

# The Art of Manifesting

Tracy Eckel

Republic Services

Area Manager for Transportation Compliance

3/22/2023



**REPUBLIC**<sup>®</sup>  
SERVICES

# Agenda

- When is a hazardous waste manifest required?
- What is the process for selecting a proper shipping name?
- Section-by-section walk through of hazardous waste manifest and continuation sheet.
- How are the manifest distributed after the shipment?

# When is a Hazardous Waste Manifest Required?

## Uniform Hazardous Waste Manifest (UHWM)

Federal hazardous waste regulated under Resource Conservation and Recovery Act (RCRA)

PCB waste regulated under Toxic Substances Control Act (TSCA)

State-Regulated hazardous waste (if manifest is required by either generator state or destination state)

Imported hazardous waste

Designed to meet EPA and DOT regulations.

Uniquely numbered controlled document authorized by the EPA.

Legal document, do not take lightly.

The UHWM tracks possession of waste from "cradle-to-grave"



# Hazmat Table – Column 1

Hazardous Materials transportation is heavily dependent on the DOT Hazmat Table.

Sym-bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi-cation Numbers	PG	Label Codes	Special provisions (§172.102)	(8)			(9)		(10)	
							Packaging (§173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca-tion	Other
							Excep-tions	Non-bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	<b>Acetone</b>	3	UN1090	II	3	IB2, T4, TP1	150	202	242	5 L	60 L	B	
+	<b>Bromine</b>	8	UN1744	I	8, 6.1	1, B9, B85, N34, N43, T22, TP2, TP,10, TP13	None	226	249	Forbidden	Forbidden	D	12, 25, 40, 66, 74, 89, 90
A W	<b>Carbon dioxide, solid or Dry ice</b>	9	UN1845		None		217	217	240	200 kg	200 kg	D	40
G	<b>Corrosive liquid, acidic, inorganic, n.o.s.</b>	8	UN3264	I	8	A6, B10, T14, TP2, TP27	None	201	243	0.5 L	2.5 L	B	40
				II	8	❖ 386, B2, IB2, T11, TP2, TP27	154	❖ 202	❖ 242	1 L	30 L	B	40
				III	8	IB3, T7, TP1, TP28	154	203	241	5 L	60 L	A	40
D	<b>Diesel fuel</b>	3	NA1993	III	None	144, B1, IB3, T4, TP1, TP29	150	203	242	60 L	220 L	A	
I	<b>Diesel fuel</b>	3	UN1202	III	3	144, B1, IB3, T2, TP1	150	203	242	60 L	220 L	A	
A W	<b>Mercury</b>	8	UN2809	III	8, 6.1	365	164	164	240	35 kg	35 kg	B	40, 97

# Hazmat Table – Column 1

Contains codes providing more information about a hazardous material.

“+” Fixes the shipping description

“G” Denotes a generic shipping description that will require additional description

Sym-bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi-cation Numbers	PG	Label Codes	Special provisions (§172.102)	(8)			(9)		(10)	
							Packaging (§173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca-tion	Other
							Excep-tions	Non-bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
+	<b>Bromine</b>	8	UN1744	I	8, 6.1	1, B9, B85, N34, N43, T22, TP2, TP,10, TP13	None	226	249	Forbidden	Forbidden	D	12, 25, 40, 66, 74, 89, 90
G	<b>Corrosive liquid, acidic, inorganic, n.o.s.</b>	8	UN3264	I	8	A6, B10, T14, TP2, TP27	None	201	243	0.5 L	2.5 L	B	40
				II	8	❖ 386, B2, IB2, T11, TP2, TP27	154	❖ 202	❖ 242	1 L	30 L	B	40
				III	8	IB3, T7, TP1, TP28	154	203	241	5 L	60 L	A	40

# Hazmat Table – Column 1

“A” & “W” Denotes materials that are not regulated unless transported by air or water, unless it is a hazardous waste or hazardous substance.

Sym-bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi-cation Numbers	PG	Label Codes	Special provisions (§172.102)	(8)			(9)		(10)	
							Packaging (§173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca-tion	Other
							Excep-tions	Non-bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
A W	Carbon dioxide, solid or Dry ice	9	UN1845		None		217	217	240	200 kg	200 kg	D	40

D	Diesel fuel	3	NA1993	III	None	144, B1, IB3, T4, TP1, TP29	150	203	242	60 L	220 L	A	
I	Diesel fuel	3	UN1202	III	3	144, B1, IB3, T2, TP1	150	203	242	60 L	220 L	A	

“I” & “D” Denote materials that have specific requirements for International or Domestic transportation.

# Hazmat Table – Column 2

Contains names for hazardous materials.

- Proper Shipping Names (PSNs) are in Roman type.
- Additional information is in italics.

Sym-bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi-cation Numbers	PG	Label Codes	Special provisions (§172.102)	(8)			(9)		(10)	
							Packaging (§173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca-tion	Other
							Excep-tions	Non-bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	<b>Gasoline</b> <i>includes gasoline mixed with ethyl alcohol, with not more than 10% alcohol</i>	3	UN1203	II	3	144, 177,B1, B33, IB2, T4	150	202	242	5 L	60 L	E	

# Hazmat Table – Column 3

Primary hazard class or division

Sym-bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi-cation Numbers	PG	Label Codes	Special provisions (§172.102)	(8)			(9)		(10)	
							Packaging (§173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca-tion	Other
							Excep-tions	Non-bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	<b>Acetone</b>	3	UN1090	II	3	IB2, T4,TP1	150	202	242	5 L	60 L	B	
	<i>Hydrazine azide</i>	Forbidden											

May contain the word **Forbidden** for materials that cannot be shipped without additional requirements.



# Forbidden Materials (49 CFR 173.21)

- Material designated as *Forbidden* in the Hazmat Table
- Forbidden Explosives
- Electrical devices that may spark or short circuit
- For air shipment, materials with an unacceptable magnetic field.
- Materials that will react dangerously with each other in the same packaging, overpack, or freight container.
- A material with a Self-Accelerating Decomposition Temperature transported in a manner that does not prevent decomposition.

# Forbidden Materials (49 CFR 173.21)

- Packages which give off a flammable gas or vapor, released from a material not otherwise subject to this subchapter, likely to create a flammable mixture with air in a transport vehicle.
- Packages containing materials (other than those classed as explosive) which will detonate in a fire.
- A lighter that has not been properly tested or is not of an approved design type.
- An organic peroxide of the “ketone peroxide” category which contains more than 9 percent available oxygen.
- An oxygen generator (chemical) as cargo on a passenger-carrying aircraft.

# Hazmat Table – Column 4

Contains a number prefixed either by:

- UN = “United Nations”, which is acceptable for international transport; or
- NA = “North America”, which is only acceptable for domestic transportation (US, and to or from Canada)

Sym-bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi-cation Numbers	PG	Label Codes	Special provisions (§172.102)	(8)			(9)		(10)	
							Packaging (§173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca-tion	Other
							Excep-tions	Non-bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
D	<b>Diesel fuel</b>	3	NA1993	III	None	144, B1, IB3, T4, TP1, TP29	150	203	242	60 L	220 L	A	
I	<b>Diesel fuel</b>	3	UN1202	III	3	144, B1, IB3, T2, TP1	150	203	242	60 L	220 L	A	

# Hazmat Table – Column 5

Contains the Packing Group, which is an indication of how dangerous a hazardous material is within its primary hazard class or division.

- PG I = "Great Danger"
- PG II = "Medium Danger"
- PG III = "Minor Danger"

Sym-bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi-cation Numbers	PG	Label Codes	Special provisions (§172.102)	(8)			(9)		(10)	
							Packaging (§173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca-tion	Other
							Excep-tions	Non-bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
+	<b>Bromine</b>	8	UN1744	I	8, 6.1	1, B9, B85, N34, N43, T22, TP2, TP,10, TP13	None	226	249	Forbidden	Forbidden	D	12, 25, 40, 66, 74, 89, 90
	<b>Gasoline</b> <i>includes gasoline mixed with ethyl alcohol, with not more than 10% alcohol</i>	3	UN1203	II	3	144, 177,B1, B33, IB2, T4	150	202	242	5 L	60 L	E	
A W	<b>Mercury</b>	8	UN2809	III	8, 6.1	365	164	164	240	35 kg	35 kg	B	40, 97

# Hazmat Table – Column 5

DOT Hazard Classes outline the criteria in determining which packing group should be selected.

Class 3 – 173.121

Class 4 – 173.125

Class 5 – 173.127

Class 6.1 – 173.133

Class 8 – 173.137

Class 9 – 173.141

§ 173.121 Class 3 - Assignment of packing group.

Packing group	Flash point (closed-cup)	Initial boiling point
I		≤35 °C (95 °F)
II	<23 °C (73 °F)	>35 °C (95 °F)
III	≥23 °C, ≤60 °C (≥73 °F, ≤140 °F)	>35 °C (95 °F)

# Hazmat Table – Column 6

Contains Label Codes for the hazardous material.

- Always lists the primary hazard first, followed by subsidiary hazards.

Sym- bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi- cation Numbers	PG	Label Codes	Special provisions (\$172.102)	(8)			(9)		(10)	
							Packaging (\$173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca- tion	Other
							Excep- tions	Non- bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
+	<b>Bromine</b>	8	UN1744	I	8, 6.1	1, B9, B85, N34, N43, T22, TP2, TP,10, TP13	None	226	249	Forbidden	Forbidden	D	12, 25, 40, 66, 74, 89, 90
	<b>Gasoline</b> <i>includes gasoline mixed with ethyl alcohol, with not more than 10% alcohol</i>	3	UN1203	II	3	144, 177,B1, B33, IB2, T4	150	202	242	5 L	60 L	E	
A W	<b>Mercury</b>	8	UN2809	III	8, 6.1	365	164	164	240	35 kg	35 kg	B	40, 97

# Hazmat Table – Column 7

Contains codes that give important information about how to perform several pre-transportation functions for a specific proper shipping name.

- May modify the shipping description
- May prescribe/prohibit certain packaging design types
- May prescribe/prohibit certain vehicle types
- And more!

Sym- bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi- cation Numbers	PG	Label Codes	Special provisions (\$172.102)	(8)			(9)		(10)	
							Packaging (\$173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca- tion	Other
							Excep- tions	Non- bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	<b>Acetone</b>	3	UN1090	II	3	IB2, T4, TP1	150	202	242	5 L	60 L	B	
+	<b>Bromine</b>	8	UN1744	I	8, 6.1	1, B9, B85, N34, N43, T22, TP2, TP,10, TP13	None	226	249	Forbidden	Forbidden	D	12, 25, 40, 66, 74, 89, 90
G	<b>Corrosive liquid, acidic, inorganic, n.o.s.</b>	8	UN3264	I	8	A6, B10, T14, TP2, TP27	None	201	243	0.5 L	2.5 L	B	40

# Hazmat Table – Column 7

Read all the Special Provision that apply to your mode of transportation

- Only of numbers is multi-modal in application and may apply to bulk and non-bulk packagings.
- “A” refers to a special provision which applies only to transportation by aircraft.
- “B” refers to a special provision that applies only to bulk packaging requirements. Unless otherwise provided in this subchapter, these special provisions do not apply to UN, IM Specification portable tanks or IBCs.
- “IB” or “IP” refers to a special provision that applies only to transportation in IBCs.
- “N” refers to a special provision which applies only to non-bulk packaging requirements.
- “R” refers to a special provision which applies only to transportation by rail.
- “T” or “TP” refers to a special provision which applies only to portable tanks
- “W” refers to a special provision that applies only to transportation by water.



# Hazmat Table – Column 7

Let's look at the Special provision for Acetone for shipping in a tote (T4 and TP1)

TP1

TP1 The maximum degree of filling must not exceed the degree of filling determined by the following:

$$\left( \text{Degree of filling} = \frac{97}{1 + \alpha(t_t - t_f)} \right)$$

Where:

$t_t$  is the maximum mean bulk temperature during transport, and  $t_f$  is the temperature in degrees celsius of the liquid during filling.

T4

Portable tank instruction (1)	Minimum test pressure (bar) (2)	Minimum shell thickness (in mm-reference steel) (See § 178.274(d)) (3)	Pressure-relief requirements (See § 178.275(g)) (4)	Bottom opening requirements (See § 178.275(d)) (5)
T1	1.5	§ 178.274(d)(2)	Normal	§ 178.275(d)(2)
T2	1.5	§ 178.274(d)(2)	Normal	§ 178.275(d)(3)
T3	2.65	§ 178.274(d)(2)	Normal	§ 178.275(d)(2)
<b>T4</b>	<b>2.65</b>	<b>§ 178.274(d)(2)</b>	<b>Normal</b>	<b>§ 178.275(d)(3)</b>

# Hazmat Table – Column 8

Contains Packaging Authorizations for a particular proper shipping name

- Column 8A provides authorized exceptions
- Column 8B provides authorized Non-Bulk Packaging specifications (equal or less than 119 gallons)
- Column 8C provides authorized Bulk Packaging specifications (greater than 119 gallons)

Sym-bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi-cation Numbers	PG	Label Codes	Special provisions (§172.102)	(8)			(9)	
							Packaging (§173.***)			Quantity limitations (see §§173.27 and 175.75)	
							Excep-tions	Non-bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)
	<b>Acetone</b>	3	UN1090	II	3	IB2, T4,TP1	150	202	242	5 L	60 L
A W	<b>Mercury</b>	8	UN2809	III	8, 6.1	365	164	164	240	35 kg	35 kg

# Hazmat Table – Column 8

## Exceptions for Acetone in 173.150

Limited Quantity

Alcoholic beverage

Aqueous solutions of alcohol

Combustible liquids

Limited quantity of retail products containing ethyl alcohol

Reverse logistics

Diesel fuel and gasoline being transported to an equipment repair facility

(e) *Aqueous solutions of alcohol.* An aqueous solution containing 24 percent or less alcohol by volume and no other hazardous material -

(1) May be reclassified as a combustible liquid.

(2) Is not subject to the requirements of this subchapter if it contains no less than 50 percent water.

# Hazmat Table – Column 8

## Non-Bulk Packaging Requirements for Acetone

### § 173.202 Non-bulk packagings for liquid hazardous materials in Packing Group II.

(a) When § 172.101 of this subchapter specifies that a liquid hazardous material be packaged under this section, only non-bulk packagings prescribed in this section may be used for its transportation. Each packaging must conform to the general packaging requirements of subpart B of part 173, to the requirements of part 178 of this subchapter at the Packing Group I or II performance level (unless otherwise excepted), and to the particular requirements of the special provisions of column 7 of the § 172.101 table.

(b) The following combination packagings are authorized:

*Outer packagings:*

Steel drum: 1A1 or 1A2

Aluminum drum: 1B1 or 1B2

Metal drum other than steel or aluminum: 1N1 or 1N2

Plywood drum: 1D

Fiber drum: 1G

Plastic drum: 1H1 or 1H2

# Hazmat Table – Column 8

## Non-Bulk Packaging Requirements for Acetone

### *Inner packagings:*

Glass or earthenware receptacles  
Plastic receptacles  
Metal receptacles  
Glass ampoules

(c) Except for transportation by passenger aircraft, the following single packagings are authorized:

Steel drum: 1A1 or 1A2  
Aluminum drum: 1B1 or 1B2  
Metal drum other than steel or aluminum: 1N1 or 1N2  
Plastic drum: 1H1 or 1H2  
Fiber drum: 1G (with liner)  
Wooden barrel: 2C1  
Steel jerrican: 3A1 or 3A2  
Plastic jerrican: 3H1 or 3H2

# Hazmat Table – Columns 9&10

Column 9 – provides quantity limitations for air shipment

Column 10 – provides stowage restrictions for water shipment

Sym-bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi-cation Numbers	PG	Label Codes	Special provisions (§172.102)	(8)			(9)		(10)	
							Packaging (§173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca-tion	Other
							Excep-tions	Non-bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	<b>Acetone</b>	3	UN1090	II	3	IB2, T4,TP1	150	202	242	5 L	60 L	B	
+	<b>Bromine</b>	8	UN1744	I	8, 6.1	1, B9, B85, N34, N43, T22, TP2, TP,10, TP13	None	226	249	Forbidden	Forbidden	D	12, 25, 40, 66, 74, 89, 90
A W	<b>Carbon dioxide, solid or Dry ice</b>	9	UN1845		None		217	217	240	200 kg	200 kg	D	40
A W	<b>Mercury</b>	8	UN2809	III	8, 6.1	365	164	164	240	35 kg	35 kg	B	40, 97

# PSN Selection

All allowable Proper Shipping Names are found in Column 2 of the Hazmat Table in 49 CFR 172.101.

Sym- bols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identifi- cation Numbers	PG	Label Codes	Special provisions (\$172.102)	(8)			(9)		(10)	
							Packaging (\$173.***)			Quantity limitations (see §§173.27 and 175.75)		Loca- tion	Other
							Excep- tions	Non- bulk	Bulk	Passen-ger air-craft/ rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	<b>Acetone</b>	3	UN1090	II	3	IB2, T4, TP1	150	202	242	5 L	60 L	B	
+	<b>Bromine</b>	8	UN1744	I	8, 6.1	1, B9, B85, N34, N43, T22, TP2, TP,10, TP13	None	226	249	Forbidden	Forbidden	D	12, 25, 40, 66, 74, 89, 90
G	<b>Corrosive liquid, acidic, inorganic, n.o.s.</b>	8	UN3264	I	8	A6, B10, T14, TP2, TP27	None	201	243	0.5 L	2.5 L	B	40
				II	8	❖ 386, B2, IB2, T11, TP2, TP27	154	❖ 202	❖ 242	1 L	30 L	B	40
				III	8	IB3, T7, TP1, TP28	154	203	241	5 L	60 L	A	40
D	<b>Diesel fuel</b>	3	NA1993	III	None	144, B1, IB3, T4, TP1, TP29	150	203	242	60 L	220 L	A	
I	<b>Diesel fuel</b>	3	UN1202	III	3	144, B1, IB3, T2, TP1	150	203	242	60 L	220 L	A	
	<b>Gasoline</b> <i>includes gasoline mixed with ethyl alcohol, with not more than 10% alcohol</i>	3	UN1203	II	3	144, 177, B1, B33, IB2, T4	150	202	242	5 L	60 L	E	
A W	<b>Mercury</b>	8	UN2809	III	8, 6.1	365	164	164	240	35 kg	35 kg	B	40, 97

# PSN Selection

DOT Hierarchy for selecting a PSN (in order of precedence)

- #1 - Technical Name (specific chemical)
- #2 - Chemical Family (usually generic)
- #3 - Chemical Application (usually generic)
- #4 - Hazard Class Group (generic)

Example:

- #1 - Methyl Ethyl Ketone
- #2 - Ketones, liquid, n.o.s.
- #3 - Paint Related Material
- #4 - Flammable Liquid, n.o.s.



# PSN - Importance

Why is selection of the **correct** proper shipping name important?

The answer lies in everything that happens or can potentially happen after a PSN is selected.

- Packaging Selection
- Vehicle Procurement
- Emergency Response to an Incident

Fines from PHMSA increase dramatically when the prescribed emergency response measures are incorrect for the hazardous materials shipped.

- Are the ERG#'s different for two PSNs you are considering? Consult the Emergency Response Guide Blue pages to see.

# Basic Description Structure

Section 9a – Place 'X' in the box to denoted hazardous material. Ok to put RQ if triggered.

Section 9b - DOT Basic Description MUST contain at a minimum

UN/NA#, Proper Shipping Name, Hazard Class, Packaging Group (if listed on the table)

Section 9b Qualifiers – Added in when appropriate in a designated location.

(a) (b) **UN/NA#** (c) **PSN** (d) (e) (f) **Hazard Class** **PG**

(a) "Residue Last Contained"

(b) "RQ" (two option)

(c) "Waste' prefix"

(d) "Mixture" / "Solution" suffix

(e) Technical Description(s)

(f) Concentrations

# Basic Description Structure

Residue Last Contained – container that are not DOT empty

**Residue last contained**, UN3077, Hazardous Waste, Solid, n.o.s. (Lead, Chromium), 9, PGIII

Reportable Quantity (RQ) – see 172.101 Appendix A

**RQ**, UN3077, Hazardous Waste, Solid, n.o.s. (Lead, Chromium), 9, PGIII

UN3077, Hazardous Waste, Solid, n.o.s (Lead, Chromium), 9, PGIII, **RQ (Lead)**

Waste Prefix – do not use with Hazardous Waste, Solid or Hazardous Waste, Liquid

UN3264, **Waste** Corrosive Liquid, Acidic, Inorganic, n.o.s. (Sulfuric Acid, Hydrochloric Acid), 8, PGII

Mixture / Solutions – mixed with non-hazardous material

UN1090, Waste Acetone **Solution**, 3, PGII

# Basic Description Structure

Technical Description – two most predominate components contributing to the hazard.

UN3264, Waste Corrosive Liquid, Acidic, Inorganic, n.o.s. (Sulfuric Acid, Hydrochloric Acid), 8, PGII

Concentrations

UN1204, Nitroglycerin, solution in alcohol, 3%, 3 , PGII

# Using PSNs

**Plural / Singular** – Regulations allow for both

FLAMMABLE LIQUIDS, N.O.S.

FLAMMABLE LIQUID, N.O.S.

**Punctuation Marks** – Not regulated as part of the description, but wise to keep these as they appear.

**Italicized Text** – Not required to be entered in the Basic Description as part of the Proper Shipping Name.

# Required Elements of Shipping Papers

**Box 1** – Generator EPA ID Number and Phone Number

**Box 2** – Page Number and Total Pages

**Box 3** – Emergency Response Phone

**Box 4** – Manifest Tracking Number

**Box 5** – Generator Mailing Address, Site Address (if different),

**Box 6/7** – Transporter 1/2 Name and EPA ID Number, and Phone

**Box 8** – Destination Facility Name, Site Address, EPA ID

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	[REDACTED]	[REDACTED]	[REDACTED]	017959008 JJK
5. Generator's Name and Mailing Address		Generator's Site Address (if different than mailing address)		
[REDACTED]		[REDACTED]		
Generator's Phone:		[REDACTED]		
6. Transporter 1 Company Name		U.S. EPA ID Number		
[REDACTED]		[REDACTED]		
7. Transporter 2 Company Name		U.S. EPA ID Number		
[REDACTED]		[REDACTED]		
8. Designated Facility Name and Site Address		U.S. EPA ID Number		
[REDACTED]		[REDACTED]		
Facility's Phone:		[REDACTED]		

# Emergency Response Information

## ERI Takes Two Forms:

Emergency Response Information Telephone Number (Printed on Shipping Papers)

Emergency Response Information Documentation (Accompanies Shipping Papers)



# ERI Telephone Number

The telephone number will be placed in Box 3 on the UHWM and is required to be supplied by the shipper / generator.

Person answering must be knowledgeable of the hazmat and have comprehensive emergency response and incident mitigation information specific to that hazmat; or have immediate access to someone who does

Must be monitored at all times the hazmat is in transportation.

If an ER provider is utilized, they must be named on the shipping paper with a contract number.

Information can be placed in either box 3 or 14 on the UHWM.



# Required Elements of Shipping Papers

**Box 9** – HM designation and DOT Basic Description

**Box 10** – Container Quantity and Type – allowable options on the back of the manifest

**Box 11** – Total Quantity - allowable options on the back of the manifest – use whole numbers

**Box 12** – Unit Wt/Vol – allowable options on the back of the manifest

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.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	
	2.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	
	3.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	
	4.	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	
14. Special Handling Instructions and Additional Information [REDACTED]										
15. <b>GENERATOR'S/OFFEROR'S CERTIFICATION:</b> 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

# Special Requirements for PCBs

## 40 CFR 761.207

- Must be manifested in Kilograms (1 KG = 2.2 Pounds)
- Must include removal from service date (per container)
- Type of PCB Waste
- Unique identifying numbers of containers
- May use 40 CFR 761 in Section 1 of the manifest

# Required Elements of Shipping Papers

## Shipper's Certification

UHWM Box 15

Meets the DOT's requirements that the shipper/offeror certify a shipment is classified, described, packaged, marked and labeled, and is in proper condition for transportation.

Meets the EPA's requirements that the generator certify compliance with the waste minimization statement.

Do not sign as the shipper/offeror unless you are authorized to sign on behalf of a generator, and you know that the certification statements are true.

# Required Elements of Shipping Papers

## Less Common, and Destination Facility Requirements

**Box 16** – Import/Export Information for International Shipments

**Box 18** – Discrepancies (TSDf and Alt TSDf), Discrepancy Type, Rejections, Alternate Facility Information, Additional Signature Requirements

**Box 19** – Hazardous Waste Report Management Method Codes

**Box 20** – TSDf Certification of Receipt

DESIGNATED FACILITY	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:			Month Day Year
	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	

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

**DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)**

# Required Elements of Shipping Papers

## Continuation Pages

Needed if more than 4 waste streams are being shipped.

Needed if custody is transferred to 3 or more transporters, but no blanks are left on existing pages.

Important to ensure that Page Numbers are correct!

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

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)		21. Generator ID Number	22. Page	23. Manifest Tracking Number	
24. Generator's Name					
25. Transporter _____ Company Name				U.S. EPA ID Number	
26. Transporter _____ Company Name				U.S. EPA ID Number	
27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			28. Containers No. Type	29. Total Quantity
				30. Unit Vol./Vol.	31. Waste Codes
32. Special Handling Instructions and Additional Information					
33. Transporter _____ Acknowledgment of Receipt of Materials Printed/Typed Name Signature Month Day Year					
34. Transporter _____ Acknowledgment of Receipt of Materials Printed/Typed Name Signature Month Day Year					
35. Discrepancy					
36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)					

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

# Manifest Copy Distribution

The UHWM is a 5-part form that requires certain copies be distributed between the generator, transporter, destination facility, and the EPA.

- After the Generator and Transporter sign, the Generator's Initial Copy is removed and provided to the Generator.
- The Transporter delivers material to the Destination Facility. Once the material is evaluated, the Destination Facility signs the manifest.
- Destination Facility provides carbon copies of the completed manifest to the Driver and the Generator.
- Destination Facility completes the e-manifest upload within 30 days of delivery
  - Uploads shipment data and PDF copy of the completed manifest into the RCRAInfo site
  - Certifies the manifest

# Manifest Copy Distribution

The UHWM is a 5-part form that requires certain copies be distributed between the generator, transporter, destination facility, and the EPA.

- After the Generator and Transporter sign, the Generator's Initial Copy is removed and provided to the Generator.
- The Transporter delivers material to the Destination Facility. Once the material is evaluated, the Destination Facility signs the manifest.
- Destination Facility provides carbon copies of the completed manifest to the Driver and the Generator.
- Destination Facility completes the e-manifest upload within 30 days of delivery
  - Uploads shipment data and PDF copy of the completed manifest into the RCRAInfo site
  - Certifies the manifest

# Data Quality Issues with Hazardous Waste Manifests Submitted to EPA's e-Manifest System

## Issue 1: Inaccurate or missing ID numbers

EPA ID numbers make it possible for the e-Manifest system to connect data to the correct hazardous waste handler. When paper manifests are submitted with inaccurate or missing EPA Site Identification (EPA ID) numbers, including where the generator EPA ID number is submitted as a "VSQG" or "CESQG" code or where an EPA ID is present on the manifest, but left blank on the corresponding data file, the users cannot: 1) Use the e-Manifest system to meet the three-year recordkeeping requirements in lieu of storing paper manifests onsite; and 2) Use the e-Manifest post-submission corrections process to make modifications to the affected manifest if additional data errors are present.

## What can you do?

Users should search for existing site ID numbers in [RCRAInfo](#) using the site name, address, state, and/or zip code. This functionality is available on the RCRAInfo homepage and through e-Manifest software integrations.

Hazardous waste handlers should verify their client's EPA ID number as well as periodically check whether EPA ID numbers need to be updated (e.g., from "VSQG" to an ID number). After an EPA ID number is assigned to a site, it should be used in the appropriate field of all manifests associated with that site.



# EPA Compliance Advisory on e-Manifest System

## Issue 2: Manifest Tracking Number (MTN) mismatch and invalid paper manifest usage

Some generators have used paper manifests that were printed by non-approved, unregistered printing companies and put into circulation, which could result in invalid MTNs. Printing companies must receive approval from the EPA Director of the Office of Resource Conservation and Recovery to generate and print uniform hazardous waste manifests, including an MTN unique to each manifest.

### What can you do?

Only use manifests from an approved and registered printing company and do not attempt to manually modify an MTN. A list of registered printing companies [can be found on the EPA website](#). If you receive an error while uploading a manifest, use the *Feedback/Report an Issue* button in RCRAInfo to contact the EPA.

### What is an “MTN” and why is it important?

The Manifest Tracking Number (MTN) is a unique identifier which corresponds to a certain EPA-approved and registered printer. The approved printer generates the MTN in Item 4 of the manifest. It serves as a reference for communication between industry, states, and EPA users. The simple but effective design of the MTN ensures that each manifest and its associated data can be stored, recalled, and used as needed.

# EPA Compliance Advisory on e-Manifest System

## **Issue 3: Errors associated with the digitization of paper manifests**

There have been various errors that have occurred during a receiving facility's digitization processing of paper manifests. These can be due to typographical errors or illegible information on the paper manifest that result in significant discrepancies between the hazardous waste shipment and what is seen in the e-Manifest system.

### **What can you do?**

File electronically. EPA strongly encourages handlers to transition to electronic manifests, which are faster, easier, space-saving, and more convenient than using paper submissions. Unlike paper manifests, electronic manifests already exist in digital format with built-in data quality checks. Users of the e-Manifest system have immediate access to up-to-date information that can be used when completing electronic manifests. Otherwise, handlers who continue to use paper manifests should use the post-submission corrections process in RCRAInfo to resolve digitization errors.

Hazardous waste generators and transporters can also benefit from using e-Manifest, which is connected to RCRAInfo. Registered RCRAInfo users can submit corrections online, use e-Manifest to meet record-keeping requirements in lieu of storing the paper manifest on site for three years, and complete other regulatory requirements.



**REPUBLIC<sup>®</sup>**  
**SERVICES**