

**SEMCOG and DNRE present**

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**Southeast Michigan Environmental Conference:  
Environmental Regulations Affecting Municipalities**

**Christine Grossman  
Compliance Assistance Specialist  
Waste Regulations  
grossmanc@michigan.gov  
517-373-0590**



# Environmental Assistance Center (EAC)

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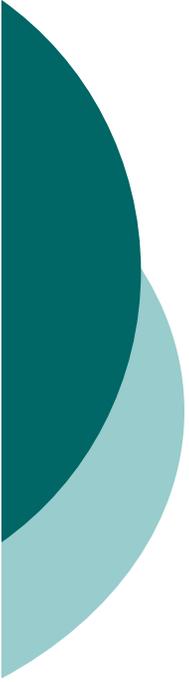
**Phone: 1-800-NO2-WASTE**  
(1-800-662-9278)

**Hours: 8:00 a.m. to 5:00 p.m.**  
**Monday through Friday**

## **Technical Assistance Services Include:**

**Air**  
**Waste**  
**Water**  
**Wetlands**

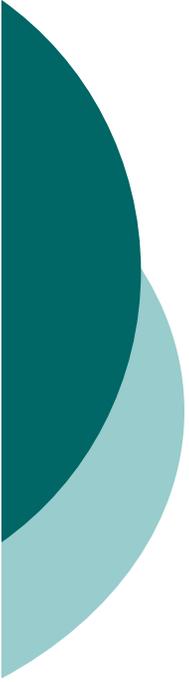
**Shoreline Development**  
**Brownfield Redevelopment**  
**Site Remediation**  
**Storage Tanks**



# What Will Session 1 Cover?

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- Waste Characterization
- Hazardous Waste Exclusions
- Determining Hazardous Waste Generator Status

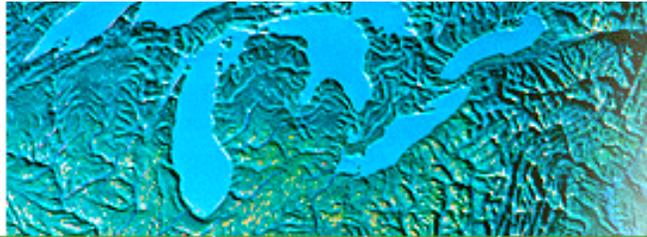


# New Local Governments DNRE Web Page

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Go to [www.michigan.gov/dnre](http://www.michigan.gov/dnre)

- Select “Key Environmental Topics”
- Select “Environmental Assistance”
- Select “Local Government”



**Key Topics**

- Administrative Hearings
- Clean Michigan Initiative
- Community Right to Know
- **Environmental Assistance**
- Environmental Education
- Environmental Emergencies
- Environmental Incentives
- Forms
- Environmental Reports
- Grants and Loans
- Laboratory Services
- Laws & Rules
- Locations of Environmental Interest
- Maps & Data
- Permits
- Policies and Procedures
- Pollutants and Toxicants
- Publications

**Local Government**

**ENVIRONMENTAL REGULATIONS FOR LOCAL GOVERNMENTAL OFFICIALS**

Tracking and understanding all of the state and federal environmental regulations affecting local governments can be a daunting task. This web site was created to serve as a depository of web links to information about the regulatory programs that are applicable to a municipality's operation, their constituents or both. The site contains outreach materials that would be useful to stormwater operators, county drain commission staff, municipal planners and engineers, county health officials, community emergency response personnel, public works directors, road maintenance staff and building code officials. Call the DNRE's Environmental Assistance Center at 800-662-9278 if you need copies of publications or need help in complying with the regulations.

**GENERAL**

1. [MICHIGAN MANUFACTURERS GUIDE](#) (environmental and occupational safety regulatory guidance)
2. [WASTE DATA SYSTEM](#) (review waste notification, permit/license, and compliance monitoring or enforcement information)

► **MI Business One Stop**

- Departments/Agencies
- Online Services
- Surveys
- **RSS Feeds**

**Related Content**

- Environmental Assistance Program Staff
- Training Opportunities
- Publications
- Frequently Asked Questions
- Permit Coordination Resources
- Speakers Bureau
- Environmental Audit Privilege and Immunity

**New Local Government DNRE Web Page**

# Why Do the Hazardous Waste Regulations Exist?

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## Prevent Excessive Accumulation



# Why Do the Hazardous Waste Regulations Exist?

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## Prevent Illegal Disposal



# Why Do the Hazardous Waste Regulations Exist?

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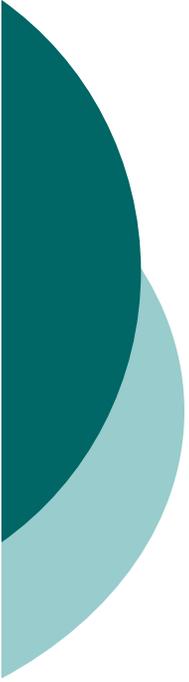
**Prevent Environmental Contamination**

# Why Do the Hazardous Waste Regulations Exist?

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**Prevent  
Community  
Emergencies**



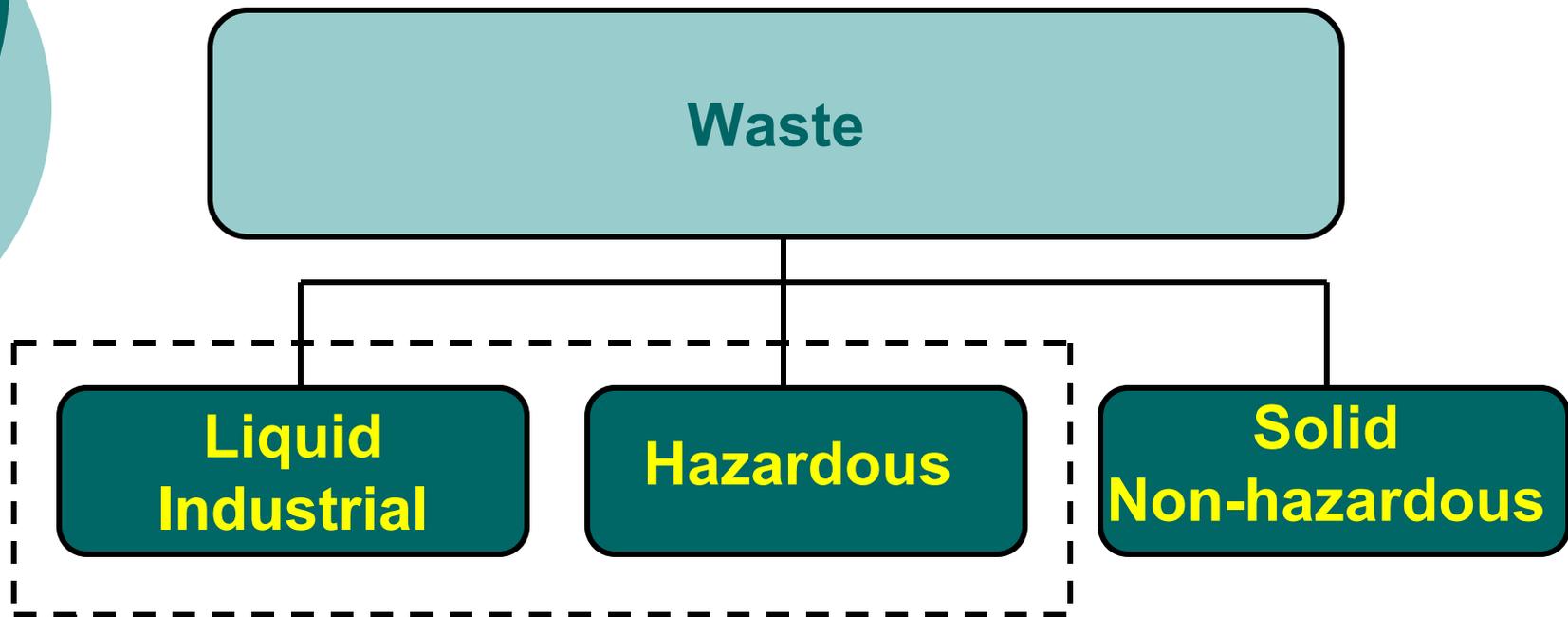


# What Regulations Require Waste Characterization?

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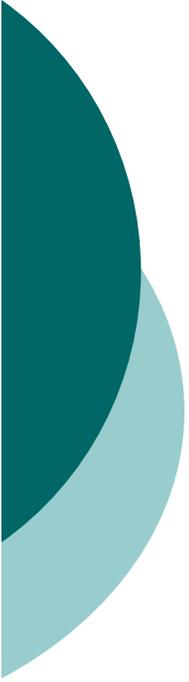
- **Act 451, Michigan Natural Resource and Environmental Protection Act**
  - Part 111, Hazardous Waste
  - Part 121, Liquid Industrial Waste
  - Part 115, Solid Waste
  - Part 169, Scrap Tires
- **Act 368, Michigan Public Health Code**
  - Part 138, Medical Waste Regulatory Act
  - Part 2 Ionizing Radiation Rules
- **Federal Toxic Substance Control Act**

# Waste Characterization Regulatory Overview



**Subject unless excluded:**

- **Hazardous if listed or characteristic**
- **Liquid industrial if free liquids**



# Waste Characterization

## Where do I start?

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See DNRE Publication Center  
Waste Characterization  
Guidance

- Perform a waste survey to identify what wastes are generated at your facility
- Tour your entire facility and inventory all waste streams
- Don't overlook identifying and characterizing ALL waste streams

# Waste Survey

## Do Not Overlook Waste Streams

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Look outside and inside, including discontinued work areas



**Drains catch spills**

# Waste Survey

## Do Not Overlook Waste Streams

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Look at office and maintenance activities



**Electronics**



**Batteries**

**Heavy Metals**

# Waste Survey

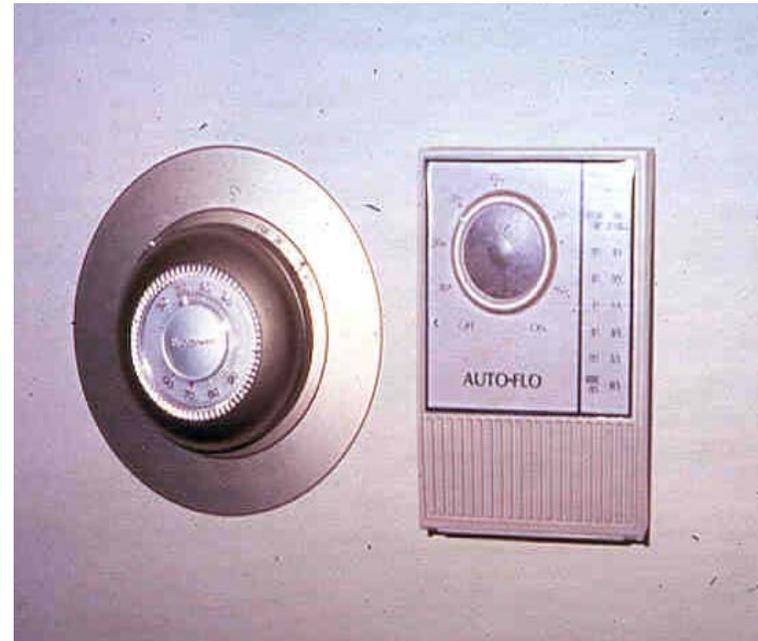
## Do Not Overlook Waste Streams

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Look at office and maintenance activities



**Electric lamps**



**Thermostats**

**Mercury**

# Waste Survey

## Do Not Overlook Waste Streams

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Look at aerosol cans



Can crushing  
& puncturing:

Ignitable



May have TLCP issues

# Waste Survey

## Do Not Overlook Waste Streams

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Look at remodeling/demolition waste



**Demolition Waste**



**Gym  
Floors**



**Lead Paint Abatement**

**Heavy Metals**

# Waste Survey

## Do Not Overlook Waste Streams

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Look at wastewaters from cleaning operations



**Power Washing**



**Carpet Cleaning**

# Waste Survey

## Do Not Overlook Waste Streams

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Look at waste from fleet maintenance operations



**Antifreeze &  
Mercury Switches**

**Ignitable &  
TCLP  
issues**



**Degreasing**



**Used Oil**

# Waste Survey

## Do Not Overlook Waste Streams

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Look at waste  
from painting



Ignitable &  
TCLP issues

# Waste Survey

## Do Not Overlook Waste Streams

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Look at rags and textiles



Ignitable,  
TCLP, and/or F-listed issues

# Waste Survey

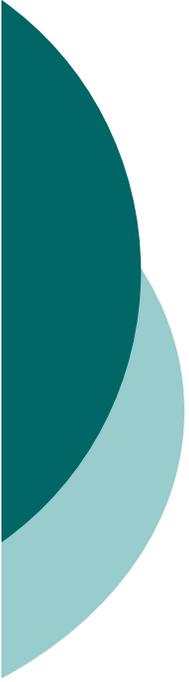
## Do Not Overlook Waste Streams

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Look at laboratory wastes



**Ignitable, Corrosive, Reactive,  
TCLP, and listed waste issues**



# Who Does the Waste Characterization?

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- Do the waste characterization yourself
- Hire a consultant
- Use the disposal company services
- Use a combination of the above

# How Do You Characterize?

(Rules 202, 203, and 302)

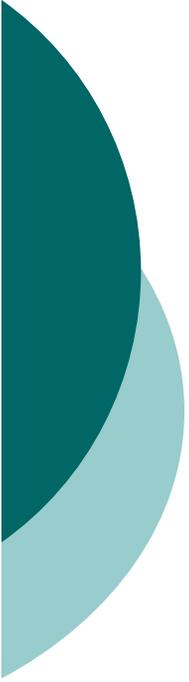
To properly comply with the regulations, businesses must determine if their wastes are hazardous or non-hazardous

## Knowledge:

- MSDS
- Facility Process Information
- Technical Information
- Manufacturer Information
- Hazardous Waste Listings
- Other Lab Results

## Testing





# How Do You Characterize?

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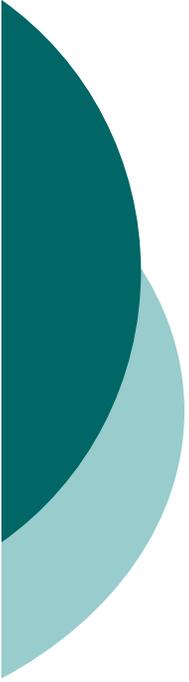
## What is a Hazardous Waste?

- **Listed Hazardous Waste**

Common waste stream known to be hazardous without testing

- **Characteristic Hazardous Waste**

Waste stream found to be ignitable, corrosive, reactive, and/or toxic due to the characteristics or composition of the waste via testing



# How Do You Characterize?

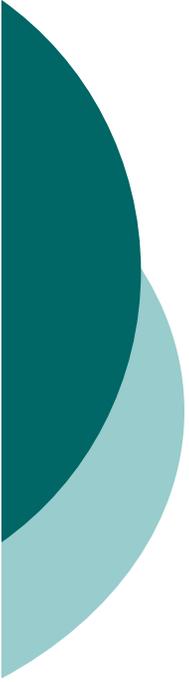
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- **Hazardous Waste Mixture Rule**

Mixture of a *listed* hazardous waste with other non-hazardous wastes is a listed hazardous waste

- **Hazardous Waste Derived From Rule**

Residues derived from treating a *listed* hazardous waste is listed hazardous waste

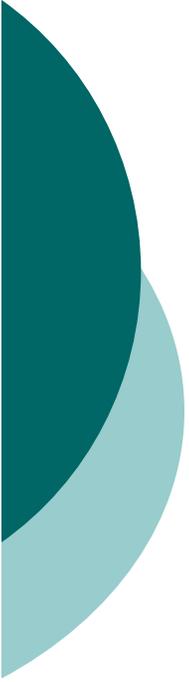


# Recommendation

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**Do not mix listed hazardous waste with other wastes to minimize:**

- **volume of hazardous waste generated**
- **number of regulations that apply**
- **disposal costs**



# Waste Stream Characterization

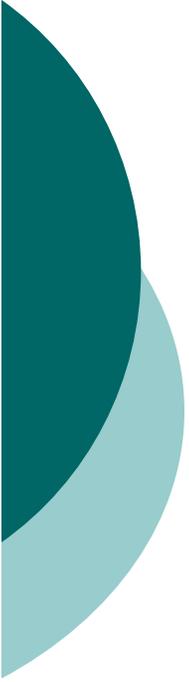
## Basic Steps

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**1<sup>st</sup> STEP** – Review if waste is a **listed** waste by reviewing lists of waste types & codes in the rules & considering whether mixture or derived from rules apply, or if it is media impacted by listed hazardous waste

**2<sup>nd</sup> STEP** – Review if waste is a **characteristic** hazardous waste by testing or relying on knowledge

**3<sup>rd</sup> STEP** – Review if a hazardous waste **exclusion** or exemption applies to waste



# Waste Stream Characterization Basic Steps

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**4<sup>th</sup> STEP** – Determine if other regulations apply (liquid industrial, solid waste, tire, etc.)

**5<sup>th</sup> STEP** - Create and maintain records of characterization for not less than 3 years from the date the waste was last shipped off-site or treated and/or disposed on-site

**6<sup>th</sup> STEP** – Re-characterize whenever there is a process or materials change



# Step 1 – Review Listed Hazardous Waste Codes

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- **F Codes** (Table 203a) – Common wastes from a non-specific sources  
(e.g. spent chlorinated solvents, wastewater & metal treatment sludges)
- **K Codes** (Table 204a) – Wastes from specific industries - includes some Michigan only codes  
(e.g. petroleum refining and wood treatment wastes)

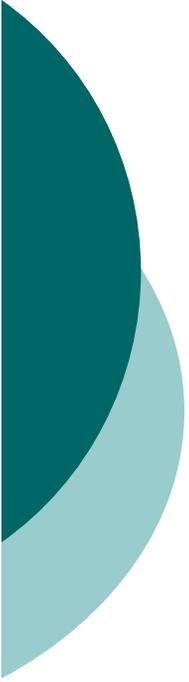


# Step 1 – Review if Listed Hazardous Waste

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- **P & U Codes** (Table 205a-c): Commercial chemical products, off-specification products, container & spill residues - includes some Michigan only U codes

(e.g. formaldehyde, parathion, benzene, DDT, xylene)

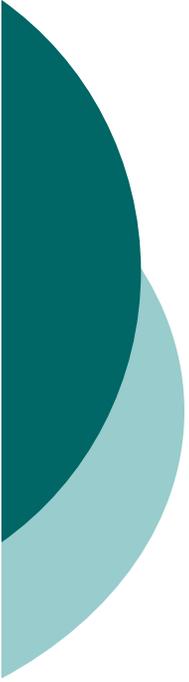


## **Step 2 – Review if Characteristic Hazardous Waste**

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### **Characteristic Hazardous Waste Codes:**

- Ignitable - D001
- Corrosive - D002
- Reactive - D003
- Toxic - D004 – D043
- Severely Toxic – 001S - 007S



# Characteristic Hazardous Waste Common Tests

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- **Flash point** – Used for testing Ignitability < 140 F (D001)

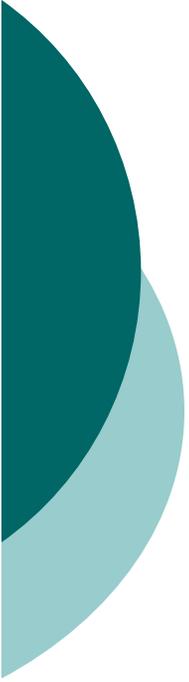
*Examples: paints, solvents*

- **pH** – Used for testing corrosivity  $\leq 2$  or  $\geq 12.5$  (D002)

*Examples: acids, bases*

- **Reactivity** – Test as required for DOT classification for materials that are unstable at normal conditions, reacts violently with water, explode, and/or emit toxic gas (D003)

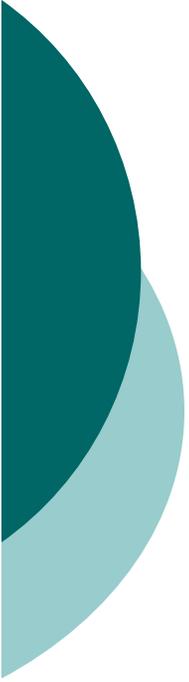
*Examples: lithium hydride & trichlorosilane*



# Characteristic Hazardous Waste Common Tests

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- **TCLP (Toxicity Characteristic Leaching Procedure)** - Used for testing leaching potential for Table 201a hazardous constituents (D004-D043)  
*Examples: Paints or sludges containing metals or MEK, contaminated media*
- **Total Halogens** - Used for testing used oils for chlorine, fluorine, bromine, etc. to determine if a “presumed” hazardous waste



# Step 3 - Review if Exemption or Exclusion Applies

(Rules 202, 203, 204, 206, 207 and 228 of Part 111 -not all inclusive)

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- Some, but not all, materials being recycled may be excluded (see 40 CFR, Part 261 of RCRA, specifically 261.2, Table 1)
- Wastewater discharges to POTW's that are ***approved*** by that sewer authority are exempted at the point of discharge to the sewer (management prior to discharge may be subject to regulation)

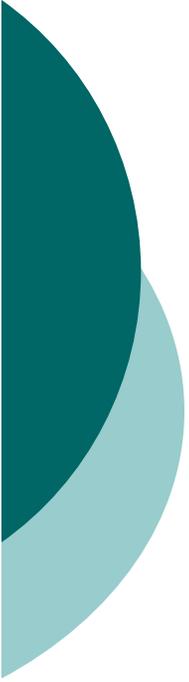


# Review Exemptions & Exclusions

(Rules 202, 203, 204, 206, and 228 of Part 111 –  
not all inclusive)

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- Universal waste rule allows alternative handling for batteries, pesticides, mercury devices, electric lamps, pharmaceuticals, consumer electronics and antifreeze
- Wastes that are used or reused in a process to make a product are excluded provided there is no reclamation - *Beware of sham recycling and get DNRE concurrence on exemption & supporting documentations required*

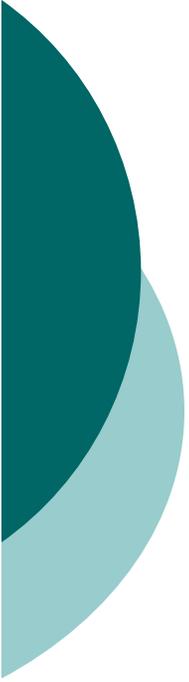


# Review Exemptions & Exclusions

(Rules 202, 203, 204, 206, 207 and 228 of Part 111 –  
not all inclusive)

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- Laboratory samples are exempt from many regulations until determined to be a hazardous waste
- Used oils that are recycled
- Scrap metal (pieces of metal) that are recycled

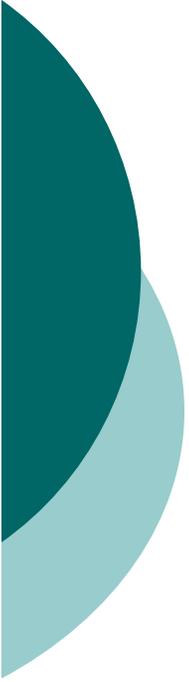


# Review Exemptions & Exclusions

(Rules 202, 203, 204, 206, 207 and 228 of Part 111 –  
not all inclusive)

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- Petroleum contaminated media (soils, groundwater) from leaking UST systems that fail the TCLP for D018 – D043 only and are being remediated under DNRE approval pursuant to Part 213
- Off-specification fuel (gasoline, kerosene, diesel, etc) being recycled for use as fuel or burned as fuel



# Review Exemptions & Exclusions

(Rules 202, 203, 204, 206, 207 and 228 of Part 111 –  
not all inclusive)

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- Materials remaining in manufacturing units that would otherwise be hazardous wastes - if taken out of service the material becomes a hazardous waste (degreasers, paint pots)
- Properly drained used oil filters that have not been mixed with listed hazardous wastes
- Laundered rags that are reused that would otherwise be hazardous waste

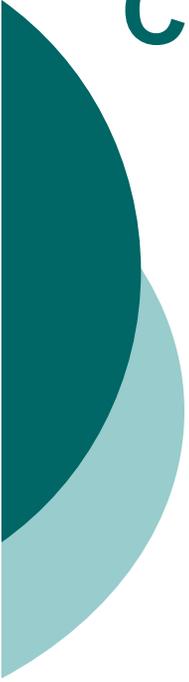


# Review Exemptions & Exclusions

(Rules 202, 203, 204, 206, 207 and 228 of Part 111 –  
not all inclusive)

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- Wastes generated by households, including single and multiple residents, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreational areas
- Residues in containers are excluded if empty



# Conditionally Exempt Small Quantity Generator (CESQG) Exemption

## (Rule 205)

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CESQG hazardous wastes are exempt if :

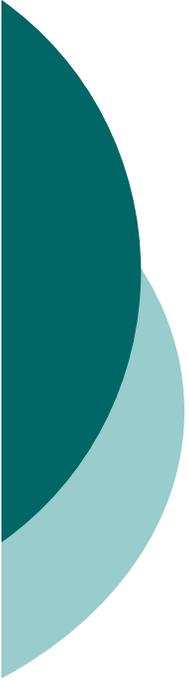
- Monthly hazardous waste generation < 220 lbs
- Total hazardous waste accumulation always  $\leq$  2200 pounds
- Wastes are properly disposed under other regulations
- Records of waste characterization and generator status are maintained for 3 years



# Review Exemptions & Exclusions

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- No exclusions for 1 time or periodic events that change generators status
- Establish procedures to limit or prevent 1 time or periodic changes in generator status/classification
- Be prepared to meet higher regulatory requirements for events changing generator status/classification

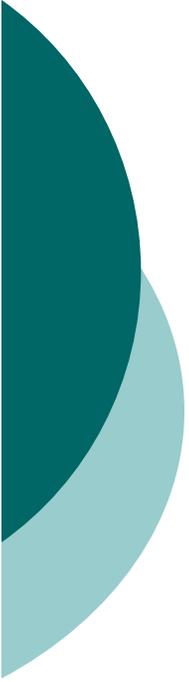


# Review Exemptions & Exclusions

## (Rule 202(5))

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- Any claim that a material is not a waste or is exempt from regulation must be demonstrated by the generator
- Where exemption is questionable, seek concurrence with hazardous waste regulatory staff



## Step 4 – Review if Other Regulations Apply

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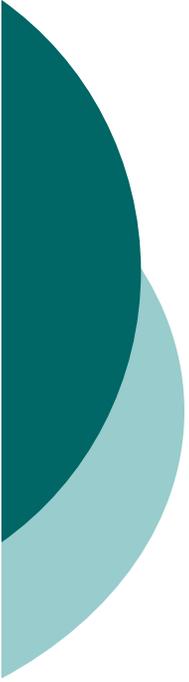
- **Act 451, Michigan Natural Resource and Environmental Protection Act**
  - ✓ Part 111, Hazardous Waste
    - Part 121, Liquid Industrial Waste
    - Part 115, Solid Waste
    - Part 169, Scrap Tires
- **Act 368, Michigan Public Health Code**
  - Part 138, Medical Waste Regulatory Act
  - Part 2 Ionizing Radiation Rules
- **Federal Toxic Substance Control Act**



# Review if Liquid Industrial Waste?

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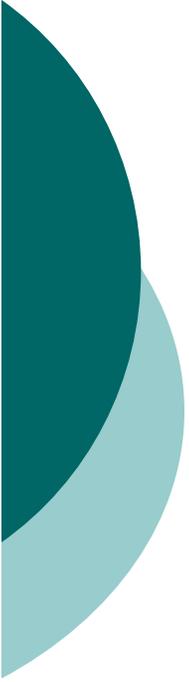
- Determined using the Paint Filter Test, Method 9095 in EPA SW-846
- Includes liquid waste that is not a listed or characteristic hazardous waste (used oil, antifreeze, wastewaters)
- Includes liquid wastes from other locations besides “industrial” sites (e.g. municipal, health care facilities, etc.)



# How to Determine Liquid Industrial Waste?

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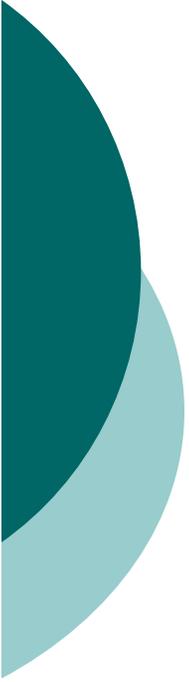
- Includes liquid CESQG hazardous wastes excluded from hazardous waste manifest & disposal at a licensed hazardous waste disposal facility
- Rule of thumb – if there are any free liquids in the waste or if the waste is thinner than butter at or below 100 F, it should be managed as a liquid industrial waste



# Common Liquid Industrial Waste Examples

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- Most antifreeze
- Some wastewater including most mobile power washing wastewater, carpet cleaning wastewater, food processing wastewaters
- Most sludges from trench drains or blind sumps (unless there's been a release making it a hazardous waste)



# Common Liquid Industrial Waste Examples

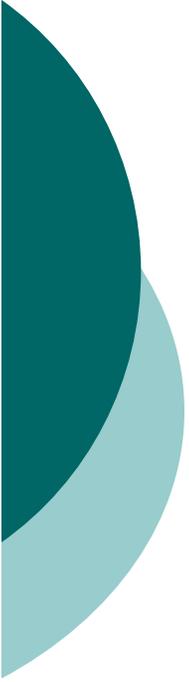
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- Storm sewer cleanout waste
- Grease trap waste
- Most used oils being recycled
- Off-specification fuels being recycled

# Liquid Industrial Waste Codes (Uniform Manifest Instructions)

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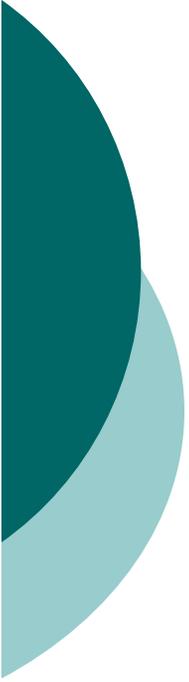
WASTE STREAM	WASTE CODE	CONSOLIDATED WASTE CODE
Mixed Solvents	007L	007LC
Pharmaceutical	014L	014LC
Crankcase Oil	017L	017LC
Coolants and Water Soluble Oils	019L	019LC
Other Oil	021L	021LC
Brine	022L	022LC
PCB	026L	026LC
Other wastes	029L	029LC
Antifreeze	030L	030LC
Storm Sewer Cleanouts	031L	031LC
Sanitary Sewer Cleanouts	032L	032LC
X-Ray/Photo Cleaning Solutions	033L	033LC
Water Based Cleaning Solutions	034L	034LC
Car Wash Sludges	035L	035LC
Grease Trap Wastes	036L	036LC



# Waste Characterization Other Regulations

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- **Act 451, Michigan Natural Resource and 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**
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  - Part 2 Ionizing Radiation Rules
- **Federal Toxic Substance Control Act**



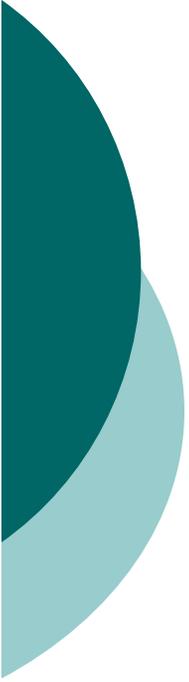
# **Review Part 115 Solid Waste Requirements & Banned Items**

**(Section 11514)**

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## **Solid waste landfill banned items generally recycled...**

- Used oil
- Lead acid batteries
- Returnable beverage containers
- Yard clippings/compost
- Empty drums unless crushed



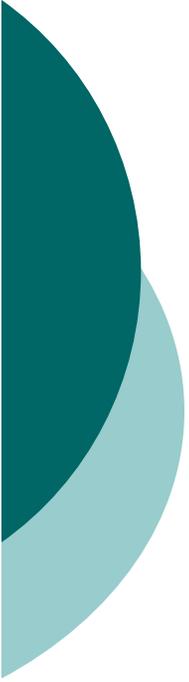
# **Part 115 Solid Wastes Banned from Landfills**

**(Section 11514)**

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**Solid waste landfill banned items generally disposed under other regulations or burned for energy...**

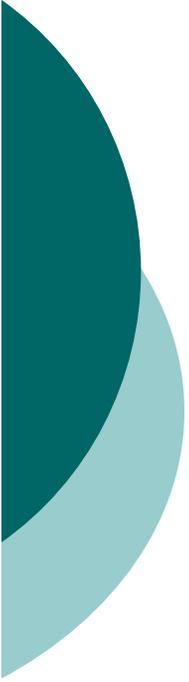
- **Whole tires**
- **Regulated hazardous waste**
- **Liquid industrial waste**
- **Radioactive waste**
- **Asbestos waste unless the landfill meets federal regulations**
- **Medical waste unless decontaminated**
- **PCB waste as defined in federal regulations**
- **Sewage unless specifically authorized**



# Review Part 115 Solid Waste Requirements

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- Talk to your landfill to determine what they accept
- Seek waste vendor or DNRE assistance for more information on recycling or disposal options
- To send solid waste out of county, the destination location must be designated in the County Solid Waste Plan



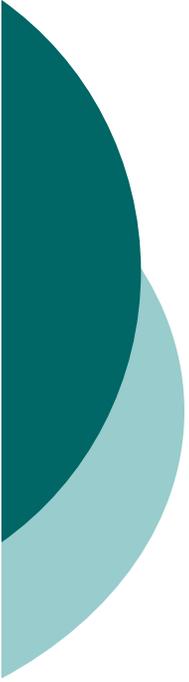
# Step 5 – Create & Maintain Waste Characterization Record

(Rule 307)

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Records for each waste stream may include:

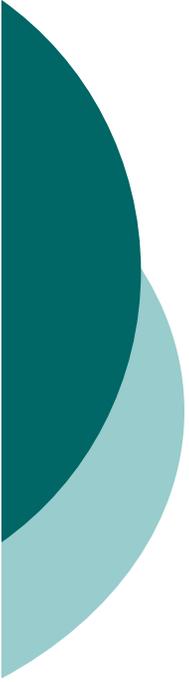
- Waste type/description
- Source of waste
- Test results
- Waste analyses records
- MSDS
- Sample procedure
- Representative sample information



## Step 6 – Re-characterize

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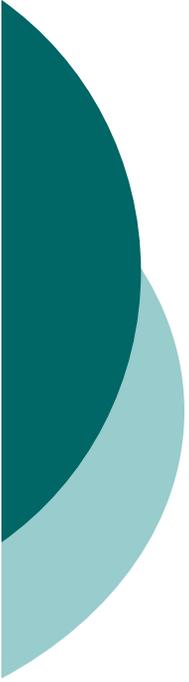
Re-characterize whenever there is a process or material change



# Waste Characterization Highlights

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- Without proper waste characterization, it is impossible to comply with the hazardous waste regulations
- A waste survey is recommended to identify all wastes being generated at a facility
- It is recommended that all records be kept together in a file for easy access in the event of a DNRE/EPA inspection



# Waste Characterization Highlights

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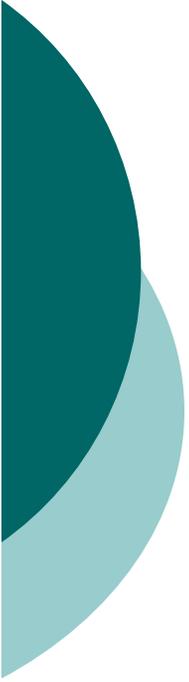
- Wastes can be classified as either hazardous or non-hazardous via knowledge and/or actual analytical methods
- Whether using knowledge and/or actual analysis, proper record keeping is required and records must be retained for three years



# Generator Status

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**Once you know what wastes are hazardous or non-hazardous, including what is exempted or excluded, you must determine where you fall within the regulations**



# How to Determine Generator Status

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- Add up ALL the hazardous waste generated at the site in a calendar month
- Calculate amounts per site
- One site is under one identification number and is contiguous property
- Calculate the amount generated, not the amount shipped



# How to Determine Generator Status

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- Include hazardous waste treated and/or disposed on-site unless it is hard piped to POTW
- Do not include hazardous waste managed as a universal waste
- Do not include used oil
- Calculate the amount in pounds or kilograms

# Specific Requirements Depend on the Hazardous Waste Generator Status

## Conditionally Exempt Small Quantity Generator (CESQG)

- Generates < 220 pounds of non-acute\* HW per month
- Never accumulates 2200 pounds or more

## Small Quantity Generator (SQG)

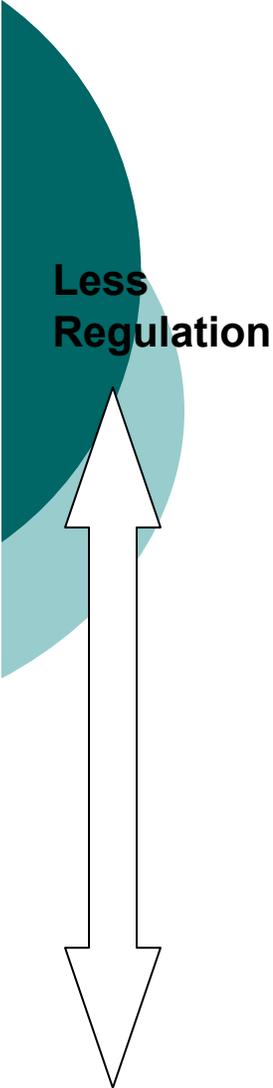
- Generates 220 to < 2200 pounds non-acute\* HW per month
- Never accumulates 13,200 pounds, or for more than 180 days or 270 days if shipping > 200 miles

## Large Quantity Generator (LQG)

- Generates  $\geq$  2200 pounds non-acute\* HW per month or
- Generates and accumulates 2.2 pounds acute or severely toxic
- Never accumulates wastes > 90 days

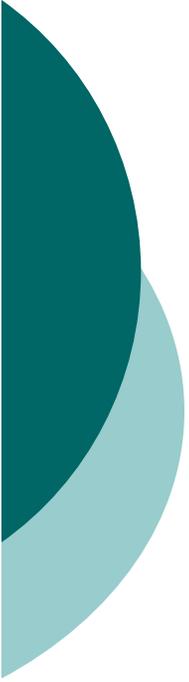
\*Acute hazardous waste action level is 2.2 lbs/month for CESQG, SQG, and LQG. Subject to LQG requirements.

**All volumes are cumulative on a site wide basis and must be counted at the point of initial management.**



Less  
Regulation

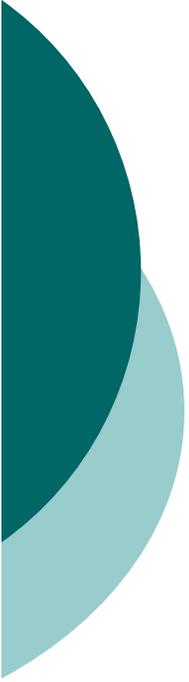
More  
Regulation



# Determining Generator Status

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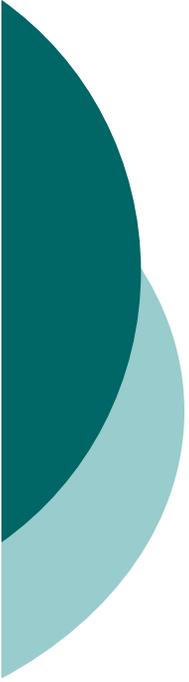
- Specific requirements that apply are based on the volume of hazardous waste generated monthly
- The more waste generated monthly, the more regulatory requirements a facility must meet
- Do not mix listed hazardous wastes with other waste to minimize hazardous waste volumes



# Determining Generator Status

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- Hazardous wastes managed using the universal waste standards are not included in the monthly hazardous waste volume for determining generator status and can be used to reduce your generator status – **USE THEM!!!**
- Use all possible exemptions and alternate materials that are less toxic to minimize your hazardous waste volumes, minimize your regulatory burden, and ultimately minimize your compliance and disposal costs



# Need Help?

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- Go to [www.michigan.gov/dnre](http://www.michigan.gov/dnre), select “Key Environmental Topics,” “Environmental Assistance,” then “Local Government”
- Contact the DNRE EAC at 1-800-662-9278
- Search the DNRE Publication Center
- Contact DNRE district waste inspection staff
- Contact hazardous waste vendors
- Contact waste consultants