



# Transport, Land Disposal Restrictions, Universal Waste, Liquid Industrial Waste, & Used Oil

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## Waste Session 3

- Transport
- Land Disposal Restrictions (LDRs)
- Universal Waste
- Used Oil
- Liquid Industrial Waste
- Do's & Don'ts in Managing Waste

## DNRE Transport Regulations

- [Act 138](#), Michigan Hazardous Materials Transportation Act
- [Act 451](#), Michigan Natural Resource and Environmental Protection Act
  - [Part 111](#), Hazardous Waste Management
  - [Part 121](#), Liquid Industrial Waste

## Hazardous Material Definition

- [US Department of Transportation \(US DOT\)](#) hazardous material includes all materials that pose an unreasonable threat to the public and the environment during transport and include:
  - Hazardous Substances
  - Hazardous Wastes
  - Marine Pollutants
  - Elevated Temperature Material
  - Materials identified in [49 CFR](#)<sup>1</sup> Part 172.101
  - Materials meeting the definitions contained in 49 CFR Part 173.
- US DOT hazardous materials are broken down into 9 classes that include:
  - Explosives
  - Gasses
  - Flammable liquids
  - Flammable solids
  - Oxidizing substances/organic peroxides
  - Poisonous (toxic)/ infectious substances
  - Radioactive materials
  - Corrosive materials
  - Miscellaneous dangerous goods
- Act 138 hazardous material includes only hazardous waste and liquid industrial waste
- US DOT hazardous material regulation is entirely separate and distinct from Act 138 hazardous materials and the regulations are entirely different from one another.
- A material that is a US DOT hazardous material and an Act 138 hazardous material must be managed in compliance with both the US DOT regulations and Act 138 (e.g. off-specification waste fuel [gasoline] or spent pickle liquor/acid bath)



<sup>1</sup> CFR is the federal "[Code of Federal Regulations](#)"

## Transportation, Hazardous Material, Implementing Authority

- Michigan State Police, Traffic Safety Division implements US DOT regulations and permits *US DOT hazardous material* transporters
- DNRE implements Act 138 and permits and registers *Act 138 hazardous materials* transporters

## Act 138 Hazardous Material Information/Contacts

- Barbara Stevens - 586-753-3850
- Jeanette Noechel - 586-753-3846
- EAC - 800-662-9278 (800- NO2-WASTE)
- Act 138 Web Information at [www.michigan.gov/dnre](http://www.michigan.gov/dnre), select "Waste," then "Hazardous and Liquid Industrial Waste Transporters"

## US DOT Hazardous Material Information/Contacts

- Michigan State Police, Traffic Safety Division - 517-336-6580
- Intrastate U.S DOT Number Information - 888-464-8736
- Michigan Center from Truck Safety - 800-682-4682
- US DOT Web information at <http://www.phmsa.dot.gov/hazmat/regs>

## Act 138 Transporter Requirements

- Permit (3 yr) & Registration (1 yr) required for (MCL<sup>2</sup> 29.473(3) and (4)):
  - Hazardous waste transport
  - Liquid industrial waste transport
  - Hazardous and liquid industrial waste transport
- Fleet liability coverage must be maintained for accidental occurrences (no less than \$1,000,000 per occurrence for hazardous waste and \$750,000 or \$300,000 per occurrence for liquid industrial waste) (MCL<sup>3</sup> 29.473(5))
- Approval of Act 138 permit & registration result in issuance of "Credential"
- Credential must be carried at all times by transporter & presented upon inspection (MCL<sup>4</sup> 29.473(7))
- Credential lists effective period
- Permitted and registered hazardous and liquid industrial waste transporters found on-line at [www.michigan.gov/dnre](http://www.michigan.gov/dnre), and selecting "Waste," "Hazardous & Liquid Industrial Waste Transporters," and then "Participating Transporters"

The image shows a sample of a Uniform Program Credential. It is a rectangular document with a header section containing the title "Alliance for Uniform Hazmat Transportation Procedures Uniform Program Credentials" and a logo for the "ALLIANCE FOR UNIFORM HAZMAT TRANSPORTATION PROCEDURES". Below the header, there are several fields for information: "USDOT Carrier #", "ICD #", "US DOT Permit/IDSR #", "Michigan Motor Carrier #", and a "Telephone number to call in case of accident or emergency: (877) 424-4466". At the bottom, there is a section for "Uniform Program #", "Certified By" (with a signature), "Registration issued" (with a date), "Registration Expires" (with a date), "Issuing Agency" (Michigan Dept. of Environment Quality), and "Agency Telephone Number" (844) 753-3850. There is also a small circular seal on the right side of the bottom section.

## Act 138 Transporter Permit/Registration Exemptions

- Self transportation (MCL 29.473(9))
  - Applies only to liquid industrial waste (not hazardous waste)

<sup>2</sup> MCL is the "Michigan Compiled Law" reference for the statute, so MCL 324.12103 is Section 12103 of Part 121.

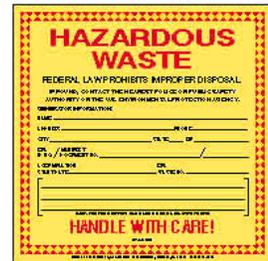
<sup>3</sup> MCL is the "Michigan Compiled Law" reference for the statute, so MCL 324.12103 is Section 12103 of Part 121.

<sup>4</sup> MCL is the "Michigan Compiled Law" reference for the statute, so MCL 324.12103 is Section 12103 of Part 121.

- Applies only to owner/operator transporting liquid industrial waste from owner/operator site generated from property or equipment in which the generator of the waste has an ownership interest
- Still requires insurance
- Governmental transportation of liquid industrial waste or hazardous waste in vehicles owned and operated by government employees (MCL 29.480)
- On-site (not on public roadway) transportation (MCL 29.472(f))

**Hazardous Waste Pre-Transport Requirements (MAC<sup>5</sup> R 299.9305)**

- Package, label, and mark each hazardous waste package in accordance with US DOT regulations AND
- Mark each container of ≤119 gallons with shipping label that identifies:
  - “HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the US Environmental Protection Agency.”
  - Generator name and address
  - Generator Site Identification Number
  - Manifest Tracking Number
  - Hazardous waste codes identifying the waste



**Placards (MAC R 299.9305)**

- Small quantity generator (SQG) shipping > 1000 lbs & large quantity generator (LQG) must have US DOT placards available for transporters
- Call [Michigan State Police, Traffic Safety Division](tel:517-336-6580) at 517-336-6580 for more info about placards

**Hazardous and Liquid Industrial Waste Transportation Requirements (MAC R 299.9403 & MCL 324.12103)**

- Employ only Act 138 permitted & registered transporters to transport hazardous and/or liquid industrial waste by public roadway
- Verify Act 138 transporter credential information by going to [www.michigan.gov/dnre](http://www.michigan.gov/dnre), “Waste,” “Hazardous and Liquid Industrial Waste Transporters,” and “Participating Transporters”

**Self Transportation**

- Self transportation of hazardous waste requires Act 138 permit, registration, & fleet liability coverage unless exempt government employee transporting government waste in vehicles owned and operated by government
- Self transportation of liquid industrial waste may be exempt from Act 138 permit & registration, but is subject to having fleet liability coverage
- Self transport of Conditionally Exempt Small Quantity Generator waste to household hazardous waste collection is exempt from Act 138 permit & registration if transported in volumes < 55 gallons in accordance [Operational Memo 121-2](#)
- Self transport < 55 gallons without a manifest requires explicit records and transport of volumes ≥ 55 gallons requires a manifest

<sup>5</sup> MAC is the “[Michigan Administrative Code](#)” reference for the rule, so MAC R 299.9303 is Rule 303 of the Part 111 Rules.

### **Self Transportation (MCL 324.12103(4))**

- Generators transporting own liquid industrial waste in volumes < 55 gallons does not require manifest if:
  - Waste is accompanied by record showing the source & quantity of the waste and the designated facility where the waste is being shipped
  - Generator obtains signature from the designated facility acknowledging receipt of the waste and provides a copy of the record of shipment to the designated facility
  - Generator retains a copy of the shipment record for 3 years from the date of shipment

### **Land Disposal Restrictions (LDR) Overview (MAC R 299.9311 and [40 CFR 268](#))**

- Applies to listed & characteristic hazardous waste from SQGs & LQGs
- Requires generator characterize, provide LDR notice to treatment, storage, and/or disposal (TSD) facility, and maintain records 3 years
- Requires treatment before land disposal for most waste
- Determine if treatment required by reviewing if waste codes for each waste stream meets the standards in [40 CFR 268.40](#), [268.45](#) (debris), or [268.49](#) (soil)
- Land disposal includes any disposal on land (landfill, land treatment, injection well, salt caverns, etc)
- Notification required even for shipment to non-land based TSDs (e.g. incinerator)
- New LDR notification must be sent when there is a waste or facility change
- Also referred to as “land ban” requirements
- LDR notice is required when generators performing on-site treatment prior to shipment and when using tolling agreement to ship hazardous waste for recycling
- Characterization to meet LDRs must evaluate underlying hazardous constituents and can be done using knowledge and/or testing
- Discuss LDR requirements with your TSD as many have preprinted forms that can be used to assist generators in meeting the LDRs

### **LDR Applicability Tables ([40 CFR 268.40](#), [268.45](#), or [268.49](#))**

#### **LDR Evaluation**

- Compare all hazardous waste codes for each waste stream to [40 CFR 268.40](#), [268.45](#), or [268.49](#) to determine if treatment required prior to land disposal
- If waste code is in referenced table, compare concentration of hazardous constituent(s) in waste to limit(s) in table (wastewater or non-wastewater)
- If hazardous constituent concentration in waste exceeds concentration in table OR a treatment technology is listed in table, treatment is required prior to land disposal
- Waste subject to the LDRs must be treated to below the maximum concentration limits listed in [40 CFR 268.48](#) to be land disposed

### **LDR Treatment Table ([40 CFR 268.48](#))**

#### **LDR Generator Recordkeeping**

- [40 CFR 268.7\(a\)](#) contains the LDR recordkeeping requirements for generators
- If the waste does not meet the land disposal standards OR chooses to assume it does not meet the treatment standards, with the initial shipment of each waste stream to each TSD, the generator must send a one-time written notice and place a copy in the file stating the waste does not meet the LDR standards.

- If the waste meets the treatment standard at the original point of generation, with the initial shipment of each waste stream to each TSD, the generator must send a one-time written notice and certification stating he/she has reviewed the waste characterization data, is familiar with it and the characterization supports the certification stating the waste complies with the treatment standards in 40 CFR 268 and place a copy in the file
- Generators treating a prohibited waste to meet the standards in [40 CFR 268.48](#) must have a written waste analysis plan describing the activities they perform to meet the treatment standards
- All generator LDR records are required to be maintained for 3 years from the last date of shipment or on-site treatment and/or disposal, whichever is later

#### **Universal Waste Standards (R 299.9228)**

- Universal waste standards are a set of streamlined standards for managing hazardous waste that are intended to help facilitate easier, less expensive disposal and/or development of recycling markets
- Universal Waste Types:
  - Electric Lamps
  - Batteries
  - Pesticides
  - Consumer Electronics
  - Mercury Containing Devices
  - Pharmaceuticals
  - Antifreeze
- See DNRE Publication Center Universal Waste, Electric Lamp, Bulb Crusher, and Electronic Equipment Guidance Documents

#### **Bulb Crushing**

- On-site bulb crushers are NOT RECOMMENDED due to possible mercury emissions
- Discuss requirements with DNRE waste and air program staff and MIOSHA prior to installing or operating
- An air use permit to install is required
- Crushed bulbs must be counted toward generator status
- See DNRE Publication Center Electric Lamp Guidance

#### **Universal Waste Mercury Devices**

- Thermostats, automotive mercury switches, sphygmomanometers, and thermometers
- [Sale ban](#) on mercury thermostats and thermometers
- [Use and sale ban](#) on sphygmomanometers
- Collection options include
  - Michigan Department of Agriculture [Clean Sweep](#) collections
  - [Local household hazardous waste collection](#) events
  - Auto switch collections through the end of life vehicle solutions (ELVS) programs that have on-line information on the program at [elvsolutions.org](http://elvsolutions.org)
  - [Michigan Energy Options](#) local collection assistance who has information on their assistance options at [www.mec.org](http://www.mec.org)
- Additional information on mercury initiatives, legislation and more is also available on-line at [www.michigan.gov/deqmercury2](http://www.michigan.gov/deqmercury2)

### **Universal Waste Consumer Electronics (MAC R 299.9102(q))**

- Consumer Electronics Devices with circuit boards or liquid crystal/plasma displays common to homes and offices and the same devices found in other settings (e.g. computers, cell phones, televisions, stereos, PDAs, DVD players, etc.)
- See DNRE Publication Center [Universal Waste](#) and [Electronic Equipment](#) Guidance

### **Pharmaceuticals (MAC R 299.9106(n))**

- Drugs only
- Does not include medical waste
- Medical waste is infectious or potentially infectious (e.g. sharps/needles, vaccines with live viruses, body tissue, etc.)
- Do not mix medical waste with pharmaceuticals unless disposing of the waste at a permitted & licensed hazardous waste incinerator authorized to incinerate mixed medical waste
- See DNRE Publication Center [Universal Waste](#) and [Mixed Medical Waste](#) Guidance

### **Universal Waste Standard Advantages**

- Universal waste volume is not included when determining hazardous waste generator status which may allow some sites to reduce their generator status level and regulatory requirements.
- Universal waste can be accumulated up to one year. much longer than that allowed for SQG and LQG hazardous waste
- Less labeling
- No hazardous waste manifest required; but if liquid, a liquid industrial waste manifest is required
- Act 138 credentialed hazardous waste transporter not required; but if liquid, a liquid industrial waste Act 138 credentialed transporter is required

### **Universal Waste Requirements for All Handlers**

- Cannot dispose of universal waste
- Cannot treat universal waste except when:
  - Responding to a release
  - Performing treatment exempt from hazardous waste permitting/licensing or authorized under universal waste handler regulations
- Manage waste in a way to avoid releases
- Can accumulate universal waste for up to one year, much longer than that allowed for SQG and LQGs
- Send or take universal waste to another handler, destination facility, or foreign destination.
- Inform employees about proper handling and emergency procedure for the waste
- If mixing universal waste with other non-hazardous wastes, managing mixture according to the universal waste standards
- Make prior arrangement for shipment to another universal waste handler
- Label each item or container holding items:
  - Universal waste “item name” OR
  - Waste “item name” OR
  - Used “item name” (e.g. “Universal Waste Pharmaceutical” OR
  - “Waste Pharmaceutical” OR
  - “Used Pharmaceuticals”)
- Meet liquid industrial waste manifesting requirements if liquid

- Meet US DOT regulations for all shipments
- Meet other state's requirements if shipping waste out-of-state
- If other state does not recognize the waste stream as a universal waste type (and waste must be manifested as a hazardous waste), note in Box 14 of the out-of-state hazardous waste manifest that waste was managed as a universal waste in Michigan
- Meet exportation requirements if shipping universal waste out to other countries

#### **Universal Waste Handler Handler Types:**

- Small Quantity Universal Waste Handler
  - No Site Identification Form required
  - Handles < 11,000 pounds (total all universal waste types combined) during entire calendar year
- Large Quantity Universal Waste Handler
  - Site Identification Form required
  - Handles ≥ 11,000 pounds (total all universal waste types combined) at any time during calendar year

#### **Used Oil (R 299.9203, R 299.9205, Part 8 rules of Part 111, Part 167, and MCL 324.12103)**

- Used oil is subject to regulation under Parts 111, 121, and 167 of the Michigan Natural Resource and Environmental Protection Act
- Part 111 and 121 establish hazardous waste and liquid industrial management standards for the used oil
- Part 167 requires that the used oil be recycled
- Used oil generally does not include used oil containing >1000 PPM halogens
- Used oil with > 1000 PPM halogens is a presumed listed hazardous waste unless sufficient characterization data can be presented to "rebut the presumption" that the halogens are present from mixing used oil with a listed hazardous waste (chlorinated solvents)
- "Rebutting the presumption" is complicated for transporters & processors accepting used oil from multiple sources and most will not accept used oil > 1000 PPM halogens
- Total halogens are usually tested using SW 846 or using on-site testing equipment like "Chlor-D-Tect"
- If > 1000 PPM halogens present, additional, costly testing is required to "rebut" whether used oil was mixed with hazardous waste:
  - Analyze for all halogenated Appendix VIII constituent
  - If > 100 PPM used oil fails and must be managed as a hazardous waste

#### **Liquid Industrial Waste (MCL 324.12102 and MCL 324.12103)**

- Obtain and utilize Site Identification Number if manifesting liquid industrial waste for disposal
- Container or tank accumulation only
- Label containers/tanks with words "Used Oil" or their contents (MAC R 299.9810(3))
- Containers/tanks must be compatible with the wastes, closed, and in good condition
- Protect waste from weather, physical damage, fire, and vandals
- Accumulation conducted to prevent escape of wastes to air, water, sewers or the ground
- Report releases that could threaten health, safety, welfare, or environment
- Respond to releases to stop, contain, and clean up the spill
- Manifest off-site shipments unless [consolidated manifesting](#) or self transporting with a trip log
- Use [Act 138 permitted & registered liquid industrial waste transporter](#)

- Ship waste only to a designated facility with a Site Identification Number unless treating and/or disposing of the waste on-site
- If disposing of liquid industrial waste on-site to the POTW, maintain record of POTW authorization for the discharge
- Manage in accordance with U.S. Environmental Protection Agency Spill Control and Countermeasures requirements; Part 31 Water Resources Pollution Incident Prevention Plan requirements, and any tank installation/registration requirements

#### **Dos**

- Follow exemption requirements
- Maintain required records (characterization, manifests, land disposal restriction, monthly generator status, etc.)
- Minimize waste to minimize regulatory burden
- Notify DNRE of reportable releases
- Train staff to handle hazardous waste and respond to emergencies
- Confirm questionable exemptions with DNRE staff
- Utilize universal waste standard where possible
- Institute measures to prevent releases
- Document correction of observed violations to DNRE ASAP
- Review waste characterization at the time of each process or material change
- Routinely dispose of wastes
- Ship hazardous waste using manifest & via credentialed transporter
- Preventing repeat violations during subsequent inspections
- Keeping waste characterizations on- site
- Ensure you have staff that understand the regulations

#### **Do Nots**

- Store greater than 90/180 days (SQG/LQG)
- Overlook re-characterizing and/or illegally dispose
- Install hazardous waste tanks without certification
- Operate as a SQG or LQG without required secondary containment, training, and emergency planning
- Rely solely on your vendor to ensure compliance
- Transport hazardous waste and/or liquid industrial waste without the required permit and registration

#### **Need Help?**

- Go to [www.michigan.gov/dnre](http://www.michigan.gov/dnre) and select "Waste"
- Contact the DNRE Environmental Assistance Center at 800-662-9278 (800-NO2-WASTE)
- Search the [DNRE Publication Center](#)
- Contact [DNRE district waste inspection staff](#)
- Contact [hazardous waste vendors](#)
- Contact waste consultants