



Basic Hazardous Waste Management

40 CFR 262.16(b)(9)(iii) & 22 CCR 66265.16

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www.NESglobal.net

Presenter

- Jerry Bucklin
 - President & CEO of NES, Inc.
 - 30+ years of hazardous waste management experience

Course Objectives

This course will provide an overview of federal and state regulations regarding the classification, management, transportation, and disposal of hazardous waste for California hazardous waste generators.

Course Outline

 FLAMMABLE LIQUID CORROSIVE REACTIVITY OTHER _____', 'D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX', and 'HANDLE WITH CARE!'."/>

HAZARDOUS WASTE

STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOS...
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY...
THORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY...
THE CALIFORNIA DEPARTMENT OR TOXIC SUBSTANCES CONTR...
RATOR INFORMATION:

SS _____ PHONE _____
STATE _____ ZIP _____

LOCATION NO. / MANIFEST TRACKING NO. _____ / _____

NO. _____ CA WASTE NO. _____ ACCUMULATION START DATE _____

NTS, COMPOSITION: _____

CAL STATE: _____ HAZARDOUS PROPERTIES: FLAMMABLE
LIQUID CORROSIVE REACTIVITY OTHER _____

D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX
HANDLE WITH CARE!

Basic Hazardous Waste Management

- Regulatory Overview & Recordkeeping Requirements
- Hazardous Waste Determination
- Container & Tank Management
- Shipping Requirements



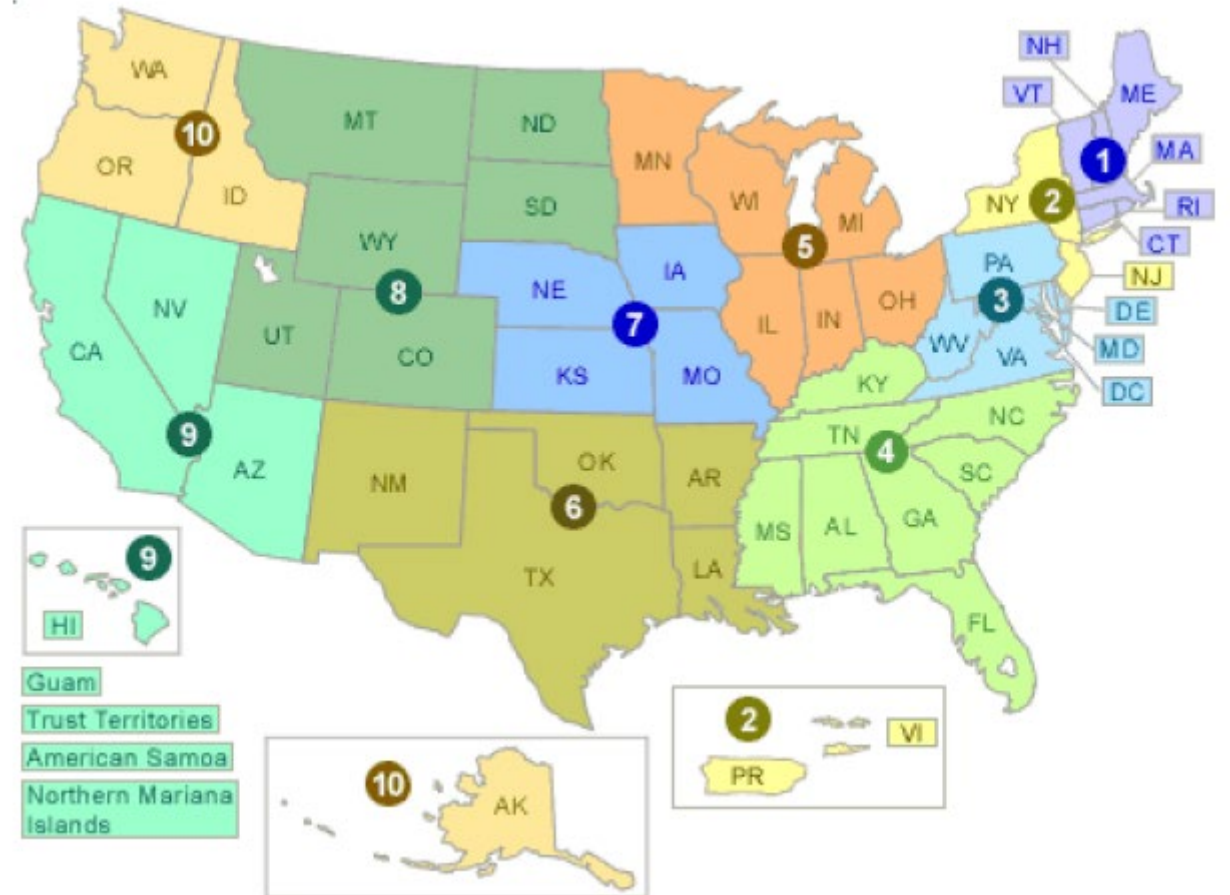
Regulatory Overview & Recordkeeping Requirements

Regulatory Overview

Gov't Level	Law	Year Enacted	Regulation	Agency
Federal	RCRA	1976	40 CFR 260-268, 273	Environmental Protection Agency (EPA)
State	HWCL	1972	22 CCR 66260-66268, 66273	Department of Toxic Substances Control (DTSC)
Federal	OSHA	1970	Title 29 CFR	Occupational Safety and Health Administration (OSHA)
State	Cal/OSHA	1973	Title 8 CCR	Division of Occupational Safety and Health (DOSH or Cal/OSHA)
Federal	HMTA	1975	Title 49 CFR	Department of Transportation (DOT)
State	CVC	1935	Title 13 CCR	California Highway Patrol (CHP) / Department of Motor Vehicles (DMV)

Regulatory Overview

- United States Environmental Protection Agency (U.S. EPA) protects human health and the environment:
 - Writes and enforces environmental regulations
 - Regulations enforced by regional offices



Regulatory Overview

- California Department of Toxic Substances Control (DTSC) protects people and the environment from harmful effects of toxic substances by:
 - Enforcing hazardous waste regulations
 - Inspecting permitted facilities and hazardous waste generators
 - Taking enforcement actions to ensure compliance

Regulatory Overview

- The Certified Unified Program Agency (CUPA) consolidates, coordinates, and makes consistent portions of the following six existing programs:
 - **Hazardous Waste Generators**
 - Underground Storage Tanks (USTs)
 - Hazardous Materials Business Plans (HMBPs)
 - California Accidental Release Prevention Program (CalARP)
 - Aboveground Storage Tanks (SPCC Plans)
 - California Fire Code

Regulatory Overview

Unified Program Regulatory Directory:

<http://cersapps.calepa.ca.gov/Public/Directory/>

The screenshot shows the website interface for the Unified Program Regulator Directory. At the top, there is a header with the CA.GOV logo on the left and the CERS California Environmental Reporting System logo on the right, with the text "California Environmental Protection Agency" below it. Below the header is a navigation bar with a home icon, "CUPA Directory", "CERS Data Registry (CDR)", and "Other CERS Resources".

The main content area is titled "Unified Program Regulator Directory" in orange. Below the title is a description: "Use the Unified Program Regulator Directory to search for and view location/contact information for Certified Unified Program Agency (CUPAs) and other local regulators associated with the Unified Program." There are two search forms:

- Regulator Search:** Includes a "County" dropdown menu (set to "-- All Counties --"), a "ZIP Code" input field, a "Type" dropdown menu (set to "All Regulator Types"), and a "Search" button.
- Facility Address Search:** Includes a "Facility Street Address" input field, a "City" input field, a "State" dropdown menu (set to "CA"), a "ZIP Code" input field, and a "Search" button.

A sidebar on the left contains a list of links under three categories: "CUPA Directory" (UPA Directory, Evaluation Documents, Enforcement Summaries), "CERS Data Registry (CDR)" (CDR Home, CDR Search), and "Other CERS Resources" (CERS Statistics, CERS Central, CERS Technical Support).

Generator or Producer

A generator is any person, by site, whose act or process produces hazardous waste or whose act first causes a waste to become subject to regulation as a hazardous waste.



Most Common Violations for Generators

1. Improperly labeled hazardous waste containers (violation count – 6,199)
2. Failure to obtain and/or maintain ID number (violation count – 3,243)
3. Failure to maintain manifest copies (violation count – 2,437)
4. Failure to properly close hazardous waste containers when not in use (violation count – 1,868)
5. Failure to properly label & manage used oil filters (violation count – 1,838)

Generator Status

LQG	$\geq 1,000$ kg hazardous waste and/or > 1 kg acutely hazardous waste and/or > 1 kg extremely hazardous waste during any calendar month
SQG	$< 1,000$ kg hazardous waste and/or ≤ 1 kg acutely hazardous waste and/or extremely hazardous waste during any calendar month
VSQG (previously CESQG)	≤ 100 kg hazardous waste and/or ≤ 1 kg acutely hazardous waste and/or extremely hazardous waste during any calendar month – this is a category defined by EPA and not recognized in California

Generator Status

- Waste volume based on:
 - RCRA and non-RCRA wastes
 - Amount generated each month, not amount shipped off-site

EPA Identification Numbers

- Each site that generates hazardous waste must have an ID number
 - California ID numbers issued by DTSC (< 220 pounds RCRA hazardous waste in any month)
 - CAL – permanent; CAC – provisional; CAS – permanent for emergency response
 - EPA ID numbers issued by U.S. EPA (> 220 pounds RCRA hazardous waste in any month)
 - CAR – current; CA – not issued since 1995; CAD – not issued since 1993; CAT – preceded CAD; CAP – provisional

EPA Identification Numbers

- Generators must verify their ID numbers (state and federal) annually through DTSC
- If ID numbers are not verified, they will be deactivated



Home



Contact Us

Welcome to the eVQ System

2018 Identification Number Verification Questionnaire

Report Deadline Passed - Report Open for Inactivated EPA ID Users

The electronic Verification Questionnaire (eVQ) cycle ended on Friday, February 01, 2019. If you did not complete your eVQ, your ID number(s) were inactivated.

To reactivate your ID Number(s), you must log into the eVQ system and complete the eVQ. Once you have completed the eVQ and DTSC has received the full payment (if fees are due), your ID Number(s) will automatically be reactivated.

DTSC will not be accepting Form 1358 to reactive numbers that were inactivated because the eVQ was not completed.

The final date to complete the 2017 eVQ will be Thursday, February 28, 2019. After this date, you will no longer be able to log into the eVQ system.

Contingency Plan – LQGs

- Spells out emergency actions involving hazardous waste
 - Fire
 - Explosives
 - Unplanned, sudden releases/spills

Contingency Plan Contents – LQG

- Emergency Coordinator
- Emergency procedures
- Emergency services and arrangements to coordinate response actions
- Emergency equipment
- Evacuation Plan
- Cal OES contact

Emergency Procedures – SQGs

- At all times, there must be at least one employee, either on the premises or on call, available to respond to an emergency
- Information must be posted next to telephones OR in areas directly involved in the generation and accumulation of hazardous waste
 - Name & number of Emergency Coordinator
 - Location of fire extinguishers & spill control equipment
 - Fire Department number

EMERGENCY PROCEDURES

Post near telephones and as appropriate

In case of a fire, spill, or other emergency involving hazardous chemicals or wastes, do the following:

Major Emergency

- ⇒ Evacuate the affected areas per the facility Evacuation Plan
- ⇒ **Call 911** and report the emergency
- ⇒ Report the emergency to the facility Emergency Coordinator

Minor Emergency

- ⇒ Try to control the emergency if you are trained to do so and can do it safely
- ⇒ Report the emergency to the facility Emergency Coordinator

Facility Emergency Coordinators

	Name	Work Phone	24 Hour Phone
Primary EC:	_____	_____	_____
1st Alternate EC:	_____	_____	_____
2nd Alternate EC:	_____	_____	_____
3rd Alternate EC:	_____	_____	_____

Emergency Agencies

Agency	Phone No.
Fire Dept., Ambulance, Police	911
Governor's Office of Emergency Services	(800) 852-7550
	()

Emergency Equipment

Locations of fire extinguishers, fire alarms (if any), and equipment for controlling chemical spills are shown on the facility site plan posted with this notice.

This document is only a summary of emergency procedures. Refer to this facility's written emergency response plan for detailed procedures.

Tank Assessments – LQGs

- Tank assessments required for LQGs who accumulate hazardous waste in tanks:
 - Tank system and components certified by qualified professional engineer (PE)
 - Supported and protected from corrosion
 - Tested for tightness
 - Protected from settlement, expansion, or contraction
 - Must be completed prior to putting tank into service and then once every 5 years for new tanks

Biennial Hazardous Waste Report – LQGs

- Required & certified by **RCRA** LQGs
- Report covers odd-numbered year
 - Amounts by waste code
 - Identify source & origin of waste
 - Identify disposal method (recycled, incinerated, etc.)
 - Waste minimization efforts
- Due March 1st of following year (even year – 2020) for waste generated prior year (odd year – 2019)

Disposal & Recycle Records

- Manifests
- Land disposal restriction forms
- Consolidated manifests
- Maintained for three years from date of shipment

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:								
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
	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: _____ Transporter signature (for exports only): _____ 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

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

Other Records

- Waste analytical test analyses
 - Three years from date was last shipped off-site
- Container and tank inspections
 - Three years from date of inspection
- Emergency equipment inspections
 - Three years from date of inspection (best management practice – BMP for SQGs)

Training Requirements – SQGs

- Employees must be familiar with proper waste handling and emergency response procedures relevant to their responsibilities
- Annual training is a BMP

Training Requirements – LQGs

- Personnel must successfully complete a program of either:
 - Classroom, computer-based, or electronic instruction; OR
 - On-the-job (OTJ) training
- Training must cover hazardous waste management procedures and emergency response training
- Training must be provided within 180 days of hire / job placement
- Annual training required

Training Requirements – LQGs

Personnel involved in shipping hazardous waste must receive DOT Hazmat Employee training. [49 CFR 172.704]

Training Documentation – LQGs

- Documentation:
 - Description for each position related to hazardous waste management including the requisite skills, education, or other qualifications and duties of employees assigned to each position
 - Job title for each position related to hazardous waste management and the name of the employee filling each job
 - *[Continued...]*

Training Documentation – LQGs

- Description of the type and length of training needed for each position
- Records to document training has been provided and completed
- Records are to be kept until facility closure for current employees
 - 3 years for former employees



Hazardous Waste Determination

Hazardous Waste Determination

- A person who generates a waste shall determine if it is hazardous by determining if the waste:
 - Is excluded from regulation
 - Is listed
 - Exhibits any hazardous waste characteristics
- Determinations can be made by:
 - Testing the waste
 - Generator's knowledge

Hazardous Waste Determination

- Waste is any discarded material of any form (liquid, semi-solid, solid, or gaseous) that is not excluded by regulation or statute:
 - Relinquished (disposed of, burned or incinerated, or accumulated, stored, or treated prior to or in lieu of disposal)
 - Recycled (applied to land in a manner constituting disposal, used in products that are applied to land, burned to recover energy, reclaimed, or speculatively accumulated)
 - *[Continued...]*

Hazardous Waste Determination

- Inherently waste-like materials when recycled (e.g., F020, F021 [with one exception], F022, F023, F026, and F028 – all dioxin-precursor waste)
- A material that poses a threat to human health and/or the environment that has been mislabeled or unlabeled for more than 10 days (i.e., 10 days from the day that the labeling deficiency was first discovered)
- A material that poses a threat to human health and/or the environment contained in a deteriorated or damaged packaging for more than 96 hours

Hazardous Waste Determination

- Materials that are not waste:
 - Industrial wastewater discharges
 - Nuclear byproducts
 - Spent sulfuric acid used to produce virgin sulfuric acid
 - Pulping liquors reclaimed in a pulping liquor recovery furnace
 - Secondary materials that are returned to the original process

Hazardous Waste Determination

- Wastes that are not hazardous waste:
 - Infectious wastes consisting only of animal carcasses
 - Materials not classified as a solid waste that do not exhibit a hazardous waste characteristic
 - Used oil re-refining distillation bottoms used as a feedstock for asphalt
 - Used CFC refrigerants that are reclaimed
 - *[Continued...]*

Hazardous Waste Determination

- Solid waste from the extraction and processing of ores and minerals
- Hazardous wastes generated in a tank or manufacturing process unit
 - Exclusion applies until waste exits unit or remains in non-operational unit for more than 90 days
- Samples
- Controlled substances
- CRT glass

Hazardous Waste Determination

RCRA Hazardous Waste

- Listed
 - Unspent (U & P)
 - Spent (F & K)
- Characteristic
 - Ignitable (D001)
 - Corrosive (D002)
 - Reactive (D003)
 - Toxic (D004 – D043)

Non-RCRA Hazardous Waste

- Presumptive lists
 - Common name
 - Chemical constituents
- Characteristic
 - Ignitable
 - Corrosive
 - Reactive
 - Toxic

RCRA Listed Wastes

Spent Waste Codes

- F Listed: Non-specific sources
 - F001 – F039
- K Listed: Specific sources
 - K001 – K175

Unspent Waste Codes

- P Listed: Acute hazardous waste
 - P001 – P205
- U Listed: Toxic hazardous waste (unless noted)
 - U001 – U411

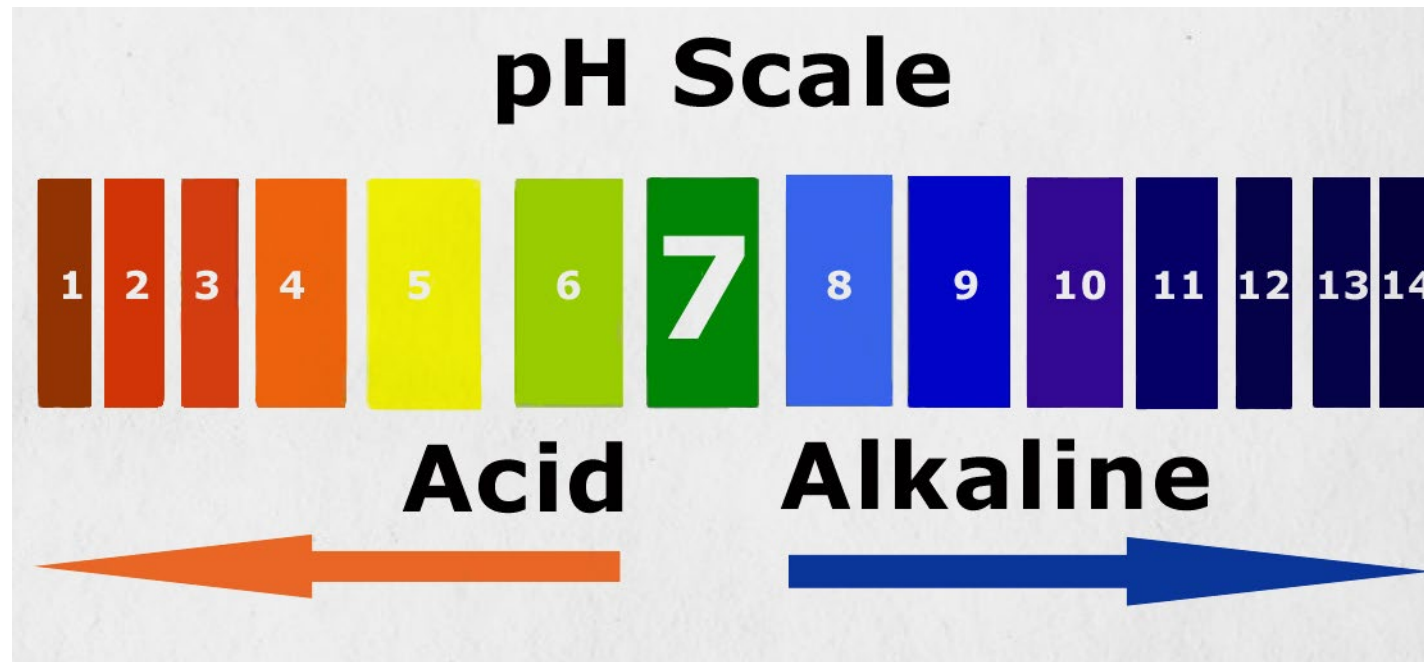
RCRA Ignitable Characteristic – D001

- Liquid (other than < 24% alcohol by volume) with a flash point < 140°F (60°C)
- A solid that can cause fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns vigorously and persistently
- Is an ignitable compressed gas
- Is an oxidizer



RCRA Corrosive Characteristic – D002

- Aqueous with $\text{pH} \leq 2.0$ or ≥ 12.5 ; OR
- Liquid that corrodes steel at $\frac{1}{4}$ inch (6.35 mm) per year



RCRA Reactive Characteristic – D003

- Unstable and undergoes violent change w/o detonating;
- Reacts violently with water;
- Forms an explosive mixture with water;
- Generates toxic gases, vapor fumes with water;
- Cyanide or sulfide-bearing waste producing toxic gases, vapors, or fumes @ pH 2 – 12.5;
- Capable of detonation or an explosive reaction; OR
- Forbidden explosive (49 CFR 173.51)

RCRA Toxic Characteristic – D004 – D043

- Applies to 8 inorganic elements and 32 organic compounds
- Tested using EPA Toxicity Characteristic Leaching Procedure (TCLP)
- Regulated if $>$ specified threshold



California Presumptive Lists

- Chemical names
- Common names
- Presumed to create a non-RCRA hazardous waste based on hazardous characteristic
 - X: Toxic
 - C: Corrosive
 - I: Ignitable
 - R: Reactive

Non-RCRA Ignitable Characteristic – D001

(Same as Federal)

- Liquid (other than < 24% alcohol by volume) with a flash point < 140°F (60°C)
- A solid that can cause fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns vigorously and persistently
- Is an ignitable compressed gas
- Is an oxidizer



Non-RCRA Corrosive Characteristic

- Aqueous with $\text{pH} \leq 2.0$ or ≥ 12.5
- Liquid that corrodes steel at $\frac{1}{4}$ inch (6.35 mm) per year
- Non-aqueous wastes that yield $\text{pH} \leq 2.0$ or ≥ 12.5 when mixed with an equivalent weight of water
- Non-liquids that corrode steel at $\frac{1}{4}$ inch (6.35 mm) per year when mixed with an equivalent weight of water



Non-RCRA Reactive Characteristic – D003

(Same as Federal)

- Unstable and undergoes violent change w/o detonating;
- Reacts violently with water;
- Forms an explosive mixture with water;
- Generates toxic gases, vapor fumes with water;
- Cyanide or sulfide-bearing waste producing toxic gases, vapors, or fumes @ pH 2 – 12.5;
- Capable of detonation or an explosive reaction; OR
- Forbidden explosive (49 CFR 173.51)

Non-RCRA Toxic

- Exceeds TTLC or STLC for 20 inorganics (Table II) or 18 organics (Table III)
- Oral LD₅₀ < 2,500 mg/kg
- Dermal LD₅₀ < 4,300 mg/kg
- Inhalation LC₅₀ < 10,000 ppm
- Aquatic 96-hr LC₅₀ < 500 mg/L
- Listed carcinogen > 0.001% (10 ppm) by weight

Used Oil

Used oil is defined as oil that has been refined from crude oil, or any synthetic oil, that has been used, and, as a result of use or as a consequence of extended storage or spillage, has been contaminated with physical or chemical impurities.



Used Oil

Used Oil

- Crankcase oil
- Gear oil
- Vegetable or animal oil used as a lubricant
- Hydraulic oil
- Transformer oil
- Transmission fluid

Not Used Oil

- Antifreeze
- Brake fluid
- Fuels
- Other automotive wastes
- Solvents
- Oil with a flash point < 100°F
- Oil with ≥ 5 ppm PCBs
- Oil with > 1,000 ppm halogens

California Waste Codes

- Restricted Wastes 700-800
- Inorganics 100-199
- Organics 200-300
- Sludges 400-499
- Miscellaneous 500-600

Exemptions

- Contaminated containers [22 CCR 66261.7]
- Scrap metal [22 CCR 66261.6(a)(3)(B)]
- Spent lead-acid storage batteries [22 CCR 66266.80 & 66266.81]
- Universal wastes [22 CCR 66273]
- Used oil filters [22 CCR 66266.130]
- Recyclable latex paint [HSC 25217.4]



Container & Tank Management

Container

A container is a device that is open or closed, and *portable*, in which material can be stored, handled, treated, transported, recycled, or disposed of.



Tank

A tank is a *stationary* device designed to contain an accumulation of hazardous waste constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) that provide structural support.



Container Accumulation Areas

- Generators must have a designated Central Accumulation Area (CAA)
 - Generators can have multiple CAAs
- LQGs – CAA must be > 50 ft from property line if ignitable (D001) or reactive (D003) waste present
- Facility must be maintained & operated to minimize possibility of a fire, explosion, or release

Container Accumulation Areas

Accumulation Time Limits and Volumes

LQG	90 days; no limit for hazardous waste stored on-site
SQG	180 days (270 days if shipped \geq 200 miles); maximum 6,000 kg hazardous waste stored on-site
VSQG (previously CESQG)	No time limit until 100 kg of hazardous waste (180 days) or 1 kg of acutely or extremely hazardous waste is reached (then 90 days)

Container Accumulation Areas

- Located in secure area with access controlled
- Post warning sign: “Danger Hazardous Waste Accumulation Area – Unauthorized Personnel Keep Out”



Central Accumulation Areas

- Emergency equipment:
 - Internal communication devices
 - Fire extinguishers
 - Spill control equipment
- Equipment must be tested and maintained
- LQGs – inspection schedule must be implemented, records maintained



Container Management

- Hazardous waste containers must be marked with the following:
 - “Hazardous Waste”
 - Generator’s name and address
 - Contents
 - Physical state
 - Hazardous properties
 - Accumulation start date
- Labels must be legible and visible!

Hazardous Waste Labeling

1 → **HAZARDOUS WASTE**

STATE AND FEDERAL LAWS PROHIBIT IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCE CONTROL.

2 → **GENERATOR INFORMATION:**
NAME _____
ADDRESS _____ PHONE _____
CITY _____ STATE _____ ZIP _____
EPA ID NO. _____ MANIFEST DOCUMENT NO. _____
EPA WASTE NO. _____ CA WASTE NO. _____ ACCUMULATION START DATE _____

3 → **CONTENTS, COMPOSITION:** _____

4 → **PHYSICAL STATE:** SOLID LIQUID | **HAZARDOUS PROPERTIES:** FLAMMABLE TOXIC
 CORROSIVE REACTIVE OTHER _____

5 →

6 →

D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX

HANDLE WITH CARE!

888324X SIGNMAKRY CIV. CATALOG NO. 93273

1. Words “Hazardous Waste”
2. Generator name and address
3. Composition (contents)
4. Physical state
5. Hazardous properties
6. Accumulation start date

Container Management

- Hazardous waste containers must be:
 - In good condition (no signs of rust, damage, or leakage)
 - Compatible with the waste
 - Closed (except when adding or removing waste)
 - Managed in a manner so they are not ruptured or caused to leak

Container Management

Funnels must meet closure requirements.



Container Management

Aisle space between containers must allow for unimpeded access to containers.



Container Management

- Incompatible hazardous waste cannot be placed in the same container

TECHNOTE: POTENTIALLY INCOMPATIBLE WASTES			
Mixing a Group A material with a Group B material may have the following consequences.			
Group 1-A		Group 1-B	
Acetylene sludge	Caustic wastewater	Acid sludge	Acid and water
Alkaline caustic liquids	Lime wastewater	Spent sulfuric acid	Spent mixed acid
Alkaline cleaner	Lime and water	Battery acid	Spent acid
Alkaline corrosive liquids	Spent caustic	Chemical cleaners	Etching acid liquid or solvent
Alkaline corrosive battery fluid	Lime sludge	Electrolyte, acid	
Potential consequences: Heat generation; violent reaction.			
Group 2-A		Group 2-B	
Aluminum	Zinc powder	Any waste in Group 1-A or 1-B	
Beryllium	Sodium		
Calcium	Potassium		
Lithium	Magnesium		
Other reactive metals and metal hydrides			
Potential consequences: Fire or explosion; generation of flammable Hydrogen gas.			
Group 3-A		Group 3-B	
Alcohols		Calcium	Lithium
		Potassium	Metal hydrides
		Other water-reactive waste	Any concentrated waste in Group 1-A or 1-B
		SO ₂ Cl ₂ , SOCl ₂ , PCl ₃ , CH ₃ SiCl ₃	
Potential consequences: Fire, explosion or heat generation; generation of flammable or toxic gases.			
Group 4-A		Group 4-B	
Alcohols	Aldehydes	Concentrated Group 1-A or 1-B	
Nitrated hydrocarbons	Halogenated hydrocarbons	Group 2 wastes	
Unsaturated hydrocarbons	Other reactive organic compounds and solvents		
Potential consequences: Fire or explosion; generation of flammable or toxic gases.			
Group 5-A		Group 5-B	
Spent cyanide and sulfide solutions		Group 1-B wastes	
Potential consequences: Generation of toxic Hydrogen cyanide or Hydrogen sulfide gas.			
Group 6-A		Group 6-B	
Chlorates	Perchlorates	Acetic acid and other organic acids	Concentrated mineral acids
Chlorine	Permanganates	Group 2-A wastes	Other flammable and combustible wastes
Chlorites	Peroxides	Group 4-A wastes	
Chronic acid	Nitrates		
Hypochlorites	Other strong oxidizers		
Nitric acid, fuming			
Potential consequences: Fire, explosion, or violent reaction.			

Tank Management

- Hazardous waste tanks must be labeled with the following:
 - “Hazardous Waste”
 - Accumulation start date
 - Hazardous property of the waste



Tank Management – SQGs

A log to demonstrate the tank has been emptied within 180 days from hazardous waste first entering the tank must be maintained.

Used Oil

- Containers and tanks used to store used oil must be marked with “Used Oil” (in addition to hazardous waste markings)
- **Do not** mark used oil containers and tanks with “Waste Oil”



Container Storage Area Inspections

- Weekly:
 - Leaking containers
 - Deterioration of containers
 - LQGs – containment systems
- Inspections should be documented

Tank Inspections – SQGs

- Daily (unless tank has secondary containment):
 - Discharge controls
 - Monitoring data
 - Tank level
- Weekly
 - Construction materials of the tank
- Inspections should be documented

Tank Inspections – LQGs

- At least once each operating day:
 - Overfill / spill control equipment
 - Aboveground portions of tank
 - Monitoring & leak detection equipment
 - Area surrounding externally accessible portion of tank system (secondary containment)
- Inspections must be documented
- Inspection records maintained for 3 years

Satellite Accumulation Areas

- Satellite Accumulation Area requirements:
 - At or near where the waste is generated
 - Under the control of operator of the process generating waste
 - Only containers can be used
 - One container per waste stream (unless generator determines using one container is not practical or safe – subject to DTSC review and approval)
 - *[Continued...]*

Satellite Accumulation Areas

- Limit of 55 gallons per waste stream
- Must meet all container management standards (weekly inspections not required)
- Container can be stored on-site for up to one year
- Container must be dated within three days of when it reaches capacity

WORKPLACE ACCUMULATION CONTAINER

Please D.O.T. Shipping Name: _____

HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL.

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

HANDLE WITH CARE!

MANÉJESE CON CUIDADO CONTIENE DESPERDICIOS TÓXICOS

Workplace Accumulation Start Date: _____

Waste Accumulation Date: _____

General Information:

Name: _____

Facility: _____

Address: _____

Phone: _____

City: _____

State: _____ Zip: _____

EPA / Manifest ID No. / Tracking No. _____

State Manifest Tracking No. _____

EPA Waste No. _____

General Housekeeping Practices

- Poor housekeeping can result in an increase in the amount of hazardous waste generated
 - Closure – protects workers from the waste and the waste from the elements
 - Spillage – must be cleaned up in a timely manner
 - Labeling – must be legible and visible
 - Inventory – do not exceed allowances

Potential Compliance Issue



Hazardous waste containers not labeled

Potential Compliance Issue



Hazardous waste container not closed

Potential Compliance Issue



Facility not operated/maintained to prevent a release

Miscellaneous Requirements

- Contaminated containers
- Spent lead-acid storage batteries
- Used oil filters
- Recyclable latex paint
- Universal wastes



Contaminated Containers

- Containers must be:
 - Empty – no continuous stream for liquids
 - Marked “EMPTY” (BMP)
 - Marked with the date they became empty
 - Stored on-site no more than one year (365 days)
 - Recycled
 - Recycle records are to be kept for 3 years



Contaminated Containers

- Containers that are 5 gallons or less **and** empty can be managed as municipal waste (trash)
- **Do not** dry containers; this may be considered treatment



Spent Lead-Acid Storage Batteries

- Management of batteries:
 - Stored upright on a pallet on a sealed surface
 - Stored to prevent the terminals from short circuiting
 - Stored on-site no more than one year (365 days – 180 days for more than a ton) and marked with out-of-service date
 - Recycle records are to be kept for 3 years



Drained Used Oil Filters

- Oil filters must be:
 - Drained (no free-flowing liquid)
 - Stored in a rainproof and closed container
 - Labeled “Drained Used Oil Filters” with an accumulation start date
 - Stored on-site no more than one year (365 days – 180 days for more than a ton)
 - Recycle records are to be kept for 3 years



Recyclable Latex Paint

- Recyclable latex paint is any water-based latex paint, still in liquid form, that is transferred for the purposes of being recycled
- Liquid latex paint cannot be disposed of in the land or waters of the state



Recyclable Latex Paint

- Recyclable latex paint can be sent to a facility that manages used paint as long as:
 - Paint is managed in accordance with all applicable latex paint procedures
 - Paint is in liquid form and in its original packaging (or in a closed, labeled container)
 - *[Continued...]*

Recyclable Latex Paint

- If the facility accepts latex paint that is not recyclable, the paint is managed as a hazardous waste
- If the paint is not excluded, the disposal of the paint is done so in a way that meets applicable federal requirements

www.paintcare.org

Universal Waste

- Examples of universal waste:
 - Batteries
 - Spent lamps
 - Electronic devices (e-waste)
 - Mercury-containing devices
 - Aerosol cans (non-empty)



**UNIVERSAL
WASTE**

CONTENTS _____

ACCUMULATION START DATE _____

SHIPPER _____

ADDRESS _____

CITY, STATE, ZIP _____

HCL® 880/121-8710 WWW.HCLCO.COM UW-1

Universal Waste

- Universal waste:
 - Must be kept in a closed container that is compatible with the waste
 - Labeled with:
 - “Universal Waste”
 - Type of waste (e.g., Waste Lamps, Used Batteries, Waste Aerosols)
 - Accumulation start date
 - Stored on-site for no more than one year (365 days)
 - Tracking records maintained for 3 years



Shipping Requirements

Shipping Requirements

- Hazardous waste must be profiled for disposal and transported:
 - By a registered hazardous waste transporter
 - Using a Uniform Hazardous Waste Manifest
 - To a permitted facility
- RCRA hazardous wastes are subject to DOT regulations

Shipping Requirements

- Exceptions:
 - VSQGs can self-transport hazardous waste to permitted HHW facility
 - Used oil transported to recycling facility (55-gallon limit)
 - Used oil generated during maintenance activities (55-gallon limit)
- These shipments do not require a hazardous waste transporter or Uniform Hazardous Waste Manifest

Shipping Requirements

- EPA form 8700-22 is the only manifest form that can be used
- Federal instructions included on the back of the manifest form

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 No.	10. Containers Type	11. Total Quantity	12. Unit WE/Vol.
13. Waste Codes					
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
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
Transporter 2 Printed/Typed Name		Signature		Month	Day
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
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

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

Shipping Requirements

- California has supplemental manifest instructions that include:
 - Submittal requirements
 - California waste codes
 - Hazardous waste management method codes

Effective
09/05/2006

Supplemental California Manifest Instructions

Revised June 2007

Federal and State hazardous waste manifest regulations changed on **September 5, 2006.**

Detailed manifest instructions are printed on the back of the new federal manifest. These Supplemental California Instructions cover additional California requirements. Please use the instructions printed on the new manifest for item by item directions. Materials are available at www.dtsc.ca.gov (under ID numbers, Manifests & Fees, Hazardous Waste Manifests), including fact sheets and California's manifest regulations, sample manifests, and federal instructions. For load rejections and consolidated manifesting, refer to the regulations and fact sheets.

IMPORTANT MANIFEST CHANGES - PLEASE READ AND SAVE AS A REFERENCE

The U.S. Environmental Protection Agency (EPA) revised the Uniform Hazardous Waste Manifest and requires the use of only the new version nationally after September 4, 2006. **States are no longer allowed to modify the form or the instructions.** Old versions of the California manifest, or manifests from other states, **may not be used after September 4, 2006.** The new manifest form is no longer color coded, and the new six-part form does not include a copy for generators to submit to their state, although California requires the generator to submit a copy.

Additional Information and Instruction Changes:

- Adds space for emergency response number;
- Adds Generator's site address;
- Allows up to six waste codes for each waste stream;
- Adds a box to indicate if waste stream is U.S. DOT regulated;
- Adds space for import/export information;
- Adds room for destination facilities to note discrepancies or if container residues exceed empty levels;
- Adds a new field for a manifest reference number when waste is rejected or if container residues are shipped on a new manifest;
- Adds a separate field for alternative facility information and signatures;
- Uses HW Report Management Codes to replace handling codes;
- Prohibits the use of fractions or decimal points in waste quantities in Item 10; and
- Discourages use of large quantity units in Item 11 (e.g. tons or cubic yards) when other units, i.e. pounds, are more accurate.

Where Do I Get Manifests?

California does not sell the new manifest forms. Forms are available only from private printers approved by EPA. EPA posts approved printers at www.epa.gov/epaoswer/hazwaste/gener/manifest/registry/index.htm.

Generators Must Submit Manifest Copies!

California requires generators and permitted transfer, treatment, storage, and disposal Facilities (Facilities) to submit manifests. The federal manifest form does not include a Generator-to-State submittal page, like the old manifest did (the blue page). Within 30 days of shipping the waste, generators must submit a copy of each manifest to DTSC. **This copy can either be a legible photocopy or the "Generator Retains" copy, if the generators receive a signed facility copy back within 30 days.** Generators may submit a copy of the "Generator Retains" copy (page 6), the top page (the most legible one - page 1), or any other page, as long as it is legible.

What About Submitting Manifests for Rejected Loads?

Generators should send copies of manifests they sign when **receiving** rejected waste or container residues to the Department of Toxic Substances Control's (DTSC) Facility Manifests at P.O. Box 3000. Facilities signing new manifests for rejected loads should submit the generator copy to DTSC Generator Manifests at P.O. Box 400. See the rejected load fact sheet on DTSC's web site.

How Are California Manifest Requirements Different from Federal?

- California requires conditionally exempt small quantity generators to use manifests and regulates more waste as hazardous.
- DTSC uses the submitted generator and facility manifest copies for cradle-to-grave tracking of waste.
- California's definition of an "empty" container is more stringent. Non-empty containers must be manifested, including bulk containers, whether the waste is federal RCRA or non-RCRA.
- Facilities in other states are required to submit copies to DTSC when waste generated in California is received out of state. Out-of-state generators sending waste to California facilities, or that will be exported through California, are encouraged to submit manifest copies.

Where Do I Mail Manifests? Same P.O. Boxes - No Change

GENERATORS SEND TO:

DTSC Generator Manifests
P.O. Box 400
Sacramento, CA 95812-0400

TSDFs/DESIGNATED FACILITIES SEND TO:

DTSC Facility Manifests
P.O. Box 3000
Sacramento, CA 95812-3000

Where Do I Find California Waste Codes?

The new manifest has six blank boxes for waste codes for each waste stream.

If the waste is RCRA regulated, at least one box must include a RCRA waste code. For waste generated in or shipped to California, a CA state waste code is also required. The additional boxes are for other states' codes when the waste is sent out of state to a state with codes, or for extra RCRA codes. California Waste Codes are printed on the reverse side of these instructions only, not on the instructions printed on the manifest. They are also found in Title 22, California Code of Regulations, Appendix XII to Chapter 11 of Division 4.5.

What are Hazardous Waste Report Management Method Codes (HWRMM Codes)?

Previously, California's manifest instructions required Designated Facilities to use one of 10 handling codes to report how the waste was handled at that facility. The new manifest uses 28 Management Method Codes. These are the same codes used in Biennial Reports. One of the HWRMM codes shown on the other side must be added on the manifest by the **Facilities only. Generators and transporters do not add these codes.**

Contact Information:

First, visit the DTSC web page at www.dtsc.ca.gov/IDManifest for training information and review the basic instructions printed on the manifest. This document includes Supplemental Instructions only for use in California. For more information, contact your transporter or facility, or call DTSC's Regulatory Assistance Officer at 800-72-TOXIC.

Shipping Requirements

- Generator is responsible for information in boxes 1 – 15
- Box 16 is for international shipments
- Box 17 is for transporter's acknowledgement of receipt
- Boxes 18 – 20 are to be completed by designated facility (TSDf)

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: _____						
Transporter signature (for exports only): _____ 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)				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

Shipping Requirements

- Manifest consists of 5 parts:
 - Page 1 – TSDf to EPA's e-Manifest system
 - Page 2 – TSDf to Generator
 - Page 3 – TSDf Copy
 - Page 4 – Transporter Copy
 - Page 5 – Generator Initial Copy (legible copy must be mailed to DTSC within 30 days of shipment)

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/SOFFEROR'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		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
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18b. Alternate Facility (or Generator)				Manifest Reference Number: _____ 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

Shipping Requirements

The generator must submit a legible manifest copy to DTSC within 30 days from the date of shipment to:

DTSC Generator Manifests
P.O. Box 400
Sacramento, CA 95812-0400

Shipping Requirements

- The TSDF must submit a manifest to EPA's e-Manifest system
- Fees:

Year 1 Marginal Cost Manifest Estimated Fees by Manifest Type (2017\$)		
Manifest Submission Type		Year 1 Fee (Estimated)
Paper Manifest Types	Mailed Paper	\$20.00
	Image Uploads	\$13.00
	Data File Uploads	\$7.00
Electronic Manifests (includes hybrid)	Electronic	\$4.00

Shipping Requirements

- Generators must receive a signed copy of the manifest from the TSDF within 35 days from the date of shipment
- The generator is responsible to contact transporter and TSDF if copy is not received by the 35th day

Shipping Requirements

- If the signed manifest copy is not received, the generator must submit an exception report to DTSC within:
 - 45 days for LQGs
 - 60 days for SQGs

Shipping Requirements

- Exception report must include a legible copy of the manifest and efforts generator made to locate hazardous waste
- Exception reports sent to:

DTSC Report Repository
Generator Information Services Section
P.O. Box 806
Sacramento, CA 95812-0806

Shipping Requirements

- Consolidated shipments:
 - Authorized hazardous waste streams consolidated into a single shipment from multiple generators
 - Transported by a consolidated transporter
 - Generator and transporter section of manifest completed by transporter
 - Generator provided a receipt (signed by transporter and generator) for shipment
 - Receipt retained by generator for 3 years from date of shipment

Shipping Requirements

- Used oil
- Contents of an oil/water separator
- Solids contaminated with used oil
- Brake fluid
- Antifreeze
- Antifreeze sludge
- Parts-cleaning solvents
- Asbestos and asbestos-containing materials
- Inks from the printing industry
- Chemicals and laboratory packs collected from K-12 school
- Filters from dispensing pumps for diesel and gasoline fuels
- Hydroxide sludge (contaminated solely with metal from a wastewater treatment process)
- Paint-related wastes including paints, thinners, filters, and sludge
- Spent photographic solution
- Dry cleaning solvents including perchloroethylene, naphtha, and silicone-based solvents
- Filters, lint, and sludge contaminated with dry cleaning solvent

Thank You

Questions? Contact us at:

NES, Inc.
1141 Sibley Street
Folsom, CA 95630



NESglobal.net
916-353-2360
800-637-2384