How to Perform a Waste Survey

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Chicken or Egg presentation decision?

Present how to characterize waste, the regulations, generator category, recordkeeping, etc.?
Or
Present the mindset for conducting a waste survey?

Topics Covered in other sessions and webinars:
Waste Characterization
Waste 101
Generator Category
Exclusions and Exemptions
Record Keeping
Common Violations
Recycling
Special Waste Streams for example Hazardous Secondary Materials
Episodic Generation for VSQGs and SQGs

Starting with chicken Humor

Anything is Possible

- Processing changes everything
- Careful what you wish for?
- Etc.

Waste Survey Principles

- What's a Waste?
- When is a Waste?
- Where is a Waste?
- Who has to manage Wastes as a regulated entity?
- How does an entity know what waste regulations apply?
- Why do regulations exist?

What's a Waste?

A waste is any **discarded** material

A waste is any material that **cannot be used for its original intended purpose**, including materials that are:

- Burned as fuel
- Accumulated and recycled or reclaimed
- Discarded, abandoned or disposed

What's a Waste?

- The product can't be used for the original intended purpose, therefore the product is now deemed a waste.

When is a Waste?

When indicates a specific **moment in time**, this is a specific date and time.

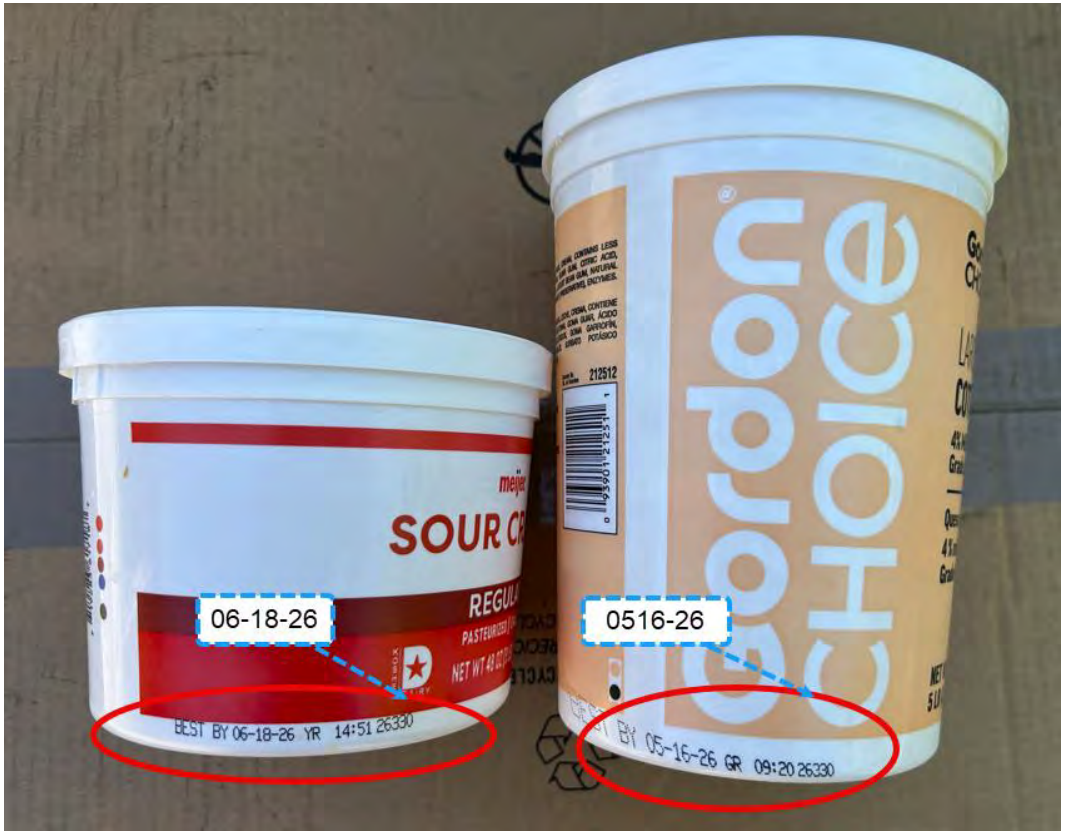
- When product, material, or intermediate is **deemed a waste**

- When the material is **not able to be used for it's intended purpose**

- Hazardous waste that remains in a **Manufacturing Process Units more than 90-days after the unit ceases to be operated** for the manufacturing, storage, or transportation of product or raw materials. (Part 111, R 299.9204)

When is a Waste?

Expiration Dates are a good example when a product becomes a waste.
The material is **not able to be used for it's intended purpose,** therefore deemed a waste.



When is a Waste?

Lacking an expiration date, when a product is deemed a waste can vary.

This product is **not able to be used for it's intended purpose,** therefore deemed a waste. Note: while in use it was not a waste.

Where is a Waste?

At the point of generation!
All wastes have a time and a **Place**.
This can be thought of as a GPS click.

Examples

- Non-conforming production batches
- Where deemed a waste
- Where a product expires
- Where a product becomes contaminated
- Where the spill occurred

Where is a Waste?

“Don’t cry over spilled milk”

Milk is deemed a waste where it is spilled.

Environmental regulations apply during Milk production or tanker spills.

Who has to manage Wastes as a regulated entity?

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

Who has to manage Wastes as a regulated entity?

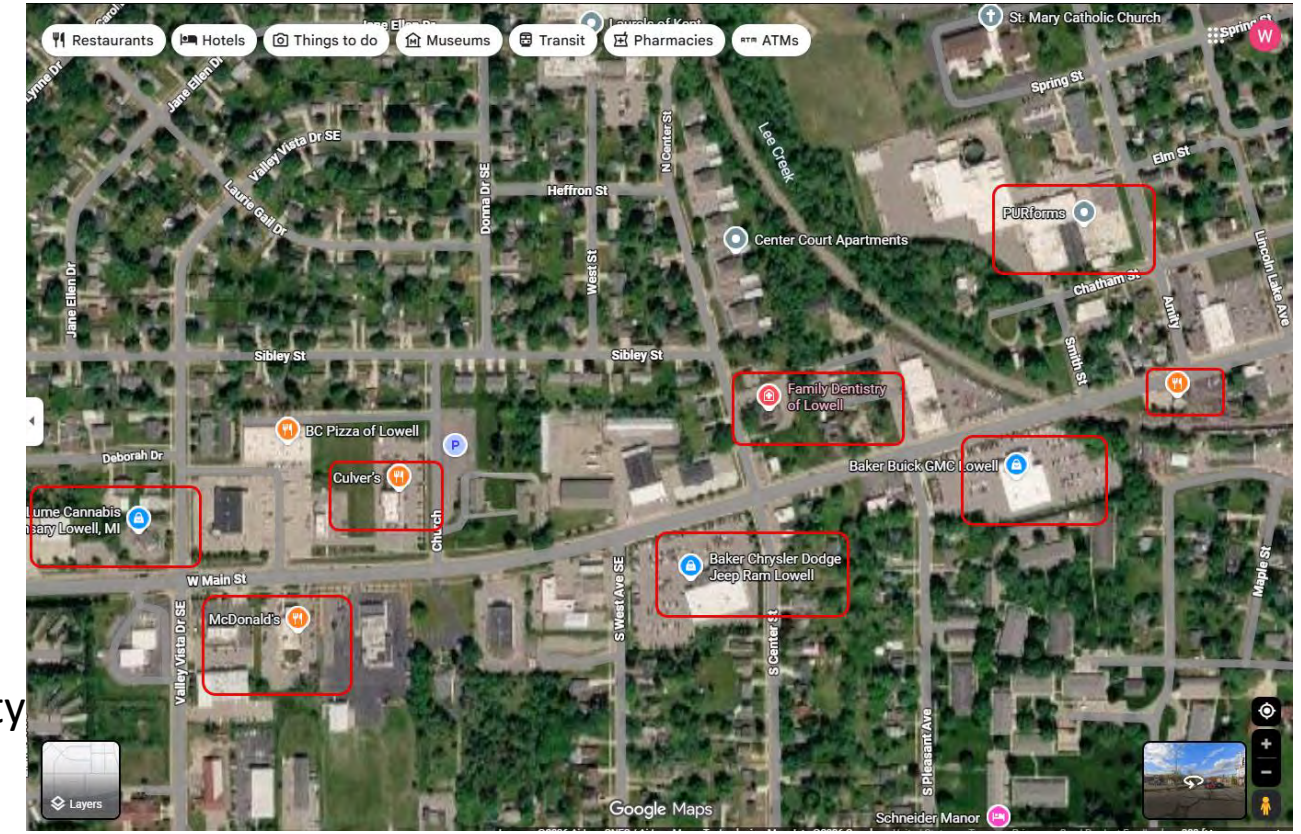
All businesses!

Typical Main Street

- Auto dealership
- Auto body shop
- Auto repair
- Restaurant
- Cannabis facility
- Industry
- Dentist
- CPA accountant

Households are exempt

Notice residential proximity



How does an entity know what waste regulations apply?

The burden, responsibility, or obligation also referred to as **onus is placed on the generator of a waste**.

"Generator" means any person, by site, whose act or process produces **hazardous waste**.

"Generator" means a person whose act or process produces **liquid industrial by-product**.

A Generator has the responsibility of knowing the regulations, complying with the regulations, and record keeping requirements.

How does an entity know what waste regulations apply?

Onus is placed on the "generator" of a waste.

But How?

- Hire a consultant
- Learn and continue to learn about waste regulations
  - Conduct a Waste Survey
  - Be curious about materials which will become a waste.

FYI EGLE Staff Routinely Conduct Unannounced Inspections

Understanding Inspections

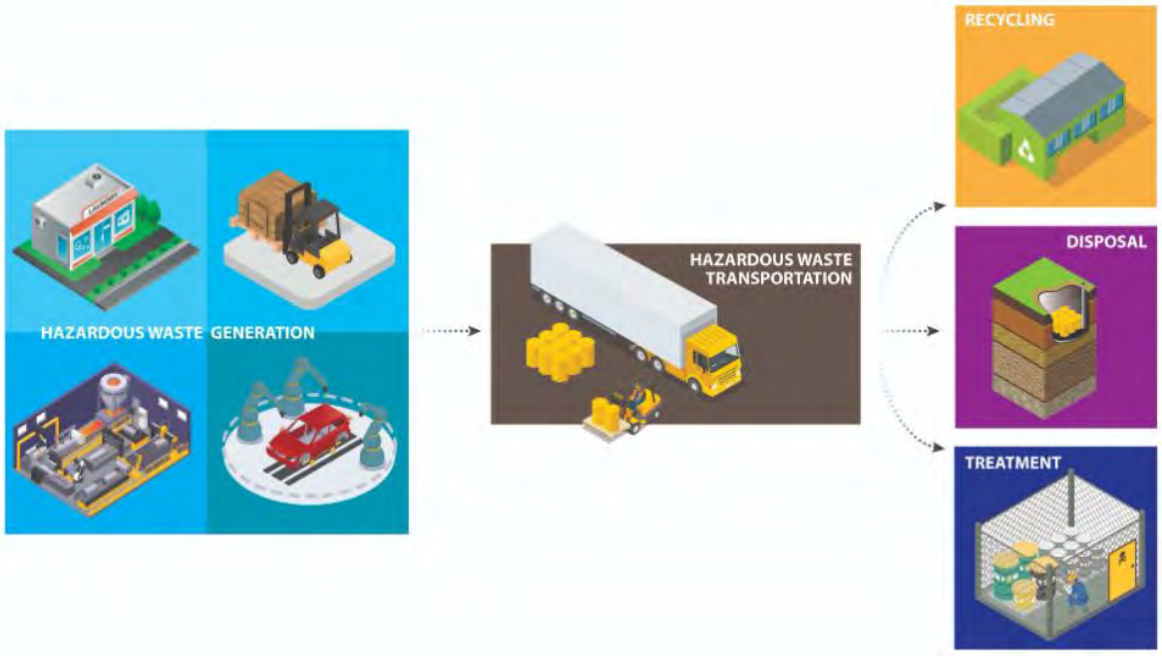
Staff of the Materials Management Division perform inspections to evaluate compliance with environmental and public health laws. During inspections, our staff may:

- Enter a premises at reasonable times and inspect areas where waste and/or materials are handled, generated, stored, treated, transported, and/or disposed.
- Review information about the wastes and materials.
- Collect samples of wastes and other materials on the premises for analysis.
- Collect photos and/or videos to document site conditions.

Why do regulations exist?

Generally, to protect the air, water, and soil.

Since 1976, hazardous waste requires "cradle to grave“ manifesting, meaning hazardous waste is tracked from the time it is created, while it is transported, treated, stored, and until it is ultimately disposed.



The cradle-to-grave hazardous waste management process

Waste is Regulated in Michigan.

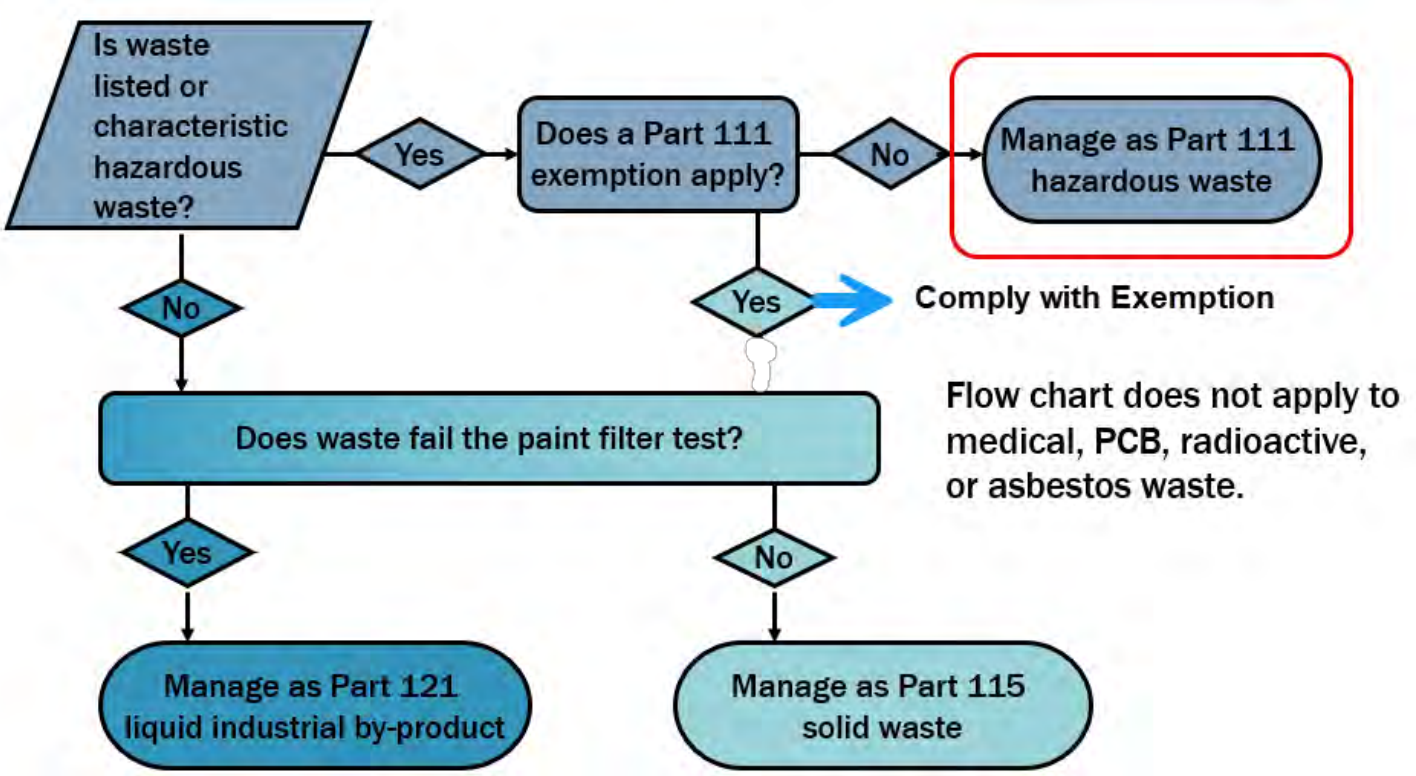
This important to remember during the waste survey

- Part 115, Solid Waste
- Part 169, Scrap Tires
- Part 121, Liquid Industrial By-Product (LIB)
- Part 111, Hazardous Waste (RCRA) ("cradle to grave")
- Transportation of Hazardous Material Public Act 138
- Part 167, Used Oil Recycling
- Part 31, Wastewater Regulations
- Part 55, Air Quality Regulations
- Etc.

https://www.michigan.gov/en/egle/about/Organization/Materials-Management/waste

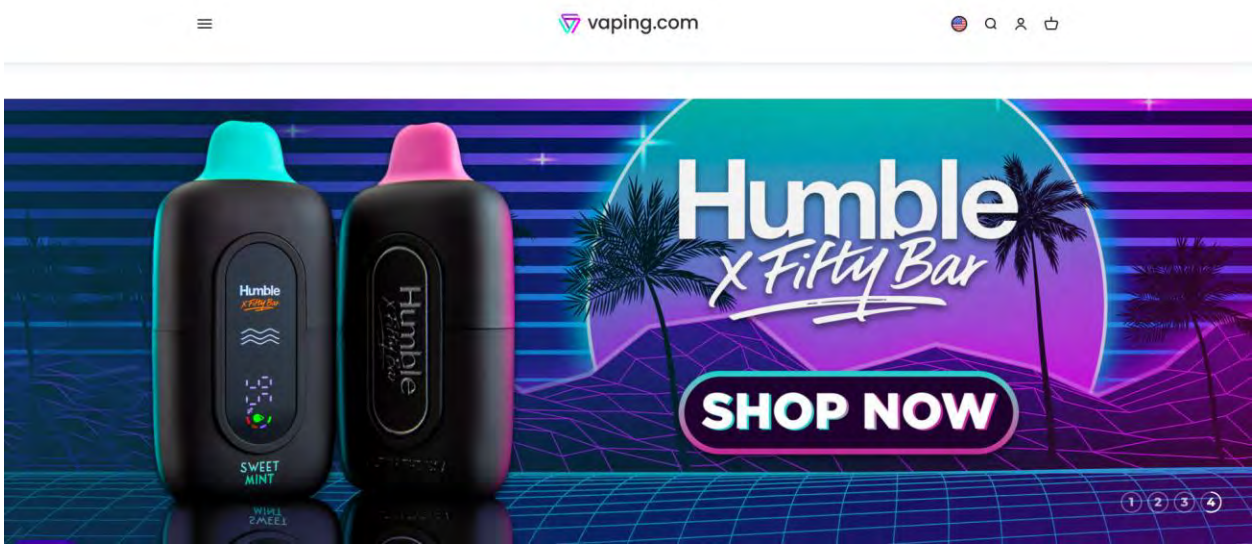
https://www.newpig.com/non-regulated-waste-shipping-label/p/SGN670?srsltid=AfmBOorOvIBf8GPmXmwhhWVG6-OcjvEmQdYw709OLizFqy8xfbwk_kNP

Basic Waste Characterization Flow Chart



Listed Hazardous Waste

Listed Hazardous Waste appears on a list
Acetone Waste Code U002 and also D001 Flammable
Nicotine Waste Code P075
Note: P075 is an acute hazardous waste 2.2 pounds = LQG



https://vaping.com/?srsltid=AfmBOopnFJlkbMvxRolNh_-waaLZ2p0Tv7eesUuYHkMKA5yjd0s6OmB2

Characteristic Hazardous Waste

Characteristic Wastes can be tested ignitability, corrosivity, reactivity, toxicity

Isopropyl Alcohol (IPA) D001 Ignitability

Muriatic Acid D002 Corrosive

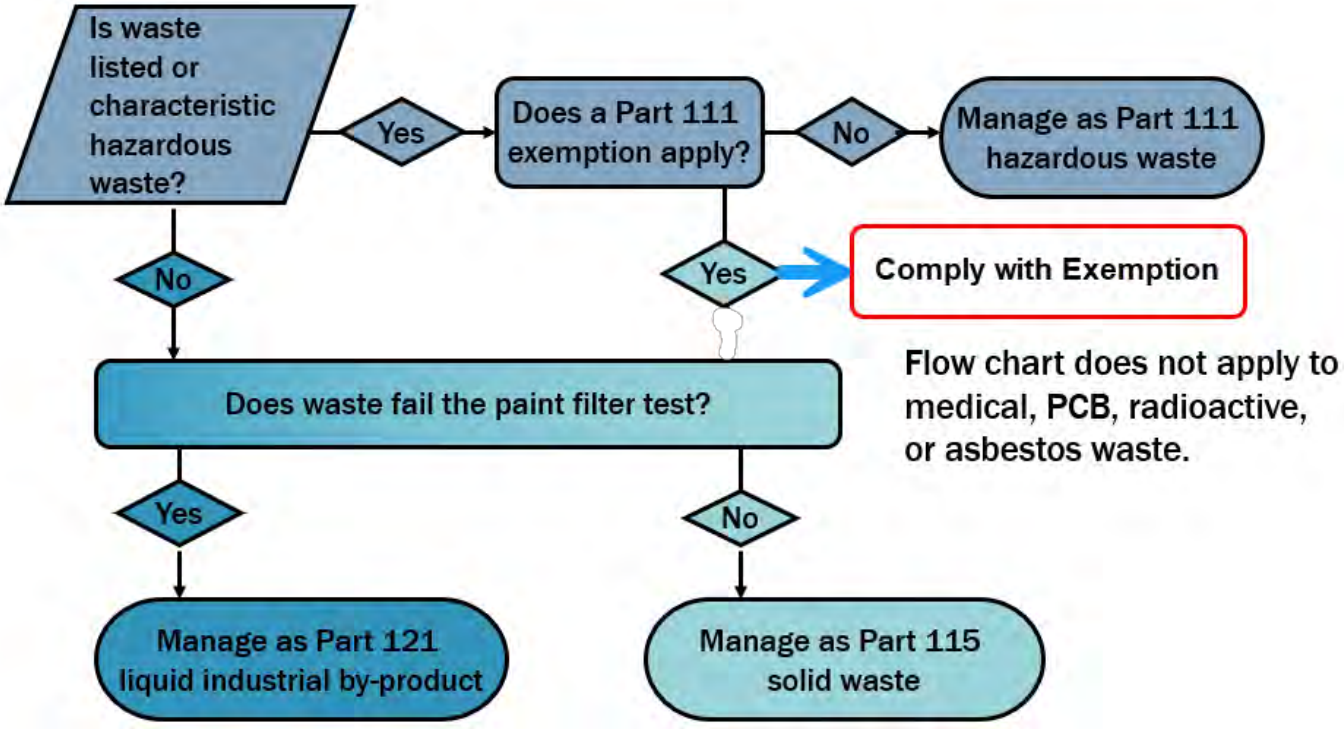
Lead tire weight D008 Pb Toxicity

Characteristic Hazardous Waste

Characteristic Wastes can be tested ignitability, corrosivity, reactivity, toxicity

Lighter Fluid D001 Ignitability
Liquid Chlorine D003 Reactive oxidizer
Mixed Fuel D001 Ignitability

Basic Waste Characterization Flow Chart



Hazardous but Exclusion Exists

Oil or Used Oil

1. Manage as a Hazardous waste
2. Manage as “Used Oil” Used Oil Common Violations Checklist, Emergency Posting and Labels

Hazardous but Exclusion Exists

Consumer Electronics

1. Manage as a Hazardous waste
2. Manage as “Universal Waste” Universal Waste Guidance

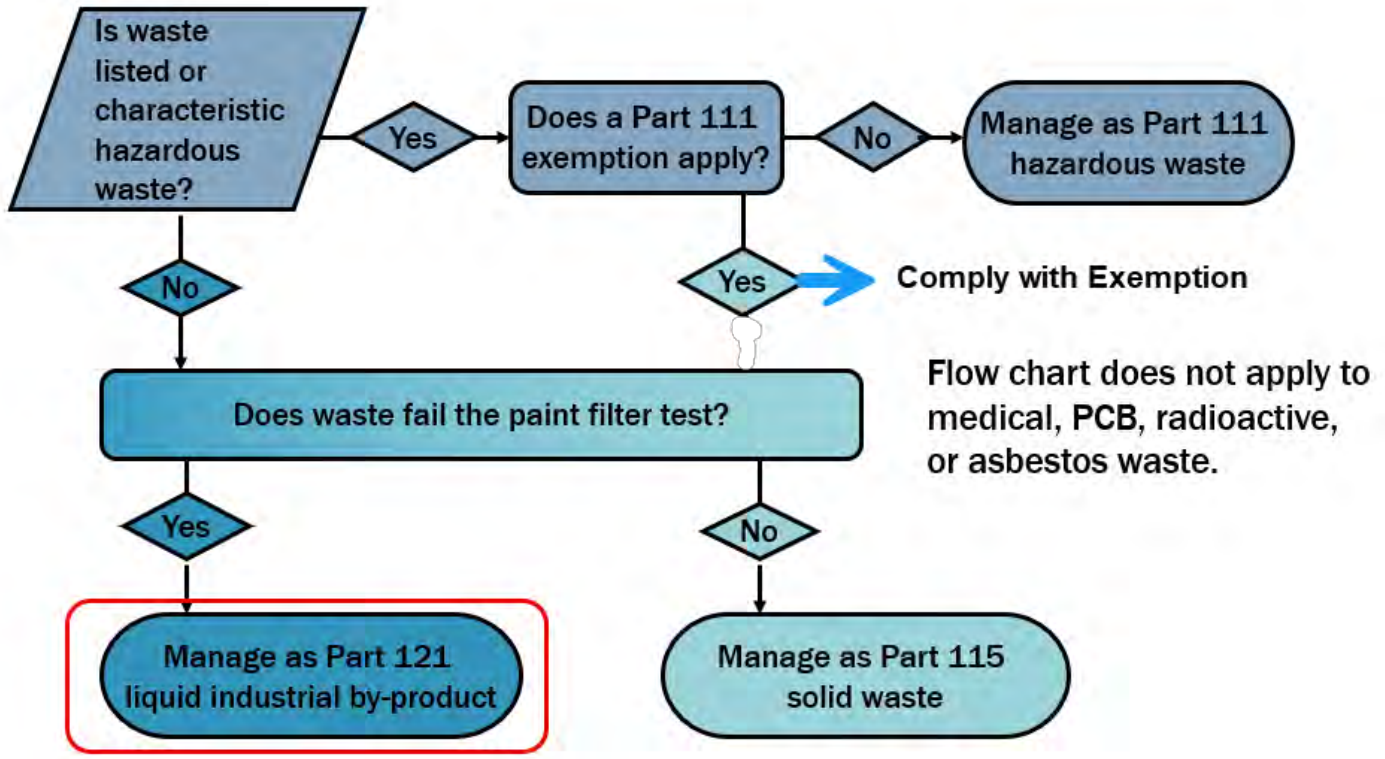
Hazardous but Exclusion Exists

Consumer Electronics and or Lamps

1. Manage as a Hazardous waste
2. Manage as “Universal Waste” Universal Waste Guidance

Note:
LEDs may contain barium, lead, silver, chromium, etc.
LEDs need valid waste characterization to be managed as Part 115, Solid Waste
LEDs are eligible to be recycled as Universal Waste without documentation

Basic Waste Characterization Flow Chart



Liquid Industrial By-Product

Cooking oil, water from food operations, butcher operations, disinfectants, and other liquid industrial wastes which are not hazardous etc.

Part 117, Septage is separate.

“Restaurant Grease” may alternatively be managed under Michigan’s Bodies of Dead Animals Act (BODA) 239

Maintain characterization and shipping records

Liquid Industrial By-Products are prohibited from septage and drainfield systems.

Liquid Industrial By-Product

Look for floor drains.

Where does the drain go?

Liquid Industrial By-Products are prohibited from septage and drainfield systems, ground water discharge, and surface waters.

If the business is connected to a sanitary sewer or Publicly Operated Treatment Works (POTW), an Industrial Pretreatment Permit (IPP) may be required with the local POTW IPP staff map.

https://www.michigan.gov/egle/about/organization/water-resources/industrial-pretreatment

Stormwater

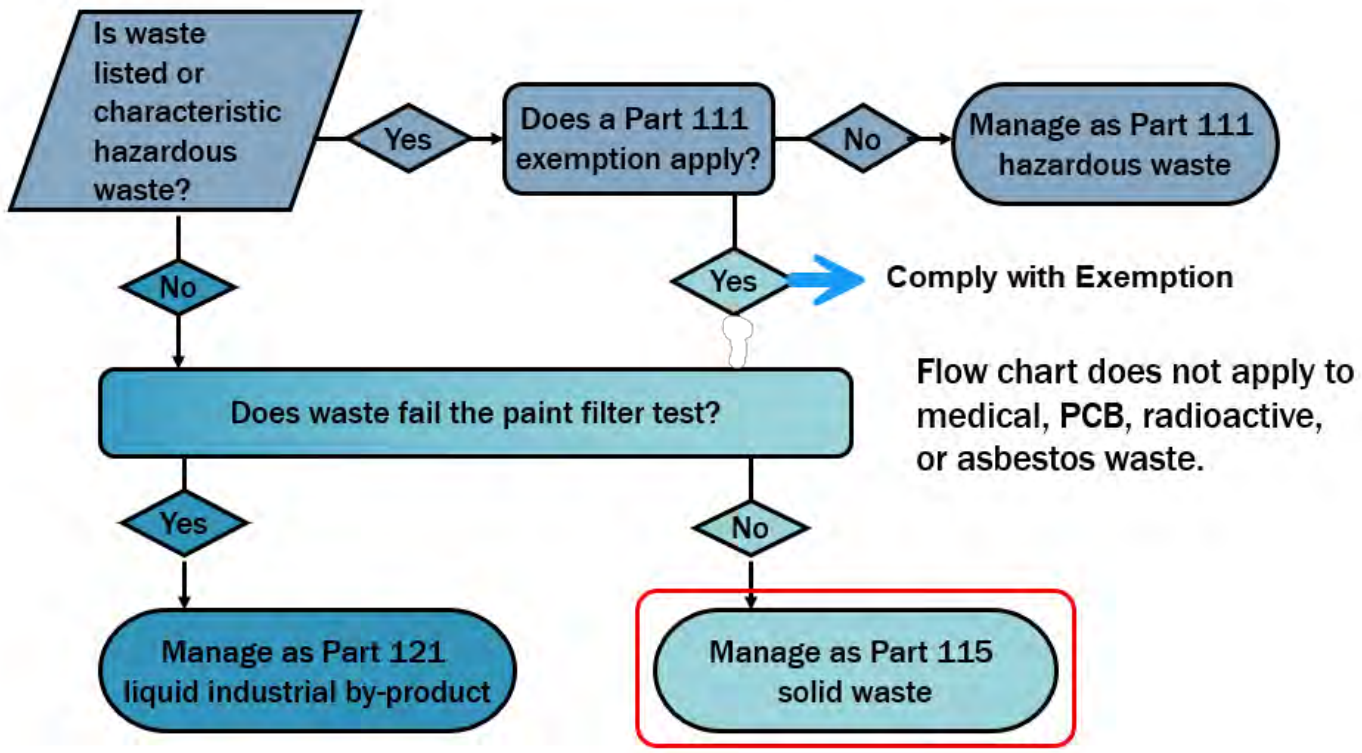
Look for stormwater grates.

Stormwater typically goes to rivers and streams.

Hazardous waste, Liquid Industrial By-Product, spills, washing operations etc. shall **never be released to Stormwater**.

More Information
https://www.michigan.gov/egle/about/organization/water-resources/stormwater-rules

Basic Waste Characterization Flow Chart



Solid Waste

Part 115, Solid Waste is regulated too.

We think of typical trash paper towels, waste paper, etc. as Part 115 Solid Waste

EGLE would like recycle as much as possible.

Solid Waste Information

Recycling Information
https://recyclingraccoons.org/

Sample Waste Survey Paint Shop

A small waste container or purge pot is often located in paint rooms or booths.

Must be:
Closed and Labelled “Hazardous Waste”, Indication of Hazard Flammability Diamond, and paint related waste.

A limited number of days of accumulation may exist depending on generator category Very Small Quantity Generator (VSQG), Small Quantity Generator (SQG), or Large Quantity Generator (LQG) or if the waste is managed as satellite accumulation.

Be sure the container is secure and not leaking!

Indication of Hazard
https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/docs/Nine_Classes_of_Hazardous_Materials-4-2013_508CLN.pdf

Sample Waste Survey Paint Shop

A “trash” can is often located near paint rooms or booths.

Part 115, Solid waste is what is typically considered “trash”.

Solvent contaminated Wipes must be managed as hazardous waste or Excluded Solvent Contaminated Wipes

Liquid waste paint is a hazardous waste or liquid industrial by-product.

Empty containers must really be “RCRA Empty”

Solvent Still pucks must be managed as hazardous waste

Sample Waste Survey Paint Shop

Parts washers are a common occurrence.

The solvent is typically a hazardous waste.

While the solvent is in in-use, the solvent is not a waste.

Once the solvent is deemed a waste hazardous waste regulations apply.

Keep records!

Sample Waste Survey Paint Shop

Don’t forget to look outside of the building

Liquid Industrial By-Product and Used Oil must be accumulated protected from weather, vandals and the elements, labelled properly, closed, not leaking, etc.

Empty open containers may fill with rainwater. The previously empty container now holds liquid industrial by-products which is a regulated waste.

Generator Category Table

Generator Categories are determined by how much hazardous waste is generated each month.

Small and Large Quantity Generators must notify the notify the State by obtaining a Site ID **Download EQP5150 – Michigan Site Identification Form (revised 6/2025)**

Waste regulations are dependent upon generator category

Identification Form (EQP 5150) notification form. A generator may change their hazardous waste generator status throughout the year. If the monthly amount of hazardous waste generated varies substantially throughout the year, comply with the highest generator status requirements to ensure consistent compliance. The annual hazardous waste user charge for the site will always be based on the highest generator status observed during the calendar year from the preceding year, regardless of whether the category change was addressed as an episodic event or not. See Table 1 below for the generator categories.

TABLE 1: GENERATOR CATEGORIES BASED ON QUANTITY OF WASTE GENERATED IN A CALENDAR MONTH

Generator Type	Maximum amount of non-acute hazardous waste generated per month[1]	Approximate maximum volume of non-acute hazardous waste generated per month[2]	Maximum amount of acute or severely toxic hazardous waste generated per month	Maximum amount of contaminated soil, water or other debris from clean-up of acute or severely toxic hazardous waste generated per month	Maximum amount of non-acute hazardous waste that can be accumulated on-site	Maximum time period before waste must be shipped
Very Small Quantity Generators (VSQG)	≤ 100 kilograms or less (220 lbs.)	≤ half a 55-gallon drum or ≤ 25 gallons	≤ 1 kilogram (2.2 lbs.)	≤ 100 kilograms	≤ 1,000 kilograms (2,200 lbs.)	No time limit unless amount exceeds 2,200 lbs.
Small Quantity Generators (SQG)	> 100 kilograms (220 lbs.) but < 1,000 kilograms (2,200 lbs.)	> half a 55-gallon drum and < five 55-gallon drums, or > 25 gallons and < 250 gallons	≤ 1 kilogram (2.2 lbs.)	≤ 100 kilograms	≤ 6,000 kilograms (13,200 lbs.)	180 days, unless shipping over 200 miles, then 270 days
Large Quantity Generators (LQG)	≥ 1,000 kilograms or more (2,200 lbs.) or more	≥ five 55-gallon drums or ≥ 250 gallons	> 1 kilogram (2.2 lbs.)	> 100 kilograms	No maximum amount	90 days

If a listed hazardous waste is combined with other non-hazardous waste, generally the combined waste is regulated as listed hazardous. The mixing of hazardous waste in this example is known as the "Mixture Rule". Only VSQGs may combine listed hazardous waste with other waste and have it remain excluded from hazardous waste regulations as long as it doesn't exhibit a hazardous waste characteristic. Check with your disposal vendor before mixing any waste.

Table from Waste Characterization publication

Summary of Hazardous Waste Generator Accumulation Requirements

Hazardous waste generators that generate more hazardous waste have more stringent requirements.

A generator of hazardous waste must determine their generator category.

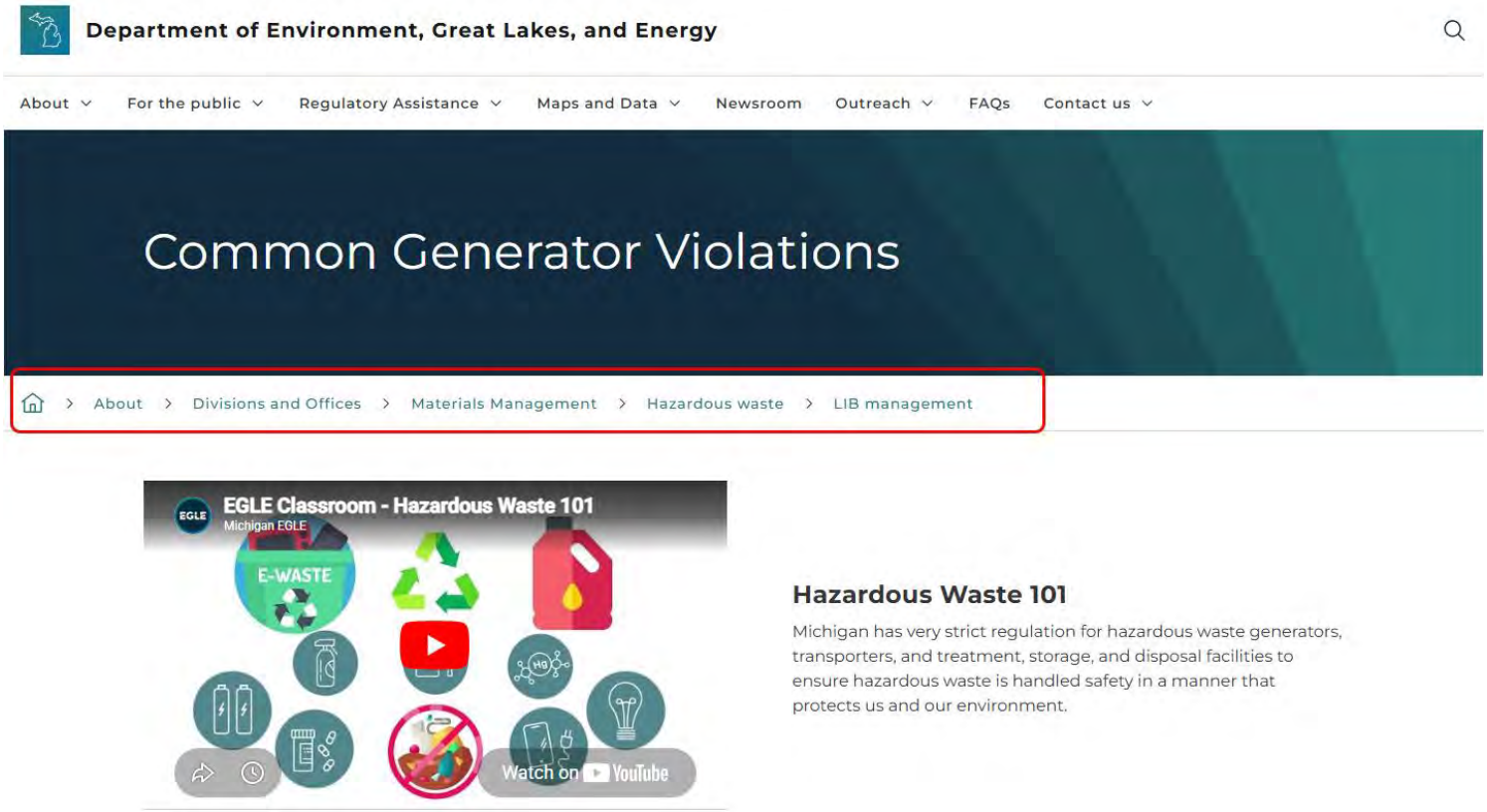
Determining generator category must occur after the waste survey and may change with business or from month to month.

SUMMARY OF HAZARDOUS WASTE GENERATOR REQUIREMENTS – GUIDANCE

Requirement	VSQGs	SQGs	LQGs
Notification and Site/EPA identification number	No, unless the site has an episodic generating event and uses Rule 316 of the Part 111 Rules to maintain the VSQG category.	Yes, and starting 2021, renotification is required every four years.	Yes, and renotification is required during Biennial Reporting every even numbered year.
Accumulation area inspections	No, but recommend meet SQG requirements. May be subject to other regulations depending on waste.	Yes, weekly container and tank inspections required along with written inspection log.	Yes, weekly container and daily tank inspections required along with written inspection logs.
Labeling requirements	Yes	Yes	Yes
Secondary containment requirements	No	Yes, if ever accumulate 1,000 kilograms (2,200 lbs.) or more at any time.	Yes
Air emissions control for volatile organic compounds hazardous wastes	No	No	Yes
Uniform Hazardous Waste Manifest	No - Shipping document is required for VSQG liquids. This includes VSQG liquids shipped to controlling LQG for consolidation. Manifests are optional. A manifest is required for VSQGs liquids managed as an episodic generating event under Rule 316 of the Part 111 Rules. US Department of Transportation (US DOT) shipping document requirements must also be met if shipping a US DOT hazardous material.	Yes – Manifest required, unless SQG meets tolling agreement. US DOT shipping document requirements must also be met if offering a US DOT hazardous material.	Yes – Manifest required. US DOT shipping document requirements must also be met if offering a US DOT hazardous material.
Land disposal restriction records	No	Yes	Yes

Common Waste Generator Violations

EGLE's Common Waste Generator Violations webpage is a good resource to accompany a waste survey.

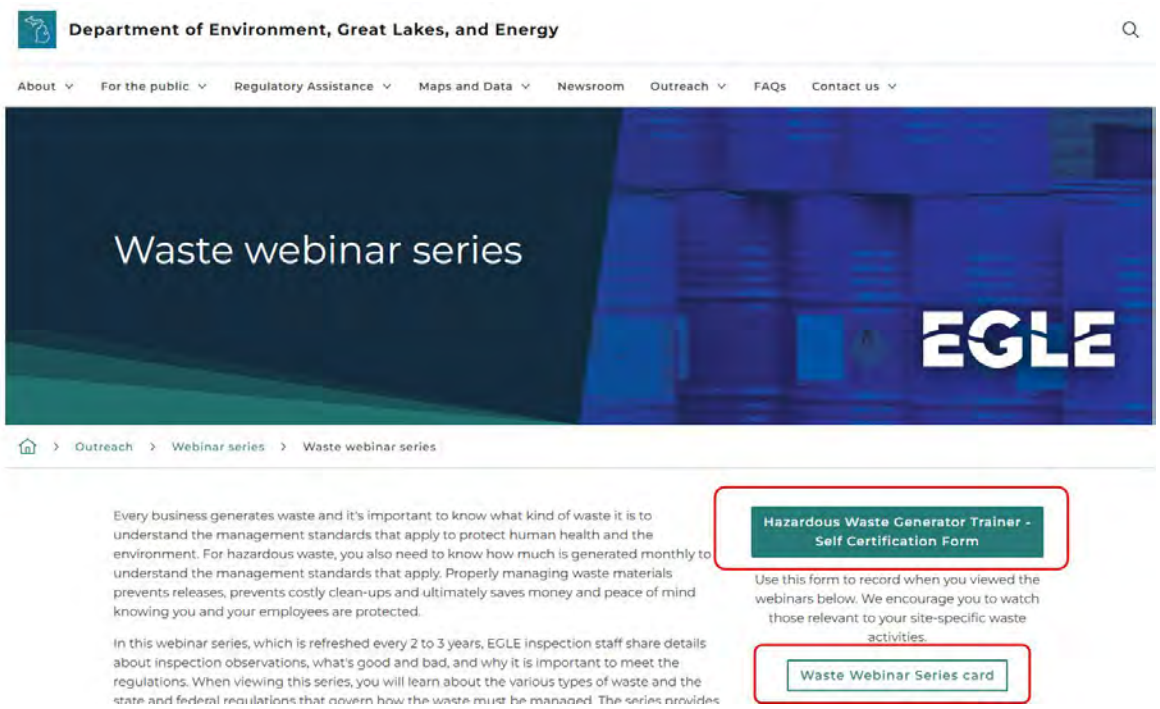


Waste webinar series

EGLE staff has recently completed a wide variety of webinars that are FREE and may be viewed at anytime.

Keep a record of training that has been completed.

This is good way to obtain training from anywhere.



Summary

- Waste regulations are complex
- Be curious
- Ask questions of State Inspectors, Waste Vendors, etc.
- Attend webinars
- Keep records of manifests, waste characterizations, interactions with local fire departments or emergency responders, etc.
- Assign a person to be the responsible party for waste topics onsite
- Assess every waste item

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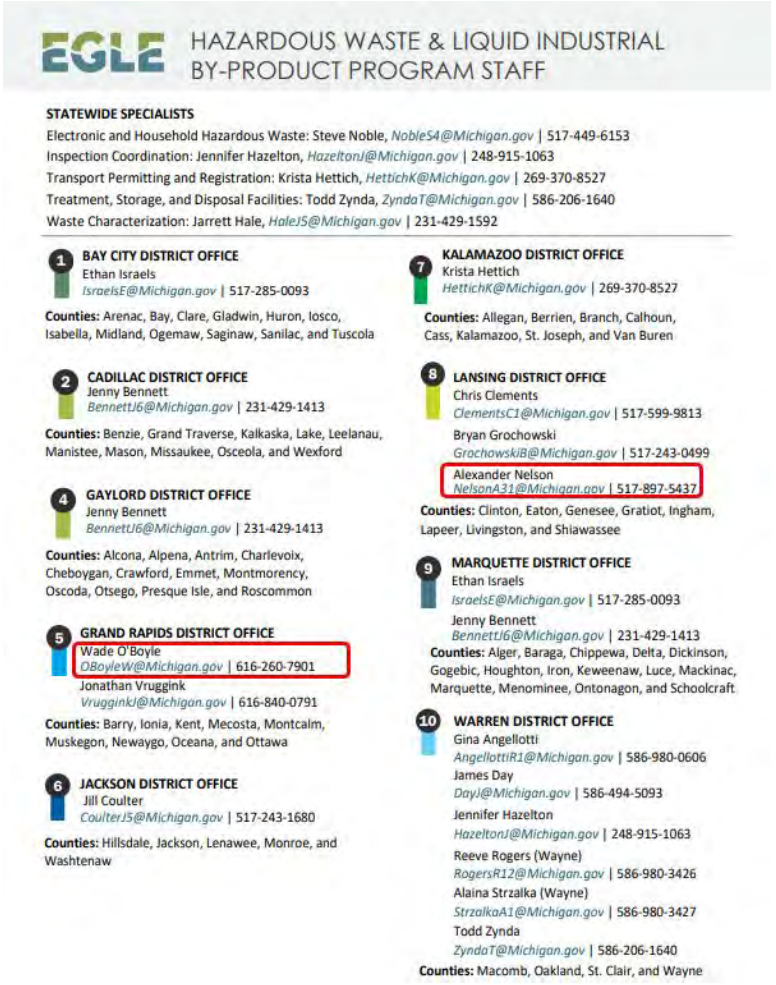
Statewide Inspectors

Hazardous Waste Inspectors

Hazardous Waste and Liquid Industrial By-products



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Questions?