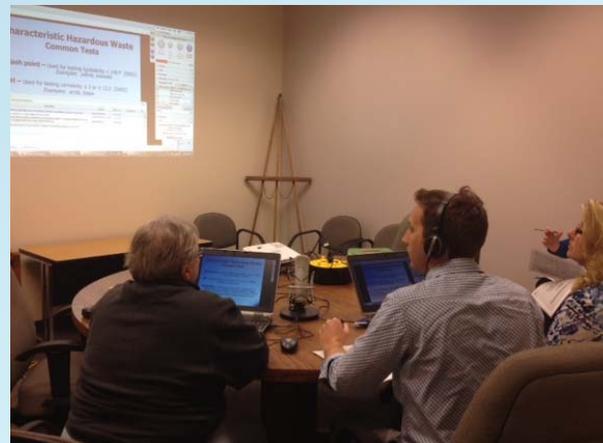


Introduction to Hazardous Waste Regulations Webinar Series

Office of Environmental
Assistance

Office of Waste
Management and
Radiological Protection



Introduction to Hazardous Waste Regulations Webinar Series

**Hazardous Waste Generator
Accumulation, Storage, and Labeling**



Office of Environmental Assistance



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Housekeeping

- All lines will be muted
- Questions can be sent to us via the question/chat box
- We will record and post online
- Notes page



Environmental Assistance Center (EAC)

**Phone: 1-800-NO2-WASTE
(1-800-662-9278)**

**Hours: 8:00 AM to 4:30 PM
Monday – Friday**



Technical Assistance Services Include:

**Air
Waste
Water**

**Environmental Audit Privilege
Site Remediation
Permit Coordination**



Do I Need to Know All of This?

Hazardous waste regulations...

apply to all businesses, including municipalities, hospitals, & service industries, not just manufacturing industries

are written broadly to address hazards posed by all waste streams

Why Cover These Topics?

Hazardous waste regulations require each business to...

Properly label all containers of hazardous and liquid industrial waste

Properly store all containers of hazardous and liquid industrial waste to prevent the escape of any constituents into the environment

Why Cover These Topics?

Proper accumulation and storage
will...

- ✓ Prevent release to the environment
- ✓ Prevent costly clean up expenses

Waste Labeling and Storage

Regulations requiring proper accumulation & storage:

Act 451, Michigan Natural Resources & Environmental Protection Act:

Part 111, Hazardous Waste

Part 121, Liquid Industrial Waste

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

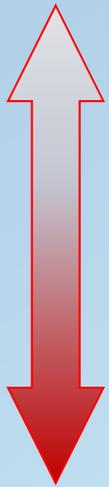
Federal Toxic Substance Control Act (TSCA)



Waste Labeling and Storage

Requirements vary based on waste type and amount

Less
Regulation



Liquid Industrial Waste Generators (LIW)

Universal Waste Generators

Conditionally Exempt Small Quantity Generators (CESQGs)

Small Quantity Generators (SQGs)

Large Quantity Generators (LQGs)

More
Regulation



Conditionally Exempt Small Quantity Generators

Part 111, Rule 205(2)(c) –

Accumulation area must be protected from weather, fire, physical damage, and vandals.

Part 111, Rule 205(2)(d) –

Waste must be accumulated so that constituents cannot escape by gravity into soil (directly or indirectly), into surface water or ground water, into drains or sewers, or to the air in violation of Part 55.

Conditionally Exempt Small Quantity Generators



Small Quantity Generators

Part 111, Rule 306 –

Containers must:

- Be labeled “Hazardous Waste”
- Have accumulation date (visible)
- Have hazardous waste numbers
- Be in good condition
- Be stored closed
- Be handled & stored to prevent leaks
- Be inspected weekly

Small Quantity Generators

Part 111, Rule 306 –

Containers must:

- Be compatible with the waste
- Not contain incompatible wastes
- 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

Part 111, Rule 306 –

Containers must:

- Be labeled “Hazardous Waste”
- Have accumulation date (visible)
- Have hazardous waste number(s)
- Be in good condition
- Be stored closed
- Be handled & stored to prevent leaks
- Be stored 50 feet from property line if ignitable and/or reactive (written local FD approval if distance < 50 feet)



Large Quantity Generators



Large Quantity Generators

Part 111, Rule 306 –

Containers must:

- Be inspected weekly
- Inspections must be documented (kept on-site 3 years)
- Not contain incompatible wastes
- Be separated from each other if holding incompatibles
- Be washed if previously holding incompatibles
- Have secondary containment

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

For Small Quantity Generator –

Part 111, Rule 306(4)(b) refers to
40 CFR 264.175

For Large Quantity Generator –

Part 111, Rule 306(1)(a) refers to
40 CFR 264.175



Secondary Containment

Same for SQGs and LQGs

Part 111, Rule 306 & 40 CFR 264.175 –

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 volume of the largest container whichever is greater
- Prevent run on - unless of sufficient capacity
- Have accumulated liquids removed to prevent overflow

Secondary Containment

Same for SQGs and LQGs

EXAMPLES:

Solid



Liquid



Satellite Containers

Same for SQGs and LQGs

Part 111, Rule 306(2) –

Must be accumulated at or near the point of generation and containers must:

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

Satellite Containers

Same for SQGs and LQGs

Part 111, Rule 306(2) –

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



Academic Laboratories

NEW RULE ADOPTED IN MICHIGAN

Part 111, Rule 313 & 40 CFR 262.200 -

- Applies to colleges, universities, or college - university affiliated teaching hospitals and non-profit research institutes.
- Allows academic entities to decide when & where on-site hazardous waste determinations are made.
- Requires hazardous waste determinations to be made by trained professionals (not students).
- Requires development of a lab management plan.
- Requires hazardous waste to be removed every six months.
- Unused hazardous wastes generated during once/year lab clean-out are not counted towards generator status.



Academic Laboratories

Comparison of Subpart K, Academic Lab Rule vs. Satellite Accumulation

www.epa.gov/wastes/hazard/generation/labwaste/saa-vs-alr.pdf

Side-by-Side Comparison: Satellite Accumulation vs. Academic Labs Rule

	Laboratories that Operate as Satellite Accumulation Areas (SAA)	Laboratories that Operate Under the Academic Laboratories Rule (Subpart K)
Regulatory Citation	• 40 CFR 262.34(c)	• 40 CFR Part 262 Subpart K
Applicability	• Any SQG or LQG may establish an SAA "at or near any point of generation"	• Any CESQG, SQG or LQG that is an eligible academic entity may opt into Subpart K • An eligible academic entity is a <ul style="list-style-type: none"> ◦ College or university (C/U), or ◦ Teaching hospital or non-profit research institute that is owned by or has a formal written affiliation agreement with a C/U
Terminology for regulated materials	• Hazardous waste • Acute hazardous waste	• Unwanted material • Reactive acutely hazardous unwanted material
Maximum accumulation time in lab	• No time limit, unless maximum accumulation volumes are exceeded (see below)	• Six months
Maximum accumulation volume in lab	• 55 gallons of hazardous waste • Total of 1 quart of 124 P-listed acute hazardous wastes	• 55 gallons of unwanted material • Total of 1 quart of 6 P-listed reactive acutely hazardous unwanted materials
Time allowed to exceed maximum volumes in lab	• 3 calendar days	• 10 calendar days
Container labeling in lab	• "Hazardous waste" or • "Other words that identify the contents of the container"	• "Unwanted material" or "other equally effective term," and • Information re: contents of the container, and • Sufficient information to make a hazardous waste determination, and • Accumulation start date
Hazardous waste determination	Must be made at the point of generation: <ul style="list-style-type: none"> • In the SAA • When the waste is first generated 	Choice of where and when to make: <ul style="list-style-type: none"> • In the lab, before it is shipped off-site • Within 4 days of arriving at on-site Central Accumulation Area (CAA) • Within 4 days of arriving at on-site TSD

This chart is a summary of federal regulations and is not intended to be exhaustive.

Prepared by EPA, July 2009



Liquid Industrial Waste

NO LABELING REQUIREMENTS

Part 121, Section 12113(1) –

All vehicles, containers & tanks must be closed or covered (except when adding or removing waste) to prevent escape of LIW. Exteriors of vehicles, containers and tanks must be kept free of LIW and its residues.

Part 121, Section 12113(2) –

Liquid industrial waste must be managed to prevent discharge into soil, surface water or groundwater, drain or sewer.

Used Oil

Part 111, Rule 810 –

Used oil must be:



- Labeled "USED OIL" if stored in a container or above ground storage tank
- Have fill pipes used to transfer used oil labeled "USED OIL"
- Only stored in containers or tanks
- Stored in containers in good condition with no visible signs of leaks

Used Oil



Universal Waste Antifreeze

Part 111, Rule 228(4) –

Containers must be:

- Labeled “UNIVERSAL WASTE ANTIFREEZE” or “WASTE ANTIFREEZE” or “USED ANTIFREEZE”
- Kept closed
- Structurally sound & compatible with the contents
- Managed to prevent leaks or releases to environment

Universal Waste Batteries

Part 111, Rule 228(4) –

Containers must be:

- Labeled “UNIVERSAL WASTE BATTERIES” or “WASTE BATTERIES” or “USED BATTERIES”
- Kept closed
- Structurally sound & compatible with the contents
- Managed to prevent leaks or releases to environment

Universal Waste Consumer Electronics

Part 111, Rule 228(4) –

Packaging must be:

- Labeled “UNIVERSAL WASTE CONSUMER ELECTRONICS” or “UNIVERSAL WASTE ELECTRONICS”
- Managed to prevent breakage during normal handling conditions
- www.michigan.gov/electronicwaste



Universal Waste Electric Lamps

Part 111, Rule 228 (4) –

Containers must be:

- Labeled “UNIVERSAL WASTE ~~ELECTRIC~~ LAMPS” OR “WASTE ~~ELECTRIC~~ LAMPS” OR “USED ~~ELECTRIC~~ LAMPS” (*RULE CHANGE!!*)
- Structurally sound and compatible with contents of lamps
- Able to prevent breakage
- Kept closed

Universal Waste Mercury Devices

Part 111, Rule 228(4) –

Containers must be:

- Labeled “UNIVERSAL WASTE THERMOSTATS” or “WASTE MERCURY THERMOSTATS” or “USED MERCURY THERMOSTATS”
- Structurally sound, compatible with contents of device with no evidence of leakage or spillage
- Designed to prevent the escape of mercury

Universal Waste Pharmaceuticals

Part 111, Rule 228 (4) –

Must be managed to prevent release of any universal waste and packaging must be:

- Structurally sound and compatible with contents
- Able to prevent breakage
- Kept closed

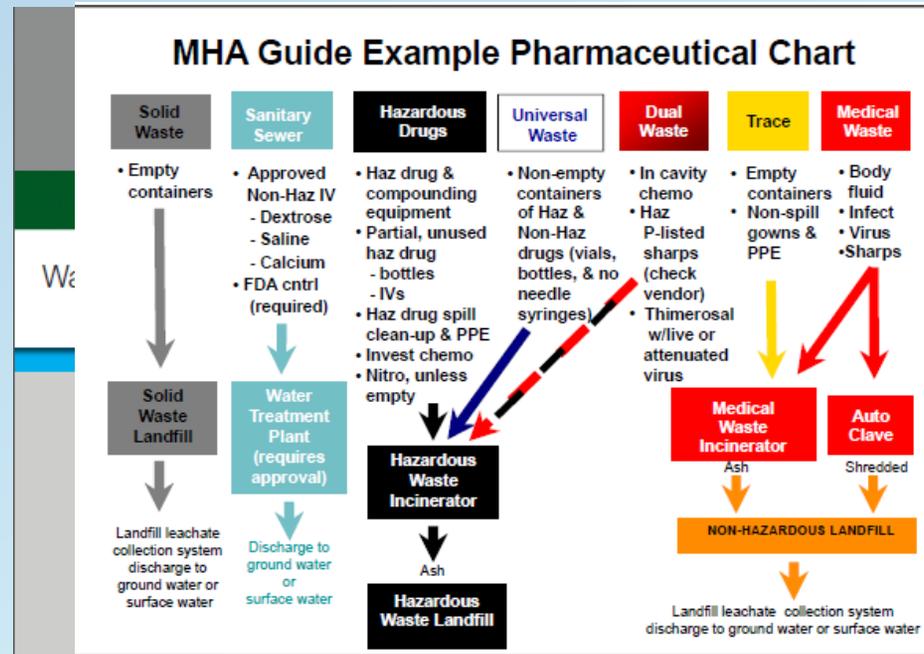
Universal Waste Pharmaceuticals

Recommend label “Universal Waste Pharmaceuticals” in:

MHA Pharmaceutical
Waste Management Guide

MHA Guide Example
Posting

Pharmaceutical Tutorial



www.michigan.gov/deqhealthcare under “Waste Health Care Resources”



Universal Waste Pesticides

Part 111, Rule 228 (4) –

Containers must be:

- Labeled “UNIVERSAL WASTE PESTICIDES” or “WASTE PESTICIDES”
- Structurally sound and compatible with contents
- Free of evidence of leakage, spillage or damage
- Kept closed

Tanks



Tanks

SQG & LQG

Part 111, Rule 306 & 40 CFR 265
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

Part 111, Rule 306

Additional Requirements :

Ignitable and reactive wastes (40 CFR 265.198)

Controls and practices to prevent spills & overflows
(40 CFR 265.194)

Secondary Containment (40 CFR 265.193)

Inspection Requirements

Inspection Records

Tank Certification (40 CFR 265.192)



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

Part 111, Rule 306 & 40 CFR 265.192 –

Must obtain a written assessment that is reviewed and certified by a qualified professional engineer that includes:

- Design standards
- Hazard characteristics of the waste
- 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

Tanks Certification

**Professional engineer
written certification must be kept
on file *AT FACILITY*.**

Subpart CC Rules

What Are They?

EPA rules for controlling certain air emissions from hazardous waste storage containers

Part 111, Rule 306 (1) and Rule 634 adopts by reference 40 CFR Part 264, Subpart CC

Certain LQGs and Treatment, Storage, and Disposal Facilities (TSDFs) are subject to 1 of 3 different sets of requirements for containers/tanks



Subpart CC Rules

What Are They?

Container/tank requirements depend on:

- the size of container
- the organic content of the waste placed in the container
- whether or not waste stabilization occurs in container

Subpart CC Rules

TSDFs as well as certain LQGs must comply with Subpart CC if they:

- generate a hazardous waste which has an average volatile organic (VO) concentration \geq 500 parts per million by weight (ppmw) at the point of waste origination and
- it is stored in containers larger than ~ 26 gallons.

SQGs are exempt from Subpart CC

Subpart CC Rules

Exemptions

Exemptions:

- Wastewater treatment units
- Elementary neutralization units
- Emergency or spill management units
- Waste recycling units
- Satellite accumulation units
- RCRA empty containers
- If organic content is reduced prior to waste being placed in container

Subpart CC Rules Exemptions

If hazardous waste < 500 ppmw

Records to be kept:

Test Results

Date, time, and location of sampling for EACH hazardous waste

Measurements

Calculations

Records documenting the rationale for the exemption must be reviewed and updated, when necessary, and at least once every twelve months. These records must be maintained on site.



Subpart CC Rules

Definitions

40 CFR 265.1081 – “LIGHT LIQUID SERVICE”
means:

Vapor pressure of one or more of the organic constituents is > 0.3 kilopascals at 20 degrees Celsius and the total concentration of organic constituents is equal to or greater than 20 percent by weight.

Subpart CC Rules

Container Requirements

Level 1 Container (26 to 122 gal. light liquid service)

- 40 CFR 265.1087(c)

DOT Approved

Covers and closure devices for all openings

Open top with organic vapor suppressing barrier

Level 2 Container (>122 gal. light liquid service)

- 40 CFR 265.1087(d)

DOT approved

Vapor tight or operated with no detectable emissions

Level 3 Container (Waste Stabilization Unit)

- 40 CFR 265.1087(e)

Vented (or located in enclosure that is vented)

through closed vent system to a control device



Subpart CC Rules

Tanks Defined

LEVEL 1 Tanks -

40 CFR 265.1084(c)

LEVEL 2 Tanks –

40 CFR 264.1084 (d)



Subpart CC Rules

Tank Requirements

- All tanks subject to Subpart CC control requirements must be inspected.
- Inspection procedures and requirements vary by type of tank.
- Records of all inspections regardless of the tank control level must be kept at the facility for a minimum of 3 years after the date of the inspection.
- More detailed record keeping and inspection requirements are required for floating roof tanks and tanks or enclosures which vent to a control device.

Closed Container

What Is It?

Regulations do not define "closed container."

Requiring containers to be closed is a means to minimize emissions of volatile wastes, to protect ignitable or reactive wastes from sources of ignition or reaction, to prevent spills, to reduce the potential for mixing of incompatible wastes and reduce direct contact of personnel with waste.

Closed Container Liquid Hazardous Waste

For containers in storage:

- Cover secured with snap rings bolted
- Bungholes capped
- If needed, pressure-vacuum relief valve to avoid explosions

For containers in satellite accumulation:

- Lids properly affixed to prevent spills
- Funnels with manual or spring-loaded lids or tightly screwed into bung hole with a one-way valve

Closed Containers

Solids



Liquids



Closure Devices



Closed Container

Solid Hazardous Waste

Container is closed if there is complete contact between the lid and the rim all around the top of the container.

If continuously receiving wastes, containers should be capable of catching and retaining all of the material.

MDEQ Hazardous Waste Generator Webinar - Self Certification

**MDEQ Hazardous Waste Generator Webinar
Trainer - Self Certification**

I, _____
Print signatory's name here

certify that I have viewed the entirety of the Michigan Department of Environmental Quality (MDEQ), Hazardous Waste Webinars listed below, for which I am a signatory, to gain a general understanding of the hazardous waste generator requirements under Part 111, Hazardous Waste Management, of the Michigan Natural Resources and Environmental Protection Act, Act 451 of 1994, as amended, and the rules promulgated thereunder. I further certify that I recognize that this information is general and it is essential for me to evaluate the need for additional site-specific training as part of a site-specific hazardous waste training program. I recognize that additional site-specific training is necessary to develop such a hazardous waste program for my facility and for me to be qualified to provide such training to on-site personnel to perform daily duties related to the generation and management of hazardous waste.

Introduction to Hazardous Waste Regulations: Waste Characterization and Generator Status

Signature _____
Date Training Viewed

Introduction to Hazardous Waste Regulations: Hazardous Waste Generator Accumulation, Storage, and Labeling Requirements

Signature _____
Date Training Viewed

Introduction to Hazardous Waste Regulations: Hazardous Waste Generator Recordkeeping & Inspection

Signature _____
Date Training Viewed

April 10, 2012



Questions

**Feel free to ask questions via your
question/chat box**



THANK YOU FOR PROTECTING MICHIGAN'S ENVIRONMENT!
www.michigan.gov/deqworkshops