility may enter the generator's site information in this space. This field is not to be used to forward partially rejected loads or residue waste shipments.

Item 18c. Alternate Facility (or Generator) Signature

The authorized representative of the alternate facility (or the generator in the event of a returned shipment) must sign and date this field of the form to acknowledge receipt of the fully rejected wastes or residues identified by the initial facility.

Item 19. Hazardous Waste Report Management Method Codes

Enter the most appropriate Hazardous Waste Report Management Method code for each waste listed in Item 9. The Hazardous Waste Report Management Method code is to be entered by the first facility that receives the waste and is the code that best describes the way in which the waste is to be managed when received by the facility.

Item 20. Designated Facility Owner or Operator Certification of Receipt (Except As Noted in Item 18a)

Enter the name of the person receiving the waste on behalf of the owner or operator of the facility. That person must acknowledge receipt or rejection of the waste described on the manifest by signing and entering the date of receipt or rejection where indicated. Since the Facility Certification acknowledges receipt of the waste except as noted in the Discrepancy Space in Item 18a, the certification should be signed for both waste receipt and waste rejection, with the rejection being noted and described in the space provided in Item 18a. Fully rejected wastes may be forwarded or returned using Item 18b after consultation with the generator. Enter the name of the person accepting the waste on behalf of the owner or operator of the alternate facility or the original generator. That person must acknowledge receipt or rejection of the waste described on the manifest by signing and entering the date they received or rejected the waste in Item 18c. Partially rejected wastes and residues must be re-shipped under a new manifest, to be initiated and signed by the rejecting facility as offeror of the shipment.

Note: The e-Manifest Act mandates several changes to the federal manifest program. Beginning on June 30, 2018:

- This manifest (Revision 12-17) must be used and all previous editions are prohibited.
- Any facility (e.g., a RCRA-permitted facility, Subtitle D facility) that receives a manifest accompanying a state-only regulated waste must comply with 40 CFR 264.71 or 265.71 (use of the manifest) and 40 CFR 264.72 or 265.72 (manifest discrepancies).
- Any facility that receives a paper manifest accompanying a federally regulated waste or state-only regulated waste must submit the top copy (Page 1) of the manifest and any continuation sheets to the U.S. EPA's e-Manifest system within 30 days. The copies must be submitted in an acceptable format. Submissions must be made at the mailing address or electronic mail/submission address specified at the e-Manifest program website's directory of services (see www.epa.gov/e-manifest).
- The facility will be assessed a fee for each manifest copy submitted.
- Go to www.epa.gov/e-manifest for the directory of services and additional information.

Instructions—Continuation Sheet
U.S. EPA Form 8700-22A

Read all instructions before completing this form. 

Federal regulations require generators and transporters of hazardous waste and owners or operators of receiving facilities designated on the manifest to use the uniform hazardous waste manifest (EPA Form 8700-22) and, if necessary, this continuation sheet (EPA Form 8700-22A) for both interstate and intrastate transportation. This form must be used as a continuation sheet to U.S. EPA Form 8700-22 if:

- More than two transporters are to be used to transport the waste; or
- More space is required for the U.S. DOT descriptions and related information in Item 9 of U.S. EPA Form 8700-22.

This continuation sheet reflects formatting changes made by U.S. EPA in December 2017. Beginning on June 30, 2018, this continuation sheet (Revision 12-17) must be used and all previous editions are prohibited. Go to www.epa.gov/e-manifest for additional information.

This form must be purchased from a registered printer (<https://www.epa.gov/hwgenerators/approved-registered-printers-epas-manifest-registry#how>) and has been designed to be filled out using standard computer printers; a firm point pen may also be used—press down hard. After June 30, 2018, this form can also be completed electronically in EPA's e-Manifest system.

I. Instructions for Generators**Item 21. Generator's ID Number**

Enter the generator's U.S. EPA twelve-digit identification number or, the state generator identification number if the generator site does not have an EPA identification number.

Item 22. Page ____

Enter the page number of this continuation sheet.

Item 23. Manifest Tracking Number

Enter the manifest tracking number from Item 4 of the manifest form to which this continuation sheet is attached.

Item 24. Generator's Name—

Enter the generator's name as it appears in Item 5 on the first page of the manifest.

Item 25. Transporter—Company Name

If additional transporters are used to transport the waste described on this manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word "Transporter" the order of the transporter. For example, Transporter 3 Company Name. Also enter the U.S. EPA twelve-digit identification number of the transporter described in Item 25.

Item 26. Transporter—Company Name

If additional transporters are used to transport the waste described on this manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word "Transporter" the order of the transporter. For example, Transporter 4 Company Name. Each continuation sheet can record the names of two additional transporters. Also, enter the U.S. EPA twelve-digit identification number of the transporter named in Item 26.

Item 27. U.S. D.O.T. Description Including Proper Shipping Name, Hazardous Class, and ID Number (UNNA)

For each row enter a sequential number under Item 27b that corresponds to the order of waste codes from one continuation sheet to the next, to reflect the total number of wastes being shipped. Refer to instructions for Item 9 of the manifest for the information to be entered.

Item 28. Containers (No. And Type)

Refer to the instructions for Item 10 of the manifest for information to be entered.

Item 29. Total Quantity

Refer to the instructions for Item 11 of the manifest form.

Item 30. Units of Measure (Weight/Volume)

Refer to the instructions for Item 12 of the manifest form.

Item 31. Waste Codes

Refer to the instructions for Item 13 of the manifest form.

Item 32. Special Handling Instructions and Additional Information

Refer to the instructions for Item 14 of the manifest form.

Form 3510-108 (Rev. 12-17)

UNIFORM HAZARDOUS WASTE MANIFEST
(Continuation Sheet)

II. Instructions for Transporters

Item 33. Transporter—Acknowledgment of Receipt of Materials

Enter the same number of the Transporter as identified in Item 25. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in Item 25. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Item 34. Transporter—Acknowledgment of Receipt of Materials

Enter the same number of the Transporter as identified in Item 26. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in Item 26. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

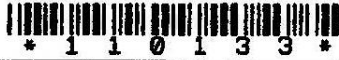
Note: This continuation sheet reflects formatting changes made by U.S. EPA in December 2017. Beginning on June 30, 2018, this manifest (Revision 12-17) must be used and all previous editions are prohibited. Go to www.epa.gov/e-manifest for additional information.

Appendix

D

Appendix D: Filled-Out Uniform Hazardous Waste Manifest

#0340385
194221



Form Approved. OMB No. 2050-0039

Please print or type.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NM0890010515	2. Page 1 of 7	3. Emergency Response Phone 505-667-2400	4. Manifest Tracking Number 013906044 FLE			
5. Generator's Name and Mailing Address ATTN: LORI SHELTON TRIAD on behalf of US Department of Energy P.O. Box 1663, MS M874 Los Alamos, NM 87545 Generator's Phone: 5056658680				Generator's Site Address (if different than mailing address) TRIAD on behalf of US Department of Energy Technical Area 60 Los Alamos, NM 87545				
6. Transporter 1 Company Name Veolia ES Technical Solutions, LLC (NJ)				U.S. EPA ID Number NJD080631369				
7. Transporter 2 Company Name Iristate Motor Transit CO				U.S. EPA ID Number MO0095038998				
8. Designated Facility Name and Site Address Veolia ES Technical Solutions, LLC (CO) 9131 East 96th Avenue Henderson, CO 80640 Facility's Phone: 3032894827				U.S. EPA ID Number CO0980591184				
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
		No.	Type					
x 1	UN1978, WASTE PROPANE, 2.1	1	CY	1	K	D001		
x 2	UN1992, WASTE FLAMMABLE LIQUIDS, TOXIC, N.O.S., 3 (6.1), II, (LABPACK)	1	DF	19	K	D001	D011	D022
						D035	F002	F003
x 3	UN1992, WASTE FLAMMABLE LIQUIDS, TOXIC, N.O.S., 3 (6.1), II, (LABPACK)	1	DF	22	K	D001	D018	D021
						D022	D027	D028
x 4	UN1992, WASTE FLAMMABLE LIQUIDS, TOXIC, N.O.S., 3 (6.1), II, (LABPACK)	1	DF	20	K	D001	D003	D004
						D005	D006	D007
14. Special Handling Instructions and Additional Information 1 46987, W860501, 115-24563 *718396 2 44807, W860511, 131-433469 3 46739, W860507, 131- 4 47337, W860509, 131- HWR# 112056-020921 - * Wendy Wimer / Allison S/MA 002 2-24-21								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Officer's Printed/Typed Name LORI SHELTON				Signature <i>Lori Shelton</i>		Month Day Year 12 11 21		
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____								
17. Transporter Acknowledgment of Receipt of Materials								
Transporter 1 Printed/Typed Name Douglas R. Watson				Signature <i>Douglas R. Watson</i>		Month Day Year 02 11 21		
Transporter 2 Printed/Typed Name Vitaliy Tsarevskiy				Signature <i>Vitaliy Tsarevskiy</i>		Month Day Year 02 15 21		
18. Discrepancy								
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection								
Manifest Reference Number: _____								
18b. Alternate Facility (or Generator)						U.S. EPA ID Number		
Facility's Phone: _____								
18c. Signature of Alternate Facility (or Generator)						Month Day Year		

References and Links

[Title 40 CFR Parts 260 – 282](#)

[Title 49 CFR Parts 171 - 180](#)

[Uniform Hazardous Waste Manifest: Instructions, Sample Form, Continuation Sheet](#)

[NMAC Part 9.1 \[20 NMAC 9.1](#)