



Overview of Michigan's Universal Waste Regulations

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Universal Waste – Who and Why

- Promotes recycling and proper disposal
 - Eases the regulatory burden
 - Reduce generator status
 - Longer accumulation period
 - Less labeling
 - No hazardous waste manifest required
 - No hazardous waste transporter required
- } Some liquid nuances discussed later

Universal Waste Types

- Batteries
 - Pesticides
 - Mercury containing equipment
 - Lamps
 - **Soon to include aerosol cans – NEW 2020**
 - Pharmaceuticals
 - Consumer electronics
 - Antifreeze
- } Federal
- } Michigan Only

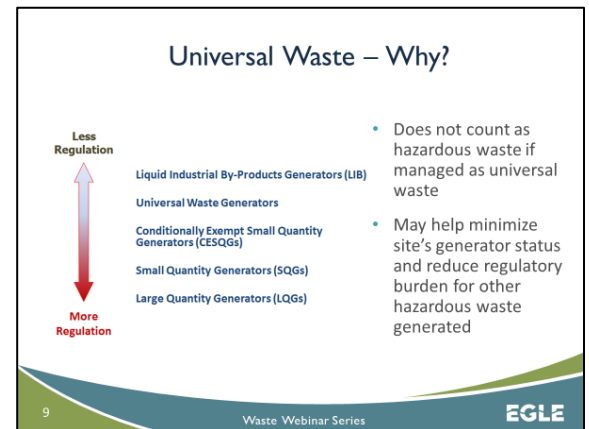
The final, new Part 111 Rules are not yet effective. The final new rules must reside with the Joint Committee on Administrative Rulemaking for 15 session days after which they can be filed with the Office of the Great Seal and will take effect seven days later. To get timely e-notifications on the effective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

Universal Waste – Why?

- Does not count as hazardous waste when determining [generator status or category](#) if managed as universal waste
- May help minimize site's generator status and reduce regulatory burden for other hazardous waste generated

Generator & Universal Waste Handler Accumulation Limits

- Longer Accumulation = Less Shipments and Less Cost
- Use the Universal Waste Regulations to Reduce Cost and Regulatory burden



How Universal Wastes are Managed

- Most universal waste are recycled, including batteries, lamps, mercury containing devices, antifreeze, and electronics
- **Aerosol cans**
 - Final new rules that are not yet effective were written to encourage recycling of universal waste aerosols which is discussed later
- Some universal waste requires disposal, like pharmaceuticals and pesticides which must be incinerated at a licensed treatment, storage or disposal facility

Universal Waste Entities - Four Types:

- Small Quantity Handlers
- Large Quantity Handlers
- Transporters
- Destination Facilities

Universal Waste Handler - What is it?

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- A person who generates universal waste
 - A person who accepts and accumulates universal waste generated by others
 - A person who conducts certain limited treatment and recycling activities specifically authorized under the universal waste handler **regulations**

Universal Waste Handler Categories

- Small Quantity Handler of Universal Waste:
 - Accumulates less than 5,000 kilograms (11,000 pounds) total
 - Notification and Site ID number not required
 - Generator location or small secondary accumulation facility servicing generator location
- Large Quantity Handler of Universal Waste:
 - Accumulates 5,000 kilograms (11,000 pounds) or more
 - Notification and Site ID number required
 - Secondary accumulation location servicing many generator locations

Basic Handler Requirements

- All Universal Waste Types
 - 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
 - Must accumulate universal waste for one year or less
 - Containers must be kept closed (except consumer electronics **and eventually aerosol cans once the new final rules are effective**)
 - Must meet individual universal waste type labeling requirements
 - 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
 - Shipments of universal waste liquids must be on a “shipping document”
 - Shipping document can be a manifest, bill of lading, or other DOT acceptable shipping paperwork
 - A hazardous waste manifest is no longer required for liquids

Handler – Accumulation Time

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

Universal Waste Transporters

- What is a Universal Waste Transporter?
 - A person engaged in the off-site transportation of universal waste by air, rail, highway or water, including:
 - A package shipping service (e.g., US Postal Service; FedEx, UPS) for solids
 - A commercial carrier (e.g., a trucking company, a hauler specializing in universal waste)
 - The operator of a universal waste destination facility that offers a universal waste pick-up service
- Prohibited from disposing, diluting, or treating
- Handlers can transport own universal waste to another handler or a destination facility
- If universal waste is a liquid:
 - Meet Part 121 liquid industrial by-product requirements
 - Maintain [Act 138](#) permit/registration for liquid industrial by-product transport
 - Maintain Act 138 required spill insurance

- If universal waste is **solid**, transporter permit is not required
- Michigan only universal wastes (pharmaceuticals, electronics, antifreeze) need to comply with other state requirements that it passes through if it goes out of Michigan
- Comply with U.S. DOT shipping requirements
- Can store universal waste up to 10 days at transfer facility & if exceed must meet handler requirements

Universal Waste Liquids

- Shipping Document Information
 - Shipping document must include all of the following:
 - The name and address of the generator
 - The name of the transporter
 - The type and volume of liquid industrial by-product in the shipment
 - The date the by-product was shipped off site
 - The name, address and site ID of the designated facility
- Shipping Document Distribution
 - Generator certifies /signs shipping document attesting to accuracy and that shipment is in proper condition for transport
 - Copy is maintained on file
 - Transporter certifies/signs shipping document attesting to receipt of shipment and that it will be delivered at listed designated facility
 - Copy is maintained on file
 - Designated facility receives shipment
 - Confirmation of designated facility receipt of the shipment is provided to the generator or the generator's authorized representative

Example Bill of Lading

DEQ, OWMRP Example Shipping Document
STRAIGHT BILL OF LADING
 ORIGINAL - NOT NEGOTIABLE

Bill of Lading Number: _____

FROM:

1. Shipper / Generator Location		2. Shipper / Generator Mailing Address (if different)	
A Top Generator 567 Oak Drive Cantonville, MI 48222		Phone No.: _____ Generator ID (if applicable): _____	
Emergency Response Phone: _____			

TO:

3. Consignee / Facility Name and Address		4. Consignee / Facility ID#	
Best Disposal 123 Main Street Smithtown, MI 48333		MIK23321456	
Phone No.: _____			

9. Notes: _____

DELIVERED BY:

5. Carrier/Transporter Name and Address		6. Carrier/Transporter ID#	
A Great Transporter 123 Elm Jonesville, MI 48222		MIK987789987	
Phone No.: _____			

7a. HMT	7b. UN or NA number, Proper Shipping Name, Hazard Class, Packing Group (if any)	8. Containers		9. Total Quantity	10. Unit Wt./Vol.	11. other
		No.	Type			
1	Antifreeze	40	DM	3200 g	Gallon	
2						
3						
4						

18. Special Handling Instructions and Additional Information:

By signing below, Shipper hereby declares that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled (placarded, and are in all respects in proper condition for transport according to applicable governmental regulations. As shipper, I hereby certify that the liquid industrial by-products are fully and accurately described on this shipping document, in proper condition for transport, and that the information contained on the shipping document is true.

SHIPPER (Print Employee Name)	Signature	Month	Day	Year
Carrier / Transporter (Print Driver Name)	Signature	Month	Day	Year
Consignee / Facility Acknowledgement of Receipt (Print Name)	Signature	Month	Day	Year

White Copy: Consignee/Facility Original • Yellow Copy: Consignee to Shipper • Pink Copy: Carrier/Transporter • Green Copy: Shipper Initial Copy

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Universal Waste Out of State Shipments

- Universal waste antifreeze and universal waste pharmaceuticals are unique to Michigan
- Other states may regulate these materials as hazardous waste rather than universal waste
- A waste may be managed as universal waste in Michigan but be managed differently if it is traveling to an out of state destination facility
- Know the other state(s) requirements, including those entered during transport to ensure adequate documentation is prepared and the destination facility is acceptable!
- Out of State Shipping Documents
 - For a universal waste antifreeze or universal waste pharmaceutical being shipped:
 - In Michigan, manage as universal waste on a bill of lading or other shipping record
 - In Michigan, liquid universal waste requires a shipping document under Part 121
 - Outside Michigan, if a hazardous waste in the other states, a manifest is required for shipment
- May require the generator to complete both a bill of lading/shipping document for the time the waste is in Michigan AND a manifest for when the waste leaves Michigan

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.

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- If using a manifest for a Michigan universal waste note in Box 14 “Managed as universal waste when in Michigan”

Universal Waste Destination Facilities

- Universal Waste Destination Facilities
- Facility that treats, disposes of, or recycles a universal waste
- Must notify EGLE as a universal waste destination facility
- Keep a record of each universal waste shipment and additional requirements if a waste is rejected
- Universal Waste Destination Facilities
- Specific requirements vary depending on the type of universal waste received and operations being performed
- Some require a Part 111 hazardous waste license
- Contact the EGLE for help with understanding specific destination facility requirements – 800-662-9278

Batteries

- Batteries that are not characteristically hazardous can be handled as solid waste
- Spent lead acid batteries have additional options (Rule 804)
- Managed to prevent releases
- Closed containers
- Containers labeled Universal Waste Batteries, Waste Batteries, or Used Batteries
- Batteries
- Handler can perform some activities as long as casing of battery cell is not breached, including:
 - Sort by type
 - Mix types together
 - Discharge
 - Regenerate
 - Disassemble packs
 - Remove electrolyte
- Lead Acid Batteries
 - Lead acid batteries not managed according to Part 111, Rule 804, need to be handled as hazardous waste or universal waste
 - Part 111, Rule 804 covers lead acid batteries that will be reclaimed
 - Persons managing lead acid batteries to be reclaimed need to characterize any waste they generate
 - Need to comply with Land Disposal Restrictions (LDR) – keep copy of exemption in file (40 CFR 268.7(a)(7)) and one-time notification
 - Level of regulation under Rule 804 depends on type of storage/reclaim combo and who performs reclamation

Pesticides

- Closed containers
- Containers labeled Universal Waste Pesticides or Waste Pesticides and original label if possible
- Not just containers – tank, transport vehicle or vessel
- Comply with tank regulations if in a tank
- Not applicable to empty pesticide containers – may need to triple rinse

Mercury Containing Equipment

- Device containing elemental mercury like thermostat, mercury switch, mercury thermometer
- Label Universal Waste – Mercury Containing Equipment, Waste Mercury – Containing Equipment, or Used Mercury – Containing Equipment
- Can substitute specific names
- Closed, sound, non-leaking containers

Lamps

- Lamp is the bulb or tube portion of a lighting device designed to produce radiant energy
- Includes fluorescent, high intensity discharge, sodium vapor, mercury vapor, neon, and incandescent lamps
- Lamps cannot be intentionally crushed or broken EXCEPT in a lamp crushing device permitted by AQD
- Closed containers labeled Universal Waste Lamps, Waste Lamps, or Used Lamps
- Package in structurally sound container and manage to prevent breakage
- Incidental breakage ok IF in closed, non-leaking container and acceptable to universal waste destination facility
- Lamp crushing device requires AQD permit
- Lamp recyclers need to be aware of different requirements pertaining to their facility if they store or not before recycling (Rule 206(5))
- Cathode Ray Tubes (CRTs)
 - There is a special exclusion and exemption in Part 111 for CRTs – Rule 231 if not handled as universal waste
 - Must be destined for recycling
 - Stored in building with roof, floor, and walls or placed in closed container that minimizes release of CRT glass including fines to environment
 - Labeled “Do not mix with other glass materials” and either “Used cathode ray tubes – contains leaded glass” or “Leaded glass from televisions or computers”
 - Not speculatively accumulated
 - Export requirements

Pharmaceuticals

- Closed packaging
- No specific label required - recommend Universal Waste Pharmaceuticals
- Manage to prevent releases
- May disassemble packaging and sort - requires training to prevent incompatible mixing and to be done safely
- Liquid pharmaceutical wastes subject to Part 121
- Michigan will begin the process of adopting RCRA 40 CFR, Part 266, Subpart P (Subpart P) once the Generator Improvement and Aerosol Can Rules are effective
- Michigan has until 2/22/22 to adopt Subpart P
- Final federal rules
 - Subpart P changes are extensive:
 - Establishes entirely new management standards nationally for healthcare and hazardous waste pharmaceuticals
 - Prohibits sewerage of all HW pharmaceuticals
 - Requires MI abandon current regulation
 - Aligns well with Michigan universal waste regulation
- Ignitable - D001 HW Pharmaceuticals Examples
 - Etoposide (chemotherapy)
 - Faslodex (chemotherapy)
 - Paregoric (controlled substance)
 - Paclitaxel (chemotherapy)
 - Rubbing alcohol
 - Nyquil
- Toxic & Acutely Toxic - D004 to D043 HW Pharmaceuticals Examples
 - Afrin – toxic (D009)
 - Arsenic Trioxide – acutely toxic (P012)
 - Barium Hydroxide Crystals – toxic (D005)
 - Coumadin (Warfarin <.3%) – toxic (U248)

- Coumadin (Warfarin > .3%) – acutely toxic (P001)
- Epinephrine (P188)
- Nicotine & salts – acutely toxic (P075)
- Phentermine HCL (P046)

- Corrosive - D002 HW Pharmaceuticals Examples

- Wart removers - trichloroacetic acid
- Eye medications - acetic and phosphoric acids
- Glycopyrrolate
- Compounding chemicals like
 - Glacial Acetic Acid
 - Sodium Hydroxide
 - Carbolic acid (liquid phenols)

- Reactive - D003 HW Pharmaceuticals

- Nitroglycerin – acutely toxic (P081) and reactive (D003)
- Clinatest – reactive (D003)
- Dry Picric Acid – reactive (D003)

- MHA Pharmaceutical Waste Management Guide, w/guide sheets

- MHA Guide Example Posting

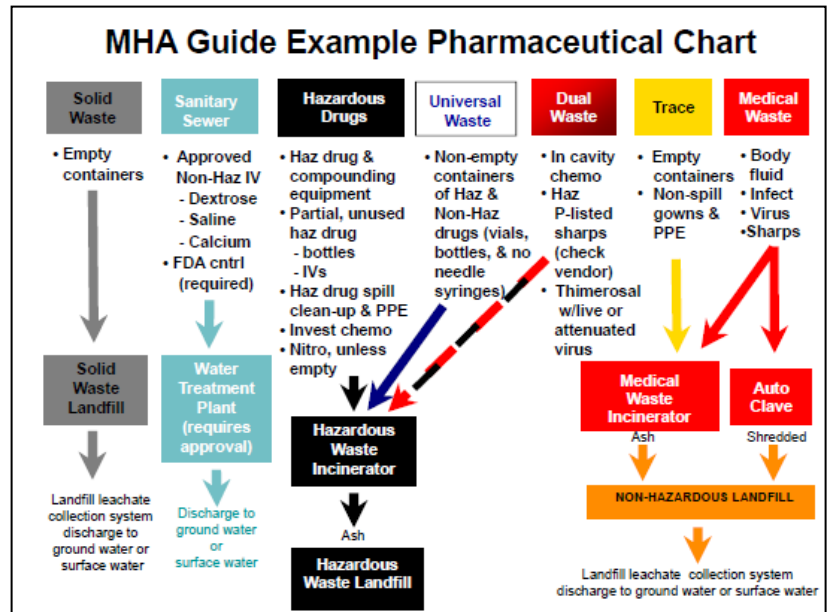
- 9/21/16 Recorded Webinar: Existing/Proposed Pharmaceutical Waste Regulations & Pollution Prevention Strategies

- Includes webinar notes updated to reflect final federal rulemaking

- Upon adoption of Subpart P EGLE will provide addition outreach and resources

- Simplest compliance option will be to opt into Subpart P

- Michigan.gov/EGLEDrugDisposal



Consumer Electronics

- Any device containing an electric circuit board, liquid crystal display, or plasma display commonly found in homes and offices
- Managed to prevent breakage
- Labeled Universal Waste Consumer Electronics or Universal Waste Electronics
- Only universal waste not required to be closed
- Handler can repair for reuse
- Handler can remove other universal waste
- Handler can remove individual modular components for reuse

Antifreeze

- Ethylene or Propylene glycol used as heat transfer or dehydration fluid
- Label containers or tanks Universal Waste Antifreeze, Waste Antifreeze, or Used Antifreeze
- Keep containers closed
- Comply with Part 121
- Immediately clean up releases

Aerosol Cans – NEW 2020 and not available for use until the final new rules are effective

- 11/15/19, EPA issued final rulemaking establishing aerosol cans as a universal waste, with the rule becoming effective at federal level on 2/20/20
- EGLE is adopting 40 CFR 273 in establishing aerosol cans as a universal waste

- Per Rule 101
 - (q) "Aerosol can" means a non-refillable receptacle containing a gas compressed, liquefied, or dissolved under pressure, the sole purpose of which is to expel a liquid, paste, or powder and fitted with a self-closing release device allowing the contents to be ejected by the gas
 - (r) "Aerosol can processing" means the puncturing, draining, or crushing of aerosol cans
- Per Rule 228(2)(r) and (s) the universal waste requirements do not apply to:
 - Aerosol cans that are not a waste:
 - Unused aerosol cans become a waste on the date the universal waste handler decides to discard it
 - Used aerosol can become a waste when discarded
 - Aerosol cans that are not a hazardous waste:
 - An aerosol can is a hazardous waste if it contains a substance that is listed or if exhibits a hazardous waste characteristic
 - An aerosol can that is empty under R 299.9207
- Per Rule 228(2)(e) non-empty aerosol cans that contain pesticides may be managed as universal waste aerosol cans
- Per Rule 228(4)(c) VSQG and household hazardous waste aerosols when mixed with other universal waste are subject to the universal waste regulations

Aerosol Cans - Additional Handling

- Handler must:
 - Label can or container "Universal Waste—Aerosol Cans," "Waste Aerosol Cans," or "Used Aerosol Cans".
 - Manage universal in a way that prevents releases
 - Accumulate aerosol cans in a structurally sound container compatible with the aerosol can contents and lacking evidence of leakage, spillage, or damage that could cause leakage
 - Accumulate aerosol cans in an area protected from heat sources
 - Package aerosol cans showing leakage in a separate closed container or overpacked with absorbents, or immediately puncture and drain in accordance with the rule.
- Handler may:
 - Sort aerosol cans by type if the aerosol cans are intact
 - Mix intact cans in 1 container
 - Remove actuators to reduce risk of release
 - Puncture and drain **empty** aerosol cans, if the cans are recycled and residual liquids are properly characterized and managed

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.

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- If processing **empty** aerosol cans,
 - Use device designed to safely puncture aerosol cans and contain both liquid and air emissions
 - Maintain a copy of the manufacturer's specification and instruction on site
 - Ensure employees operating the device are trained in the proper procedures.
 - Aerosol Cans - Additional Handling
 - Establish and follow 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
 - See [on-site aerosol can processing guide](#) for details on processing aerosol cans under the current regulations that do not recognize aerosol cans as a universal waste

How to Find Universal Waste Recyclers and Destination Facilities

- Search Waste Data System - www.deq.state.mi.us/wdsp
- Michigan Department of Agriculture and Rural Development Clean Sweep Program for Pesticides - www.michigan.gov/cleansweep or Abby Eaton at 517-284-5612 or eatona@michigan.gov
- Certified e-waste recyclers - www.michigan.gov/EGLEewaste or contact Steve Noble at 517-449-6153 or nobles4@michigan.gov
- Internet search engine – Google, Bing, Yahoo, etc.

Main Take Home Points

- Closed containers
- Labeled containers
- One year maximum accumulation
- Send to proper destination facility
- Call with questions