



Implementing a Universal Waste and/or Household Hazardous Waste Collection in your Community

Mary Ann St. Antoine
Marquette District Office Inspector
EGLE, Materials Management Division
StAntoineM@Michigan.gov | 989-370-8035

Goals

- Define:
 - Hazardous Waste (briefly)
 - Liquid Industrial By-Products (briefly)
 - Household Hazardous Waste (HHW)
 - Universal Waste (UW)
- Identify HHW and UW:
 - Collection/Accumulation Requirements
 - Recycling/Disposal Options
- Share Resources for Diversion of HHW and UW from landfills

Today's Waste Regulations

- Act 451, Michigan Natural Resources & Environmental Protection Act:
 - Part 111, Hazardous Waste
 - Part 121, Liquid Industrial By-products
 - Part 115, Solid Waste

The final, new [Part 111 Rules](#) are not yet effective. The final new rules must reside with the Joint Committee on Administrative Rulemaking for 15 session days after which they can be filed with the Office of the Great Seal and will take effect seven days later. To get timely e-notifications on the effective date of the final, new rules and information about new and updated publications, [SUBSCRIBE](#) to receive our EGLE Waste News and Updates.

What is [Waste Characterization](#)?

- Required of all waste
- Process of determining the characteristics and composition of a waste stream and determine its hazards
- Common types of waste include:
 - Hazardous waste
 - Liquid industrial by-product
 - Solid waste

Hazardous Waste and Liquid Industrial By-Product

- Hazardous Waste
 - Listed (F, K, P, U waste codes): common waste streams on lists in the rules
 - Characteristic (D waste codes): ignitable, corrosive, reactive, and or toxic generally presumed to exhibit the characteristic or verified by testing that it is NOT a hazardous waste
- Liquid Industrial By-Product (LIB)
 - Non-hazardous liquid waste generated by a non-household that is being discarded
 - Material contains free flowing liquids, can be a sludge
 - Paint filter test is used for determining whether a material is or is not a LIB

Examples of Hazardous Wastes

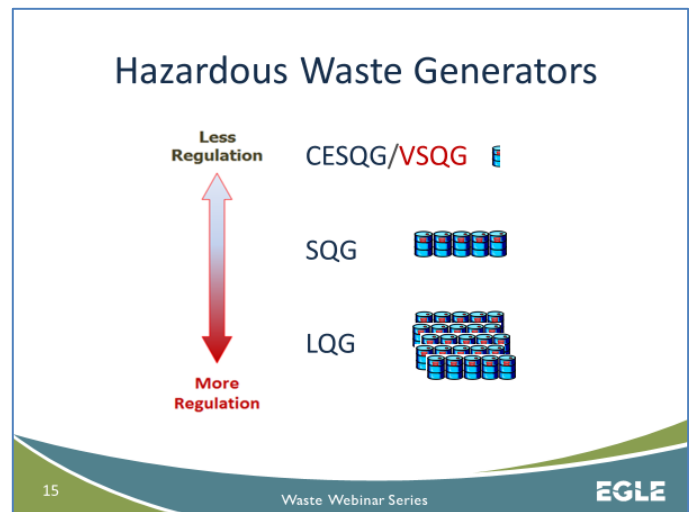
- Aerosol cans – Can be toxic and/or ignitable
- Cleansers – Can be corrosive and/or toxic
- Solvents – Can be ignitable and/or toxic
- Paints – Can be ignitable and/or toxic
- Contaminated Fuel – Can be toxic and/or ignitable
- Pesticides – Are generally toxic
- Electric lamps – Can contain toxic metals
- Batteries – Can contain toxic metals and corrosive agents

Examples of Liquid Industrial By-Products

- Includes liquid waste from non-industrial sites like municipal, commercial, and health care facilities, etc., not just industrial sites.
- LIB types may include:
 - Mobile power washing wastewaters
 - Carpet cleaning wastewaters
 - Food processing wastewaters
 - Catch basin cleanout
 - Sanitary sewer cleanout
 - Grease trap waste
 - Most antifreeze
 - Most used oil
 - CESQG/VSQG liquids

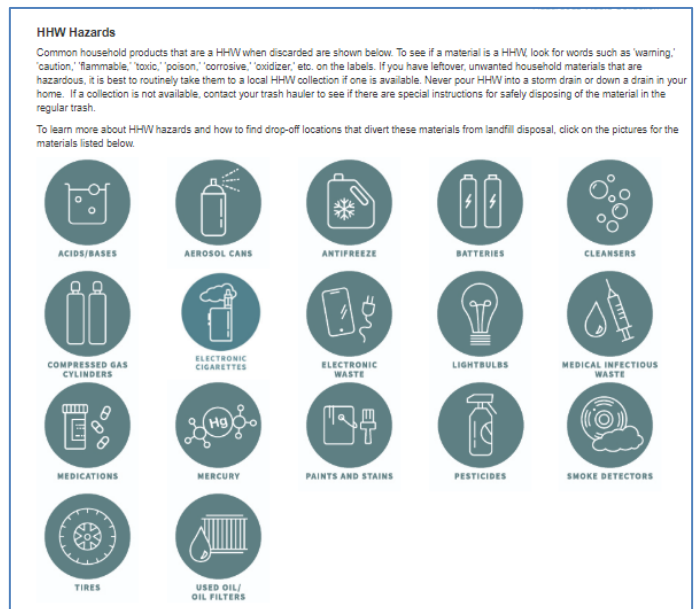
Hazardous Waste Generators

- CESQG, **soon to be VSQG**
 - Generate ≤ 220 lbs. non-acute monthly
 - Generates ≤ 2.2 lbs. acute monthly
 - $\sim \frac{1}{2}$ drum non-acute monthly
 - Never accumulate $> 2,200$ lbs.
- SQG
 - Generate > 220 lbs. & < 2200 lbs. non-acute monthly
 - Generates ≤ 2.2 lbs. acute monthly
 - $\sim \frac{1}{2}$ drum to 5 drums monthly
 - Never accumulate $> 13,200$ lbs.
- LQG
 - Generate ≥ 2200 lbs. non-acute monthly or
 - ≥ 5 drums monthly
 - > 2.2 lbs. acute



Household Hazardous Waste

- Part 111, Hazardous Waste Management, **Statute** and **Rules**:
 - Rule 204 (2) The following wastes are not hazardous wastes
 - (a) Household waste.
 - Household waste means any waste material that is derived from households
- Household waste is specifically defined as what that comes from:
 - single and multiple family residences
 - hotels and motels
 - bunkhouses
 - ranger stations
 - crew quarters
 - campgrounds
 - picnic grounds
 - day-use recreation areas
- To be considered household waste it must be generated at a residence and:
 - be generated as a result of daily living activities



EGLE Web Page Examples of HHW

- be composed of materials generally found in waste generated by consumers in their home
- See web resources at Michigan.gov/EGLEHHW
- Household waste does not include:
 - waste generated at a household from a business operation, like auto repair
 - waste generated at a household from an illegal activity, like a meth lab
 - personal items confiscated outside the home, like vapes confiscated at school
 - abandoned personal items, like medications left at school or on a person accumulate by a coroner at a mortuary
- Part 121, Liquid Industrial By-products, Statute
 - Section 12101(n) similarly defines liquid industrial by-product to not include:
 - (v) A liquid generated by a household
- Part 115, Solid Waste, Statute and Rules
 - HHW is a solid waste lawful to dispose in a municipal solid waste landfill
 - HHW is not ideal for landfill disposal as it may contain toxic constituents or present hazards in safe handling
 - In March 2014, the Part 115 statute was amended to define diverted waste and establish waste diversion centers operating requirements

What is Diverted Waste?

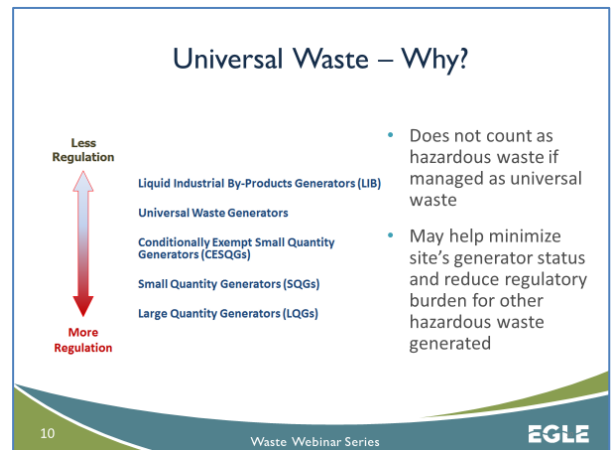
- Section 11503 of Part 115 defines diverted waste as:
 - A waste generated by a household, business, or governmental entity that can be lawfully landfilled or destroyed via municipal solid waste incineration
 - waste is separated from other waste
 - waste that is collected and sent to an environmentally preferred management option better than landfilling

Diverted Waste Types

- Same as the universal waste types and more...
- Electronics
- Batteries
- Pesticides
- Aerosol cans
- Thermostats and other mercury containing devices
- Electric lamps
- Pharmaceuticals
- Antifreeze

Universal Waste

- Part 111, Hazardous Waste Management
 - Rule 228 provides an alternate set of standards under which universal wastes can be managed instead of having to meet all of the hazardous waste regulations that may otherwise apply.
 - Generators (non-households) can choose to manage these streams under the universal waste standards as reflected in their waste characterization records and managed on-site, but must meet the exemption to be exempted from hazardous waste regulation
 - Common hazardous waste types managed under streamlined hazardous waste requirements



- Universal Waste Types
 - Batteries
 - Pesticides
 - Mercury containing equipment
 - Lamps
 - Soon to include aerosol cans – NEW 2020
 - Pharmaceuticals
- } Federal
- } Michigan Only

- Consumer electronics
- Antifreeze
- Benefit to managing waste as a UW - Generator does NOT count the weight of the UW when determining their monthly generator category
- Caution – UW mixed with HHW must all be managed as a UW!!!
- UW and HHW Mixing – Only mix if it will all go to a UW destination facility authorized under the hazardous waste regulations!!!

Universal Waste Collection Requirements

- Prohibited from disposing of universal waste
- Prohibited from diluting or treating universal waste except as authorized by license or rule
- Must manage universal waste to avoid releases
- Employees must be informed about proper handling and emergency procedures

Universal Waste Collection

- Must accumulate universal waste for one year or less
- Containers must be kept closed, except consumer electronics and batteries (unless leaking)
- Must comply with DOT shipping requirements
- Must obtain agreement from receiver of universal waste to receive the waste
- Must comply with EPA exporter requirements
- Must comply with Part 121 liquid industrial by-product requirements if contains any free liquids and use an [Act 138 liquid industrial by-products permitted and registered transporter](#)
- Shipments of universal waste liquids must be on a “[shipping document](#)”
- Shipping document can be bill of lading, or other DOT acceptable shipping paperwork
- Receiving designated facility must send timely verification of receipt to generator
- Receiving designated facility must report to EGLE annually how much was collected by 4/30 each year

Universal Waste Labeling

- **Soon to include Aerosol Cans NEW 2020** – Universal Waste Aerosol Cans, Waste Aerosol Cans, or Used Aerosol Cans
- Batteries - Universal Waste Batteries, Waste Batteries, or Used Batteries
- Pesticides - Universal Waste Pesticides or Waste Pesticides and original label if possible
- Mercury Devices - Universal Waste – Mercury Containing Equipment, Waste Mercury – Containing Equipment, or Used Mercury – Containing Equipment
- Universal Waste Labeling
- Electric Lamps - Universal Waste Lamps, Waste Lamps, or Used Lamps
- Pharmaceuticals - Recommend Universal Waste Pharmaceuticals
- Electronics - Consumer Electronics or Universal Waste Electronics
- Antifreeze - Label containers or tanks Universal Waste Antifreeze, Waste Antifreeze, or Used Antifreeze

Aerosol cans are designated as a universal waste in Alaska, New Jersey, Pennsylvania, California, Colorado, New Mexico, Ohio, Utah, and Minnesota. There are also a number of states in the process of adopting aerosol cans as a universal waste, much like Michigan.

Universal Waste Collection Tracking

- Methods to demonstrate accumulation time:
 - Label each container with date universal waste first received and placed into container
 - Label each item with the date received
 - Maintain on-site inventory/tracking system identifying date received and shipped
 - Place universal waste in designated accumulation area dated with earliest date waste placed in area

Universal Waste Handler Categories

- Large Quantity Handler of Universal Waste:
 - Collects 5,000 kilograms (11,000 pounds) or more at any one time
 - Notification and Site ID number required
 - Secondary accumulation location servicing many generator locations

- Small Quantity Handler of Universal Waste:
 - Collects less than 5,000 kilograms (11,000 pounds) total at any one time
 - Notification and Site ID number not required
 - Generator location or small secondary accumulation facility servicing generator location

Universal Waste Destination Facility Options

- Aerosol Cans, Antifreeze, Batteries, Electronics, Lamps Thermostats –
 - State authorized electronics, battery, antifreeze, or aerosol can recycler meeting state and federal waste regulation
 - Licensed hazardous waste treatment storage or disposal facility
- Pesticides and Pharmaceuticals
 - Licensed hazardous waste incinerator

Additional Handling - Batteries

- Handler can perform some activities as long as casing of battery cell is not breached, including:
 - Sort by type
 - Mix types together
 - Discharge

Additional Handling - Aerosol Cans **NEW 2020 Option once new, final rules become effective**

- Handler must:
 - Keep aerosol cans with flammable materials a safe distance from heat and open flames
- Handler may:
 - Sort aerosol cans by type if individual aerosol cans are not breached and remain intact
 - Mix the cans in 1 container and remove the actuators to reduce the risk of accidental release
 - Processing empty aerosol cans, recycle the empty punctured cans and properly characterize and manage the residual liquids from processing
- If processing empty aerosol cans, handler must:
 - Notify EGLE of activity on or before processing using the Site ID Form
 - Recycle empty cans with device designed to safely puncture aerosol cans and contain both liquid and air emissions
 - Establish written procedures covering safe processing; proper assembly, operation, and maintenance of processing equipment; segregation of incompatible wastes, practices to prevent fires or releases, and how to respond to a release
 - Maintain a spill clean-up kit onsite

Diverted Waste Collection Requirements

- Collected safely and lawfully by personnel knowledgeable about safe management of the material
- Collected at a secure location protected from weather, fire, physical damage, and vandals
- Not processed except to the extent necessary for safe and efficient transport
- Managed to prevent release to the environment

Permits/Licenses for Aerosol Can Processing

Air: Anything emitting an air contaminant must either have an air permit or qualify to use an exemption to the Rule 201 of the Part 55 air permitting requirement. Determining whether or not an air permit exemption applies to a process lies with the owner or operator of the process. Typically, aerosol can processing equipment emissions do not result in significant air emissions requiring an air permit. EGLE has established air permitting exemptions under Part 55, Rule 285(2)(hh) which exempts the on-site puncturing of miscellaneous hand-held aerosol cans and Rule 287(b) which exempts the on-site puncturing of surface coating hand-held aerosol cans. For more information on air permitting for aerosol can processing, please see the [EGLE, Air Permit to Install Exemption Handbook](#) and the [Permit to Install Workbook](#). The resources provide details on the [Part 55, Rule 278](#) exception to the use of exemptions for equipment resulting in significant emissions. Contact your [local district office](#) air pollution inspector for questions on permit exemptions.

Waste: Any treatment of hazardous waste requires a hazardous waste treatment license unless the treatment is exempted. Part 111, Rule 503(1)(i) allows generators to treat onsite in tanks or containers so long as it is performed to meet the generator treatment exemption. See the [Onsite Aerosol Can Drum Top Recycling Systems](#) guidance for details on the waste requirements for on-site processing of aerosol cans. Contact your [local district office](#) hazardous waste inspector for questions on the license exemption.

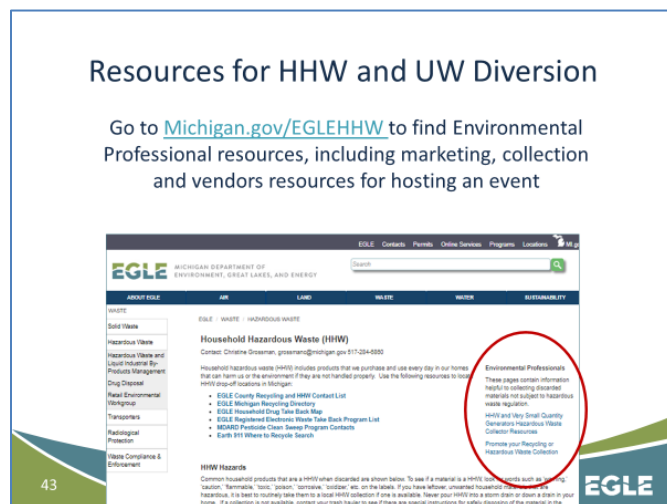
- Documented (waste types, volumes, and disposition) for at least 3 years
- Not stored for more than 1 year

Diverted Waste Management Options

- Corrosive, ignitable solvent, or toxic hazardous waste – Licensed hazardous waste recycling facility
- Pesticides – Licensed hazardous waste incinerator
- Fluorescent Bulbs – Clean Air Act permitted bulb recycler
- Batteries – State authorized battery recycler meeting state and federal waste regulation
- Used Oil – State and federally notified used oil recycler/processor
- Sharps – Air permitted medical waste treatment facility (autoclave) or air permitted medical waste incinerator
- Pharmaceuticals – One of the following Clean Air Act permitted combustors authorized to destroy HHW pharmaceuticals
 - Hazardous waste incinerator - 40 CFR part 63 subpart EEE
 - Large municipal solid waste combustors - 40 CFR Part 62, Subpart FFF, 40 CFR Part 60, Subpart Cb, or 40 CFR Part 60, Subpart Eb
 - Small municipal solid waste combustors - 40 CFR Part 60, Subpart AAAA, 40 CFR Part 60, Subpart BBBB
 - Hospital, medical and infectious waste incinerators - 40 CFR Part 60, Subpart Ce or 40 CFR Part 60, Subpart Ec
 - Commercial and industrial solid waste incinerators - 40 CFR Part 60, Subpart CCCC, or 40 CFR Part 60, Subpart DDDD

Resources for HHW and UW Diversion

- Go to Michigan.gov/EGLEHHW to find Environmental Professional resources, including marketing, collection and vendors resources for hosting an event
- Find recycling/disposal vendors:
 - [EGLE List of HHW Collection Companies that Operate in Michigan](#)
 - List of EGLE Registered E-waste Recyclers - Michigan.gov/EGLEEWaste
 - List of MDARD Clean Sweep Pesticide Grants and Collection Locations - Michigan.gov/CleanSweep
 - Access to the Recycled Materials Market Directory - Michigan.gov/EGLERMMD
- Find Ways to Promote Your Programs and Help People Find Your Collection:
 - [EGLE List of Local HHW Programs in Michigan](#)
 - EGLE Michigan Recycling Directory - Michigan.gov/RecyclingDirectory
 - EGLE Interactive Drug Take Back Map - Michigan.gov/EGLEDrugDisposal
- Find technical resources like:
 - Michigan Guide to Environmental, Health, and Safety Regulations – Michigan.gov/EHSGuide
 - US DOT advisory on batter transport
 - Resources to Start a Pharmacy Based Drug HHW Take Back Program



More

- Universal waste collections and household hazardous waste collections can reject any waste offered to ensure safe handling!
- Be sure to share sound guidance for collection participants so they can offer materials safely for collection!!!