

# Hazardous Waste & Liquid Industrial By-Product Accumulation & Labeling Requirements

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A decorative graphic at the bottom of the slide, consisting of several overlapping, wavy bands of light blue and teal colors that create a sense of movement and depth.

# Today's Goals

## Identify Generator Accumulation Requirements for:

- Liquid Industrial By-Product Generators
- Used Oil
- Universal Wastes
- Conditionally Exempt Small Quantity Generators
- Small Quantity Generators
- Large Quantity Generators

# Today's Goals

Introduce Basic Applicability Concepts  
Related to:

- Hazardous Waste Tanks
- Subpart CC Rules

# Waste Regulations

Act 451, Michigan Natural Resources & Environmental Protection Act:

Part 111, Hazardous

Part 121, Liquid Industrial By-Products

Part 115, Solid Waste

Part 169, Scrap Tires

Act 368, Michigan Public Health Code:

Part 138, Medical Waste Regulatory Act

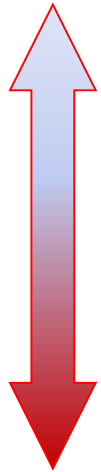
Part 2, Ionizing Radiation Rules

Federal Toxic Substance Control Act (TSCA)

# Waste Labeling and Storage

Requirements vary based on type and amount

**Less  
Regulation**



Liquid Industrial By-Products Generators (LIB)  
Universal Waste Generators  
Conditionally Exempt Small Quantity Generators (CESQGs)  
Small Quantity Generators (SQGs)  
Large Quantity Generators (LQGs)

**More  
Regulation**

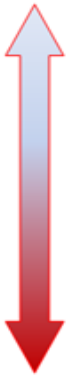
# Hazardous Waste Generators

## CESQG

- Generate  $\leq$  220 lbs. non-acute monthly
- ~ 1/2 drum non-acute monthly
- Never accumulate  $>$  2,200 lbs.



Less  
Regulation



More  
Regulation

## SQG

- Generate  $>$  220 lbs. &  $<$  2200 lbs. non-acute monthly
- ~ 1/2 drum to 5 drums monthly
- Never accumulate  $>$  13,200 lbs.



## LQG

- Generate  $\geq$  2200 lbs. non-acute or
- $>$  5 drums monthly
- $>$  2.2 lbs. acute or severely toxic



# Liquid Industrial By Products

LIB must be placed in containers or tanks that are labeled or marked to identify their contents

LIB tanks and containers must be:

- Kept closed or covered when not in use and free of by-product or residues on the exteriors
- Protected from weather fire physical damage and vandals
- Managed to prevent release to the environment

***Hazardous waste generated at a CESQG is managed as LIB***

# Liquid Industrial By Products

## Common Violations

- Unmarked containers
- Improper storage - i.e., container is left open
- Spills and leaks visible on containers and/or surrounding area



# Used Oil

- Container or above ground storage tank labeled "Used Oil"
- Fill pipes used to transfer used oil labeled "Used Oil"
- Stored in containers in good condition with no visible signs of leaks

# Used Oil

## Common Violations

- Container, above ground storage tank, or fill pipes not labeled or labeled correctly
- Spills and leaks visible on containers and/or surrounding area
- Open containers (funnels left in place, oil left in drain pans)

# Used Oil Storage



# Used Oil Storage



# Used Oil Storage



# Universal Waste Types

Michigan universal waste types include:

- Batteries
  - Pesticides
  - Mercury containing equipment
  - Lamps
  - Pharmaceuticals
  - Consumer electronics
  - Antifreeze
- } Michigan Only

# Universal Waste Containers

Containers must be:

- Labeled correctly (specific to type of universal waste)
- Kept closed (except universal waste electronics)
- Structurally sound
- Compatible with the contents
- Managed to prevent breakage/releases/losses to the environment



# Universal Waste Batteries

Containers must be labeled "Universal Waste Batteries," "Waste Batteries," or "Used Batteries"





# Universal Waste Electric Lamps

Containers must be  
Labeled "Universal  
Waste Lamps,"  
"Waste Lamps" or  
"Used Lamps"



# Universal Waste Mercury Containing Equipment

Containers must be labeled  
“Universal Waste-Mercury  
Containing Equipment,”  
“Waste Mercury-Containing  
Equipment,” or  
“Used Mercury-Containing  
Equipment”



# Universal Waste Pesticides

Containers must be:

- Labeled “Universal Waste Pesticides” or “Waste Pesticides”
- Meet all tank requirements if using tank storage

# Universal Waste Consumer Electronics

Packaging must be labeled “Universal Waste Consumer Electronics” or “Universal Waste Electronics”



# Universal Waste

## Antifreeze:

- Containers must be labeled “Universal Waste Antifreeze,” “Waste Antifreeze” or “Used Antifreeze”

## Pharmaceuticals:

- Recommended label “Universal Waste Pharmaceuticals”

# Universal Waste

## Common Violations

- Unlabeled or improperly labeled containers
- Lack of accumulation start dates or inventory records
- Improper storage - i.e., container is left open
- Accumulation over one year

# Container Requirements



# Small Quantity Generators

## Container Requirements

- Be labeled "Hazardous Waste"
- Have accumulation date
- Clearly marked with hazardous waste number(s)
- Be in good condition
- Stored closed
- Handled & stored to prevent leaks
- Be accumulated in an area protected from weather, fire, physical damage, and vandals



# Small Quantity Generators

## Container Requirements

- Be inspected weekly
- Be compatible with the waste
- Be separated from each other if incompatibles
- Be washed if they previously held incompatibles
- *Have secondary containment if > 1000 kg (2,200 lbs.) or ~ 5 drums*

# Large Quantity Generators

## Container Requirements

- Be labeled "Hazardous Waste"
- Have accumulation date
- Clearly marked with hazardous waste number(s)
- Be in good condition
- Stored closed
- Handled & stored to prevent leaks
- Be accumulated in an area protected from weather, fire, physical damage, and vandals

# Large Quantity Generators Container Requirements

- Not contain incompatible wastes
- Be separated from each other if holding incompatibles
- Be washed if previously holding incompatibles
- Have secondary containment
- Be inspected weekly with inspections documented (kept on-site 3 years)
- Be stored 50 feet from property line if ignitable and/or reactive (written local FD approval if distance < 50 ft)

# Container Requirements

## Common Violations

- Not labeled as required
- No accumulation dates
- Labels not visible
- Lacking or inadequate secondary containment
- Inspections not documented

# Generator Accumulation/Storage Time Frames

## SQG's

- Generate  $> 220$  lbs. &  $< 2200$  lbs. non-acute monthly
- Accumulate not more than 13,200 lbs.
- Store 180 days or less

## LQG's

- Generate  $\geq 2200$  lbs. non-acute or  $> 2.2$  lbs. acute or severely toxic monthly
- Store 90 days or less

# Secondary Containment

## Same for SQGs\* and LQGs

Secondary Containment must:

- Have an impervious base free of cracks
- Be sloped or otherwise designed to elevate/protect containers from liquids
- Hold 10% of total container volume or 100% of the volume of the largest container, whichever is greater
- Prevent run on - unless of sufficient capacity
- Have accumulated liquids removed to prevent over-flow

\*if > 1000 kg (2,200 lbs.) or ~ 5 drums

# Secondary Containment



# Secondary Containment





# Secondary Containment



# Satellite Containers

## Same for SQGs and LQGs

Must be accumulated at or near the point of generation and...

- < 55 gallons of hazardous waste (all types/all containers combined)
- < 1 quart of acutely or severely toxic waste
- Under the control of the operator
- Labeled "Hazardous Waste"
- Labeled with either the hazardous waste number(s) or chemical name

# Satellite Containers

## Same for SQGs and LQGs

Containers must be:

- In good condition
- Compatible with the waste in them
- Closed when not in use
- Marked with date and moved to storage area within 3 days of exceeding 55 gallons non-acute or 1 quart severely/acutely toxic
- Managed to prevent leaks

# Satellite Containers

## Common Violations

- Containers not near the point of generation or under the control of the operator
- Containers not labeled appropriately
- Containers open
- Containers > 55 gallons

# Tanks

## SQGs and LQGs

Subparts J & I – Tanks must:

- Be labeled “Hazardous Waste”
- Be marked with accumulation date
- Not contain wastes which could cause rupture, leaks, corrosion or other failures
- Be managed to prevent reactions that would threaten human health and the environment
- Be decontaminated (washed) if they previously held incompatible waste before adding waste

# Tanks

## Additional Requirements

- Ignitable and reactive wastes
- Controls and practices to prevent spills & overflows
- Secondary Containment
- Inspection Requirements and Records
- Tank Certification

# Tanks

## Inspection Requirement and Records

- All tanks must be inspected each day, including overflow and spill control devices
- All tank inspections must be documented and all documents must be kept for at least 3 years

# Tanks

## Certification

Must obtain a written assessment that is reviewed and certified by a qualified professional engineer that considers the following:

- Design standards
- Hazard characteristics of the waste(s)
- Determination performed by corrosion expert if the external shell of a metal tank is in contact with soil or water
- Design considerations if tank affected by vehicles (for UST systems)



# Tanks

## Certification

- “Qualified Professional Engineer” required  
*NOTE – “Independent” registered professional engineer is no longer required per change in adopted federal rules*
- Written certification must be kept on file  
*at the facility*

# Tanks

## Common Violations

- Not labeled as required
- No accumulation date or log
- Inspections not conducted and/or documented
- No written assessment
- Written assessment not maintained on-site

# Subpart CC Rules

Purpose is to control air emissions from:

- Permitted interim status tanks, containers, and surface impoundments
- 90-day tanks and containers

# Subpart CC Rules

## Applicability

- Applies to LQGs and TSDFs
- Organics and volatile organics
- Has to be a hazardous waste, not a product
- Organic concentrations > 500 parts per million by weight (ppmw)
- Permitted tanks, containers (>26.4 gallons), surface impoundments

**CESQGs and SQGs are exempt**

# Subpart CC Rules

## Exemptions

- Satellite equipment
- Onsite units containing remediation waste
- Wastewater treatment units
- Totally enclosed treatment units
- Units that receive radioactive mixed waste
- Units with controls mandated under the CAA

# Subpart CC Rules

## Compliance Options

- Documentation that the organic concentration of the waste is  $< 500$  ppmw at point of origination, or
- Assume organic concentration is  $> 500$  ppmw and manage waste in controlled units
  - No organic concentration determination needed
  - Many tanks already have controls
  - Containers are easy to control

# Subpart CC Rules

- Tank standards: 40 CFR 265.1085
- Container Standards: 40 CFR 265.1087
- Surface Impoundment Standards: 40 CFR 265.1086

# Waste Accumulation

## The Bad and the Ugly





# Waste Accumulation

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## The Bad and the Ugly



# Questions?

