



# 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

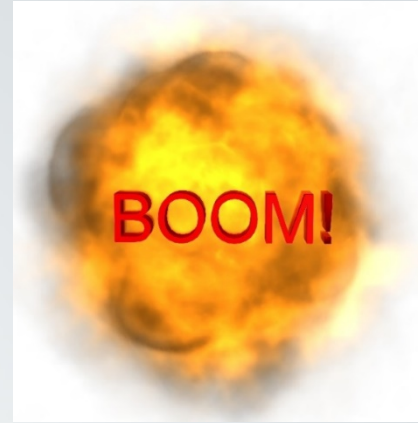
$\text{pH} \leq 2.0$  or  $\text{pH} \geq 12.5$

### 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:
- ◆ [https://www.dtsc.ca.gov/HazardousWaste/upload/HWMP\\_DefiningHW111.pdf](https://www.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>**

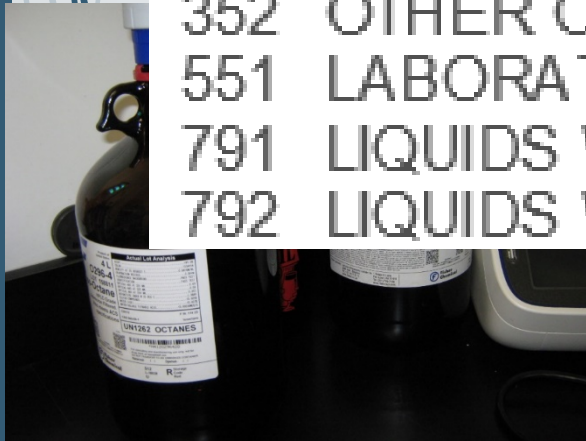
# Common chemicals observed at facilities - Hazardous Waste



- ▶ 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:

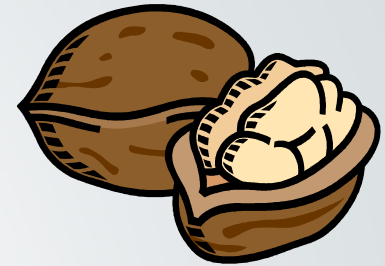
[https://dtsc.ca.gov/HazardousWaste/upload/FS\\_OAD\\_Accumulation.pdf](https://dtsc.ca.gov/HazardousWaste/upload/FS_OAD_Accumulation.pdf)

# 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  
(<http://www.dtsc.ca.gov/IDManifest/index.cfm>)
- In compliance with waste accumulation time limits
- Proper hazardous waste labeling/marking
- 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 <u>HMD Brewers</u>		
ADDRESS <u>5500 Overland Ave.</u>		PHONE <u>858-505-6880</u>
CITY <u>San Diego</u>	STATE <u>CA</u>	ZIP <u>92123</u>
EPA / MANIFEST		
ID NO. /	DOCUMENT NO.	
EPA	CA	ACCUMULATION
WASTE NO. _____	WASTE NO. _____	START DATE <u>10/31/16</u>
CONTENTS COMPOSITION _____		
Laboratory Flammable Waste containing Iso-Octane		
PHYSICAL STATE	HAZARDOUS PROPERTIES <input checked="" type="checkbox"/> FLAMMABLE <input checked="" type="checkbox"/> TOXIC	
<input type="checkbox"/> SOLID <input checked="" type="checkbox"/> LIQUID	<input type="checkbox"/> CORROSIVE	<input type="checkbox"/> REACTIVITY <input type="checkbox"/> OTHER _____
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX		
HANDLE WITH CARE!		
STYLE WUCAB		

# 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/sdc/deh/hazmat/hmd\\_publications.html](http://www.sandiegocounty.gov/content/sdc/deh/hazmat/hmd_publications.html)



# 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



- 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

[illegible]

Please print or type. Form designed for use with 12 pitch typewriter.

Form Approved OMB No. 2050-004

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number		2. Page 1 of 3. Emergency Response Phone		3. Manifest Tracking Number					
Generator's Name and Mailing Address				Generator's Site Address (if different from mailing address)							
Generator's Phone											
18. Transporter 1 Company Name				U.S. EPA ID Number							
19. Transporter 2 Company Name				U.S. EPA ID Number							
3. Designated Facility Name and Site Address				U.S. EPA ID Number							
Facility's Phone											
The 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 (M/L/G)		13. Waste Codes	
1											
2											
3											
4											
14. Special Handling Instructions and Addressee Information											
15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this manifest are fully and accurately described above by the proper shipping name, and are classified, packaged, labeled and documented, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. Export agreement and I am the Party of Origin. I certify that the contents of this management system is in compliance with the requirements of the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). I certify that the waste management statement identified in RCRA 302(c)(7)(B) if it is a large quantity generator or 302(d) if it is a small quantity generator is true.											
Generator's/Shipper's Printed Name				Signature				Month		Year	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.				Part of entry/exit document being U.S.							
17. Transporter Acknowledgment of Receipt of Materials Transporter's Printed Name				Signature				Month Year Year			

[illegible]

# 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)



## COUNTY OF SAN DIEGO COMPLIANCE INSPECTION REPORT

FACILITY NAME: CERS-TO-KIVA TEST PERMIT  
ADDRESS: 1255 IMPERIAL AVE  
CITY/ZIP: SAN DIEGO /92101

INSPECTION DATE: 06/09/2017 PAGE 3 OF 20  
RECORD ID #: DEH2013-HUPFP-000308  
TIME START: 12:30 PM END: 2:30 PM  
SPECIALIST: Cher Vue  
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 25117.6 & 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 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 checked="" type="checkbox"/>	<input type="checkbox"/>

Permit Expires On 09/30/2014

CONSENT TO CONDUCT INSPECTION GRANTED BY: Mr. Brightside

TITLE: testing eforms



## COUNTY OF SAN DIEGO CORRECTIVE ACTION FORM TO DOCUMENT RETURN TO COMPLIANCE

FACILITY NAME: CERS-TO-KIVA TEST PERMIT  
ADDRESS: 1255 IMPERIAL AVE  
CITY/ZIP: SAN DIEGO /92101

INSPECTION DATE: 06/09/2017  
RECORD ID #: DEH2013-HUPFP-000308  
SPECIALIST: Cher Vue  
INSPECTION CONTACT: Mr. Brightside  
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)

