



# Hazardous Waste Basics

# First, some background



CENV0132



CENV0120



CENV0223



CENV0496

Hazardous waste demanded national attention

- *Love Canal, NY (1941)*

# Resource Conservation and Recovery Act (RCRA)

- ◆ Passed by Congress in 1976 to provide a cradle-to-grave management of hazardous waste
- ◆ Enforced by the following governmental agencies:
  - Federal - Environmental Protection Agency (EPA)
  - State - Department of Toxic Substances Control (DTSC)
  - Local – Certified Unified Program Agency (CUPA) in your area (County of San Diego: Department of Environmental Health - Hazardous Materials Division)

# Generator of Hazardous Waste

- ▶ The **definition** of a **hazardous waste generator** is:  
“A generator is any person, by site, whose *act or process* **produces hazardous waste** identified or listed in Chapter 11 of the hazardous waste regulations or whose act first causes a hazardous waste to become subject to regulation.”
  - ▶ \*\*Chapter 11 of the California Code of Regulations (CCR)
- ▶ DTSC Hazardous Waste Guidance:  
<http://www.dtsc.ca.gov/HazardousWaste/Generators.cfm>

# What is Hazardous Waste

◆ Any waste that has the following characteristics:

- Ignitable
- Corrosive
- Reactive
- Toxic

# Characteristics of a Waste

## ◆ Ignitable

Flash point < 140°F

Oxidizers

Flammable Compressed Gases

### Examples:

Iso-octane, acetone, isopropanol alcohol, acetonitrile, non-empty aerosol containers



# Characteristics of a Waste

## ◆ Corrosive

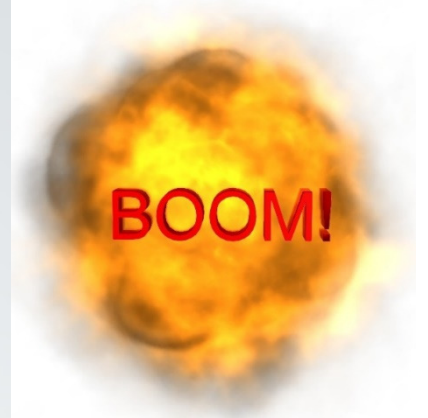
$\text{pH} \leq 2.0$  or  $\text{pH} \geq 12.5$

### Examples:

Cleaning chemicals,  
neutralizing chemicals  
(sulfuric acid, phosphoric  
acid, sodium hydroxide,  
calcium hydroxide)



# Characteristics of a Waste



## ◆ **Reactive**

Unstable and may explode under certain conditions such with the application of heat, friction or pressure

Examples: Air or water reactive chemicals, explosives



# Characteristics of a waste



## ◆ Toxic (California is more stringent than RCRA)

- ◆ Use lab analysis to determine toxicity (various types) or apply generator knowledge
- ◆ Defining Hazardous Wastes:  
[http://dtsc.ca.gov/HazardousWaste/upload/HWMP\\_DefiningHW111.pdf](http://dtsc.ca.gov/HazardousWaste/upload/HWMP_DefiningHW111.pdf)

### Examples:

Used oil, methylene blue (gram staining waste)

<http://www.dtsc.ca.gov/LawsRegsPolicies/Title22/index.cfm>

# Listed hazardous waste by EPA

- ◆ **Listed waste - Commercial Chemical Products (CCP)**
  - ◆ For example, acetone
- ◆ **Acutely hazardous waste (highly toxic)**
- ◆ **EPA Listed Solvents (F Listed waste)**
- ◆ **List: <https://www.epa.gov/hw/defining-hazardous-waste-listed-characteristic-and-mixed-radiological-wastes>**

# Common chemicals observed at facilities - Hazardous Waste

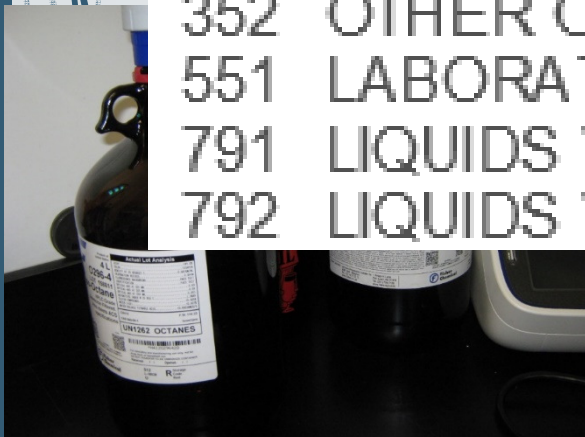


## Common Waste streams

- ▶ Laboratory wastes
  - Gram Staining
  - Alcohol/Solvent Waste
- ▶ Used Oil
  - machinery oil change
- ▶ Absorbent Oily Waste
  - Used rags/absorbent soaked in oils or solvent

# An Example of a Local Brewery Hazardous Waste Generated

<i>Calif. Code</i>	<i>Description</i>
134	AQ SOL (2 < PH < 12.5) W ORG RESIDUES < 10%
135	UNSPECIFIED AQUEOUS SOLUTION (2 < PH < 12.5)
181	OTHER INORGANIC SOLID WASTE
221	WASTE OIL AND MIXED OIL
331	OFF-SPEC, AGED, OR SURPLUS ORGANICS
343	UNSPECIFIED ORGANIC LIQUID MIXTURE
352	OTHER ORGANIC SOLIDS
551	LABORATORY WASTE CHEMICALS
791	LIQUIDS W PH<=2
792	LIQUIDS W PH<=2 W METALS



# Hazardous Waste Generator Categories

## ◆ Large quantity generators:

- ◆ >2,200 lbs/month or approx. 5 x 55 gallon drums (or more)
- ◆ More regulations do apply

## ◆ Small quantity generators:

- ◆ < 1,000 kg or 2,200 lbs per month

DTSC Guidance summarizing requirements:

<http://www.dtsc.ca.gov/HazardousWaste/upload/California-Generator-Chart.pdf>

# Hazardous Waste Accumulation Time for Generators

- ❖ Accumulation time frames depend on amount of hazardous waste generated (monthly and total), where the waste is headed for disposal and how it's accumulated.



DTSC Fact Sheet:

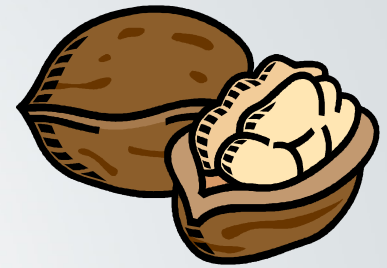
[https://dtsc.ca.gov/HazardousWaste/upload/FS\\_OAD\\_Accumulation.pdf](https://dtsc.ca.gov/HazardousWaste/upload/FS_OAD_Accumulation.pdf)

# Hazardous Waste Accumulation

(100 kg = 220 lbs = 27 gal)

- ⌚ **More than 1000 kg/month**, clock starts at 90 days from first drop of waste
- ⌚ **Less than 1000 kg/month but more than 100 kg/month**, clock starts 180 days from first drop
- ⌚ **Less than 100 kg/month**, clock starts 180 days from the day you reach 100 kg
- ⌚ For **acutely or extremely hazardous waste** (> 1 kg/month), clock starts at 90 days

# Generator Requirements



- Hazardous Waste Determination
- EPA Identification Number ([Link to Webpage](#))
- In compliance with waste accumulation time limits
- Proper hazardous waste labeling/markings
- Emergency procedures/contingency plan
- Employee training on hazardous waste management
- Following proper waste disposal requirements



# Some Examples of Waste that has been stored too long!



How do we know it has  
been stored too long??



# Inspection of Waste by the Generator



- ◆ Inspect waste once a week to ensure:
  - ✓ Container is labeled with a complete “**Hazardous Waste**” label
    - ✓ Container label identifies **contents**
    - ✓ Container labels has **accumulation start date**
  - ✓ Containers are kept **closed**
  - ✓ Containers are **not corroded**
  - ✓ Containers are maintained to minimize the possibility of release (i.e., secondary containment)



# Example of proper hazardous waste label

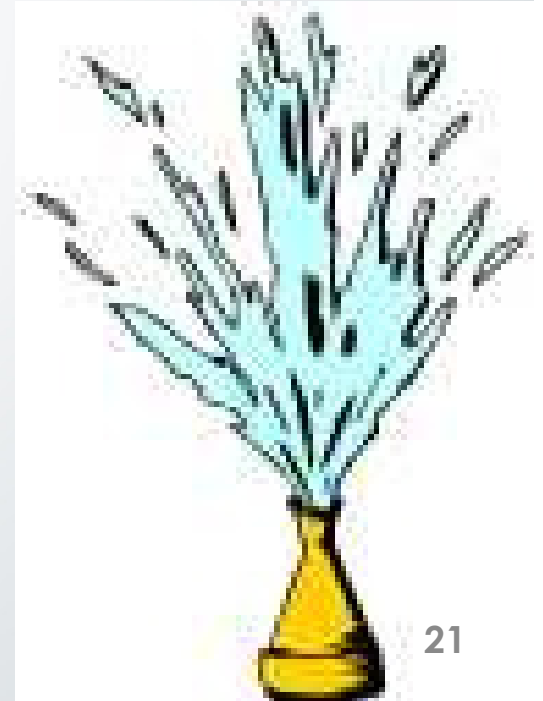
**HAZARDOUS WASTE**

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL  
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY  
AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY  
OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES

GENERATOR INFORMATION  
NAME HMD Brewers  
ADDRESS 5500 Overland Ave. PHONE 858-505-6880  
CITY San Diego STATE CA ZIP 92123  
EPA / MANIFEST ID NO. / DOCUMENT NO. /  
EPA CA ACCUMULATION  
WASTE NO. WASTE NO. START DATE 10/31/16  
CONTENTS COMPOSITION  
Laboratory Flammable Waste containing Iso-Octane  
PHYSICAL STATE HAZARDOUS PROPERTIES ☒ FLAMMABLE ☒ TOXIC  
☐ SOLID ☒ LIQUID ☐ CORROSIVE ☐ REACTIVITY ☐ OTHER  
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX  
**HANDLE WITH CARE!**  
STYLE WUCAS

# Segregation of Chemicals

- ◆ All chemical waste is to be stored so that incompatibles are not next to each other
- ◆ Never mix incompatible chemicals
  - Flammables and oxidizers
  - Flammables and any ignition source
  - Strong acids and strong alkalines
  - Concentrated acids and water
  - Organic solvents and corrosives
  - Corrosives and other reactive materials



# Waste Disposal



- ◆ Hazardous wastes may not be:
  - ◆ dumped down the storm drain
  - ◆ discharged to sanitary sewer
  - ◆ discarded with the garbage
  - ◆ allowed to evaporate into the atmosphere

# Disposal of Empty Containers



- ◆ Prior to disposal, containers:
  - ◆ **Must be completely empty of pourable and non-pourable contents**
  - ◆ Should have the **original label** removed, obscured,
    - ◆ For containers > 5 gallons, must be marked date emptied and should be properly recycled
    - ◆ For containers < 5 gallons, if completely emptied can be properly disposed of into the trash.

# Hazardous Waste Treatment

Treatment is the processing of a hazardous waste to reduce the volume, chemical properties, or hazardous characteristic of the waste generated.

If a facility treats hazardous waste, they may be subject to notification requirements before treating and additional regulations.

## **For Example:**

- Neutralizing hazardous waste and discharging to sewer
- Dilution of hazardous waste is not permitted

[http://www.sandiegocounty.gov/content/dam/sdc/deh/hmd/hmd\\_Tiered%20Permitting%20Reference%20Chart%202015.pdf](http://www.sandiegocounty.gov/content/dam/sdc/deh/hmd/hmd_Tiered%20Permitting%20Reference%20Chart%202015.pdf)



## What to expect when you're being inspected...

- Inspector will introduce themselves and ask for consent to conduct inspection
- Inspector will verify quantities of hazardous materials/wastes on site to ensure accuracy in what was reported online via CERS
- Inspector will be able to provide education on hazardous materials business plan and hazardous waste requirements
- Inspector will provide assistance with CERS submittal



# What to expect when you're being inspected...

- Inspector will want to review the **documentation** associated with your facility:
  - Employee training documentation
  - Hazardous Waste Manifests (if applicable)
  - Hazardous Materials Business Plan (HMBP) related documentation

**EMPLOYEE TRAINING DOCUMENTATION\***

ON        TRAINING PROVIDED BY:         
WAS CONDUCTED ON THE FOLLOWING TOPICS:

TRAINING TOPIC
<input type="checkbox"/> Procedures for handling hazardous materials, including hazardous wastes.
<input type="checkbox"/> Procedures for coordinating with emergency response agencies.
<input type="checkbox"/> Use of emergency response equipment and materials.
<input type="checkbox"/> Emergency Response Plan implementation.

THE FOLLOWING PERSONS ATTENDED THE TRAINING:

NAME	TITLE

Form Approved OMB No. 2050-0070

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: \_\_\_\_\_ 2. Page 1 of 3 3. Emergency Response Phone: \_\_\_\_\_ 4. Manifest Tracking Number: \_\_\_\_\_

5. Generator's Name and Mailing Address: \_\_\_\_\_

6. Generator's Site Address (if different from mailing address): \_\_\_\_\_

7. Transporter 1 Company Name: \_\_\_\_\_ U.S. EPA ID Number: \_\_\_\_\_

8. Transporter 2 Company Name: \_\_\_\_\_ U.S. EPA ID Number: \_\_\_\_\_

9. Designated Facility Name and Site Address: \_\_\_\_\_ U.S. EPA ID Number: \_\_\_\_\_

10. Facility's Phone: \_\_\_\_\_

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)): \_\_\_\_\_

12. Containers: \_\_\_\_\_ 13. Waste Codes: \_\_\_\_\_

14. Special Handling Instructions and Additional Information: \_\_\_\_\_

15. GENERATOR'S CERTIFICATION: (I certify that the contents of this manifest are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled, and are in full compliance with applicable federal, state and local laws, regulations, and orders.)

16. Transporter Acknowledgment of Receipt of Materials: \_\_\_\_\_

17. Transporter 1 Printed Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

18. Transporter 2 Printed Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

CONSOLIDATED EMERGENCY RESPONSE / CONTINGENCY PLAN

1. FACILITY IDENTIFICATION AND OPERATIONS OVERVIEW

2. EMERGENCY RESPONSE / CONTINGENCY PLAN

3. EMERGENCY COMMUNICATIONS, PHONE NUMBERS AND NOTIFICATIONS

4. EMERGENCY RESPONSE / CONTINGENCY PLAN

5. EMERGENCY RESPONSE / CONTINGENCY PLAN

6. EMERGENCY RESPONSE / CONTINGENCY PLAN

7. EMERGENCY RESPONSE / CONTINGENCY PLAN

8. EMERGENCY RESPONSE / CONTINGENCY PLAN

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18. EMERGENCY RESPONSE / CONTINGENCY PLAN

19. EMERGENCY RESPONSE / CONTINGENCY PLAN

20. EMERGENCY RESPONSE / CONTINGENCY PLAN

# What to expect when you're being inspected...

- **At the Conclusion of inspection:**  
facility will be provided with an electronic inspection report, which documents observations made during the inspection and corrective actions (if any)

 <b>COUNTY OF SAN DIEGO</b>		INSPECTION DATE: 06/09/2017	PAGE 3 OF 20
<b>COMPLIANCE INSPECTION REPORT</b>		RECORD ID #: DEH2013-HUPFP-000308	
FACILITY NAME: CERS-TO-KIVA TEST PERMIT		TIME START: 12:30 PM	END: 2:30 PM
ADDRESS: 1255 IMPERIAL AVE		SPECIALIST: Cher Vue	
CITY/ZIP: SAN DIEGO /92101		INSPECTION CONTACT: Mr. Brightside	
		TITLE: testing eforms	
		PHONE: (858) 505-6880	
		E-MAIL: grissel.garcia@sdcounty.ca.gov	


On the above date, the County inspected your facility under the authority of the California Health and Safety Code (H&SC), to determine compliance with applicable provisions of the H&SC, the California Code of Regulations (CCR), and the San Diego County Code of Regulatory Ordinances (SDCC). This report serves as a Notice to Comply H&SC 25187.8 & 25404.1.2) for any minor violations as defined in H&SC 25404 and 25117.6. This report may contain both minor and more significant (Class II) violations. Minor violations do not include repeat violations or violations remaining uncorrected for more than 30 days (or as specified below). Minor violations do not include knowing, willful, intentional, or chronic violations; nor do they include violations showing a pattern of neglect or disregard. The remarks below are intended to provide guidance to correct any violations indicated on the attached violation report. You must submit a written response to this report within 30 days (or as specified below) demonstrating that all violations have been corrected or include a written notice of disagreement that clearly states the reason for any disputed violations. Prompt correction can protect you from penalties for a "minor violation". Penalties can be imposed for each day in violation for all other violations even if they are corrected promptly. However, correction within 30 days (or as specified below) will make a penalty less likely.

**NOTE: Reinspection fees will be charged if additional inspections are required to determine compliance.**

Yes	N/A	Yes	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Consent to Conduct Inspection Granted By: Mr. Brightside

Title: testing eforms

 <b>COUNTY OF SAN DIEGO</b>		INSPECTION DATE: 06/09/2017
<b>CORRECTIVE ACTION FORM TO DOCUMENT RETURN TO COMPLIANCE</b>		RECORD ID #: DEH2013-HUPFP-000308
FACILITY NAME: CERS-TO-KIVA TEST PERMIT		SPECIALIST: Cher Vue
ADDRESS: 1255 IMPERIAL AVE		INSPECTION CONTACT: Mr. Brightside
CITY/ZIP: SAN DIEGO /92101		TITLE: testing eforms
		PHONE: (858) 505-6880
		E-MAIL: grissel.garcia@sdcounty.ca.gov

VIOL#	DATE CORRECTED	INDICATE HOW VIOLATIONS WERE CORRECTED (Attach Any Supporting Documentation)	DUE DATE

# Common Observations @ Some Breweries

- ▶ Failure to obtain a UPF Permit for storing hazmats and generating hazardous waste
- ▶ Failed to properly label all hazardous waste containers
- ▶ Failed to label containers > 5 gallons with the date upon which it was empty
- ▶ Employee Training not conducted on an annual basis or failed to adequately demonstrate/document training

# Common Observations @ Some Breweries

- ▶ Hazardous Materials Business Plan (HMBP) not established or implemented because facility stores/handles reportable quantities.
- ▶ Failure to amend significant changes to HMBP – chemical inventory not accurately reported or environmental contact person changed
- ▶ Failure to maintain waste manifests, bills of lading or consolidated manifests on site for review (3 years)

# Questions?

## **Hazardous Materials Division**

Department of Environmental Health, County of San Diego

PO Box 129261, San Diego CA 92112-9261

Phone: 858-505-6880

Email: [hmdutyeh@sdcounty.ca.gov](mailto:hmdutyeh@sdcounty.ca.gov)

Website: [sandiegocounty.gov/content/sdc/deh/hazmat](http://sandiegocounty.gov/content/sdc/deh/hazmat)

