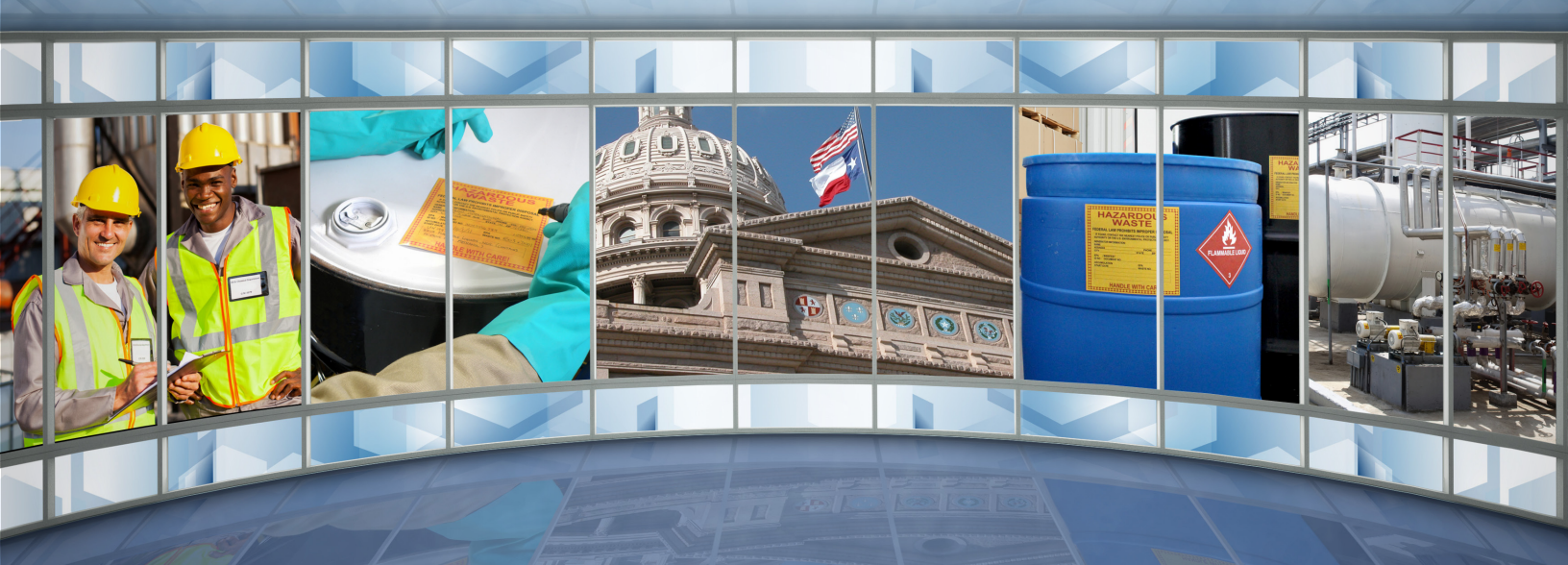


Shipping Hazardous Waste

Compliance Notebook



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Shipping Hazardous Waste

Ross E. Kellogg, CHMM



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Hazardous Waste Shipping Challenges

In shipping hazardous wastes, the generator will need to deal with:

- Multiple jurisdictions (i.e., EPA, DOT)
- Personnel
- Materials
- Administration (a.k.a. paperwork)




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Three Stages of the Shipping Process

1. Pre-shipment
 - TSDF Selection
 - Training
2. Shipment
 - Preparing package and paperwork
 - Loading, moving, unloading
3. Post-shipment
 - Tracking
 - Discrepancies
 - Recordkeeping



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The “Shipment” Stage

1. Classifying
2. Naming
3. Packaging
4. Marking and Labeling
5. Documenting
6. Placarding
7. Transporting




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Classifying

- Must identify the *type* and *degree* of hazard of the waste you are going to ship.
- Watch out for these pitfalls:
 - Over-classifying
 - Under-classifying




[49 CFR 171.2 and 173]

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Hazardous Material vs. Hazardous Waste

<u>DOT Hazardous Material</u>	<u>DOT Hazardous Waste</u>
“... a substance or material... includes hazardous substances, hazardous wastes,... and materials that meet the defining criteria for hazard classes and divisions in part 173 of this subchapter.”	“... any material that is subject to the hazardous waste manifest requirements of the U.S. EPA specified in 40 CFR Part 262.”

[49 CFR 171.8]

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Class and Division	Name and Description of Class or Division	49 CFR Reference	Class and Division	Name and Description of Class or Division	49 CFR Reference
1.1	Explosives (with a mass explosion hazard)	173.50	4.1	Flammable Solid	173.124
1.2	Explosives (with a projection hazard)	173.50	4.2	Spontaneously combustible material	173.124
1.3	Explosives (with predominately a fire hazard)	173.50	4.3	Dangerous when wet	173.124
1.4	Explosives (with no significant blast hazard)	173.50	5.1	Oxidizer	173.127
1.5	Very insensitive explosives; blasting agents	173.50	5.2	Organic Peroxides	173.128
1.6	Extremely insensitive detonating substances	173.50	6.1	Poisonous Materials	173.132
2.1	Flammable gas	173.115	6.2	Infectious Substances	173.134
2.2	Non-flammable compressed gas	173.115	7	Radioactive Material	173.403
2.3	Poisonous gas	173.115	8	Corrosive Material	173.136
3	Flammable or combustible liquid	173.120	9	Miscellaneous hazardous material	173.140
			ORM-D	Other regulated materials	173.144

[49 CFR 173]


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- If the waste meets one or more Class 1–8 criteria, assign all applicable defined hazards
 - If not, assign Class 9 only if it:
 - Is a DOT “hazardous waste,” or
 - Has an RQ in a single package
- 



[49 CFR 173.2]

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- Spent acetone, FP = 11°F
- Meets EPA definition of hazardous waste (F003, D001)
- Meets at least one DOT hazard criteria (Class 3)



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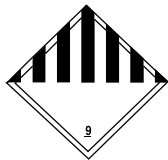
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Classifying Example 2

- Sand blast grit with lead
- Meets EPA definition of hazardous waste (D008)
- Does not meet any DOT Class 1–8 criteria, so assigned Class 9



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Classifying Example 3

- Sodium hydroxide, solid
- Meets state definition of hazardous waste
- Meets at least one DOT hazard criteria (Class 8)



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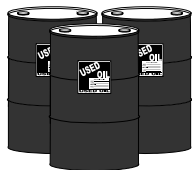
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Classifying Example 4

- Used oil, FP > 200°F
- Meets state definition of hazardous waste
- Does not meet any DOT Class 1–8 criteria



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Naming – “Three Be’s”

The Proper Shipping Name must:

1. Be selected from Roman-type names in the Hazardous Materials Table at 49 CFR 172.101
2. Be accurate
3. Be specific

[49 CFR 172.101]

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Naming Hazardous Wastes

- Must add the word “waste” *before* the Proper Shipping Name (e.g., “Waste flammable liquids, n.o.s.”)
- Only modify the name if it is a DOT hazardous waste
- Watch for:
 - State-only hazardous waste
 - Universal waste



[49 CFR 172.101(c)(9)]

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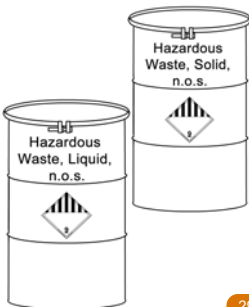
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Naming Hazardous Wastes

- Two Proper Shipping Names are not modified
 - Hazardous waste, solid n.o.s.
 - Hazardous waste, liquid n.o.s.
- These names can only be used for Class 9 hazardous wastes




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Packaging

- The process of selecting packaging is the same for products and hazardous wastes
- Avoid the packaging pitfalls:
 - Use of unauthorized packaging
 - Improper closure



[49 CFR 172.101, 173, and 178–180]


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Authorized Packaging


- Column 8 of the 49 CFR 172.101 Table “lists” authorized packaging
- Not all UN packages are the same

(8) Packaging (§173.***)				F a
Excep- tions (8A)	Non-bulk (8B)	Bulk (8C)		
150	202	242		5
None	201	243		Ft
155	204	240		2
150	203	242		



[49 CFR 172.101 and 173]


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Reuse of Packaging for Hazardous Waste Shipments

Five special rules:


- Must be authorized for the material
- May only be moved by highway
- Must pass special “leak test”
- Must be handled by shipper/consignee
- May only use relief one time per package



[49 CFR 173.28(b)(6) and 173.12(c)]


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Empties

- “Empty” means something different for the EPA than the DOT
- EPA-empty packages:
 - May still be regulated by the DOT, but
 - Will not be subject to additional requirements for “hazardous waste”




[49 CFR 173.29 and 40 CFR 261.7]

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Packaging Closure

- Packaging manufacturers must provide written instructions regarding package:
 - Completion
 - Closure
- Shippers (generators) must provide necessary tools and training to employees



[49 CFR 178.2 and 173.22]

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Marking and Labeling

- Markings and labels are generally affixed to each package
- Markings are non-standardized communication regarding the material and its handling
- Labels are standardized communication for a material's hazard(s)






[49 CFR 172, Subparts D and E]

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Marking Requirements—Non-bulk Packaging






- Proper Shipping Name
- Identification number
- Shipper's/Consignee's name and address



- Generator's name/address
- EPA ID number
- Manifest tracking number
- Hazardous waste statement


[49 CFR 172.301 and 40 CFR 262.32]

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Documenting

- Most hazardous waste shipments require the use of a Uniform Hazardous Waste Manifest:
 - Handling communications (DOT)
 - Tracking (EPA)
- Pitfalls:
 - Incorrect/incomplete information
 - Missing supplemental documents
 - State issues



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Basic Description

I = Identification Number (UN #)
 S = Shipping Name
 H = Hazard Class
 P = Packing Group

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group)
x	UN 1090; Waste Acetone; 3; PG II
x	UN 1823; Sodium hydroxide, solid; 8; PGII
	Cotton balls

[49 CFR 172.202]

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Waste Codes

- Enter up to six Federal and State waste codes in Box 13
- May only include non-redundant State waste codes

13. Waste Codes		
F003	F005	D001
D035		

[40 CFR 262, Appendix]

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The Hazardous Waste Manifest

- The manifest may be used as shipping paper (not necessary to create an additional paper)
- To complete a manifest, must follow both US EPA and DOT instructions
- The signature on the manifest must be handwritten

[40 CFR 262.20]

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Manifest Certification Statements

DOT Certification

Offeror certifies that packages being shipped are properly:

- Packaged,
- Named,
- Classified,
- Marked,
- Labeled,
- Placarded,

And in all respects in proper condition for shipment

EPA Certification

Waste minimization statement attesting that the site is minimizing waste

- Different statement for LQGs and SQGs


[49 CFR 172.204 and 40 CFR 262.27]

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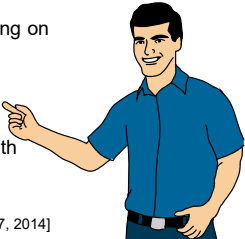
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The e-Manifest

- Rule now allows for the “voluntary” use of an e-Manifest
- The EPA is currently working on developing the:
 - Fee structure
 - System and database
- Will still need to comply with DOT requirements




[40 CFR 262.20(a)(3); 79 FR 7517, February 7, 2014]

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Placarding

Whose job is it?

- Shipper must provide based on what's offered
- Carrier must affix based on what's on board



[49 CFR 172, Subpart F]

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Transporting

- Includes “loading” and “unloading”
- Generator's personnel *may* need to be familiar with:
 - Safety rules
 - Separation and segregation rules



[49 CFR 173.30 and 177]

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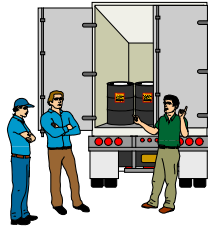
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Manifest Discrepancies

Three types of discrepancies:

1. Significant discrepancies between quantity and type
2. Rejected shipments
3. Container residues



[40 CFR 264.72]

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Rejected Shipments

If a facility rejects a shipment of hazardous waste, then the facility may forward the waste to another TSDF or return it to the generator



[40 CFR 264.72(e) and (f)]

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Exception Reporting

An exception report is executed when the generator does not receive a signed copy of the manifest back from the TSDF:

- Large quantity generators
 - Call after 35 days
 - Report after 45 days
- Small quantity generators
 - Report after 60 days



[40 CFR 262.42(a)(1) and (a)(2)]

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Thank You for Attending

Enjoy the rest of the conference!

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