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

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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

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

**CESQG**
- Generate < 220 lbs. non-acute monthly
- ~ ½ drum non-acute monthly
- Never accumulate > 2,200 lbs.

**SQG**
- Generate > 220 lbs. & < 2200 lbs. non-acute monthly
- ~ ½ drum to 5 drums monthly
- Never accumulate > 13,200 lbs.

**LQG**
- Generate > 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
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 > 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
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Questions?