Waste Regulations 101

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Waste Regulations 101

Goal of Today’s Discussion: To present a general overview of the types of waste regulated by state and/or federal statute.
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Types of Waste Regulated by Statute:
- Waste Recycling and Reduction
- Solid Wastes
- Liquid Industrial By-products
- Hazardous Wastes
- Medical Wastes
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How do I start???

• 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 & characterizing ALL waste streams.
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As a general rule of thumb…
…less hazardous waste = less regulation & more disposal options under the law

There is no one best answer for how to dispose of waste for all businesses & locations.
Exemptions and Exclusions

• Wastewater discharges to POTW’s that are approved by that sewer authority are exempted at the point of discharge to the sewer.

• Batteries, pesticides, mercury devices, electric lamps, pharmaceuticals, consumer electronics & antifreeze handled as Universal Waste enjoy a partial exemption.

• Wastes that are used or reused in a process to make a product are excluded provided there is no reclamation.
Exemptions and Exclusions cont...

- Laundered rags that are reused that would otherwise be a hazardous waste.
- Dredge spoils from projects permitted by the U.S. Army Corps of Engineers or DEQ.
- Used oils that are recycled.
- Certain petroleum contaminated media from leaking UST systems that are being remediated under DEQ approval pursuant to Part 213 of Act 451.
- Off-specification fuel (gasoline, kerosene, diesel, etc.) being recycled for use as fuel or burned as fuel.
Exemptions and Exclusions cont…

- Some (not all) recycled materials. Also, commercial chemical products speculatively accumulated (where allowed) are not solid wastes under RCRA.

- Household waste, including single & multiple residences, hotels & motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, & day-use recreational areas.

- Beware of sham recycling & get DEQ concurrence on exemption. Supporting documents required.
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Solid Waste

Note: If the waste meets an exemption or exclusion, it is considered a non-hazardous solid waste.

These wastes should be properly disposed in a Type II Municipal Solid Waste Landfill.

Regulated under Part 115 of Act 451.
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Several wastes are prohibited from landfill disposal under Part 115. Those include:

- Used Oil
- Liquid Waste
- Lead Acid Batteries
- Yard Clippings
- Medical Waste
- PCB Waste
- Low Level Radioactive Waste
- Hazardous Waste from SQGs and LQGs
- Whole Tires
- Returnable beverage containers
- Empty Drums
- Sewage
- Asbestos (unless LF approved)
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**Liquid Industrial By-Product**

- Regulated under Part 121 of Act 451.
- Formally known as Liquid Industrial Waste
- Determined by using the Paint Filter Test, EPA Method 9095 of SW-846.
- If there are any free liquids in the waste it should be managed as a liquid industrial by-product.
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Liquid Industrial By-Product cont…

- Liquid CESQG hazardous waste

- Liquid waste that is not a listed or characteristic hazardous waste such as:
  - Used oil
  - Antifreeze
  - Wastewaters
  - Fats, oils, & grease
  - Catch basin clean-out
  - Contaminated fuel
  - Waste waters
  - Wash waters
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In March, 2016, Part 121 was amended to reform the ways liquid wastes are treated or disposed. The new law does the following...

- Eliminate the Uniform Hazardous Waste Manifest as the required shipping document for transporting Liquid Industrial By-Products;
- Define the required elements of a shipping document;
- Eliminate the requirement to submit copies of the shipping document to the DEQ;
- Eliminate the requirement to obtain a Site Identification number for liquid industrial by-products generators using a shipping document other than the Uniform Hazardous Waste Manifest;
- Require generators to maintain labeling or marking on containers and tanks to identify the contents;
- Provide for confirmation of acceptance at the designated facility;
- Provide the ability to maintain records in an electronic format.
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Part 121 continued…

- Provide the ability for transporters to carry registrations and permits in electronic format;
- Require certain designated facilities maintain a plan to respond to releases,
- Require certain designated facilities document proper employee training
- Require certain designated facilities submit an annual report;
- Clarify the applicability of closed containers; and,
- Allow for the resolution of violations through civil actions.
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Hazardous Waste

Regulated under Part 111 of Act 451.

Determined to be a threat to human health or the environment.

Exhibit hazardous characteristics specified in the regulations (characteristically hazardous waste), or, is included on specific lists within the regulations (listed hazardous waste).

Michigan regulates more wastes than outlined in the code of federal regulations.
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Characteristically Hazardous Wastes

Ignitable - D001
Corrosive - D002
Reactive - D003
Toxic - D004 – D043 (Table 201a)
Severely Toxic – 001S - 007S
   (Table 202, includes dioxins & furans)
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**Characteristic Waste Codes Common Test**

**Flash point** – Used for testing Ignitability < 140 F (D001)  
(Examples: paints, solvents)

**pH** – Used for testing corrosivity ≤ 2 or ≥ 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)  
(Example: lithium hydride)
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Characteristic Waste Codes Common Tests Continued...

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)

Note: a waste that exhibits severe toxicity is listed on Table 202 in the Part 111 Rules and labeled with the suffice “S”.
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Listed Hazardous Wastes

Several different waste classifications prefixed by a letter including:

“F” – hazardous waste from non-specific sources (e.g. F001 – specific spent halogenated solvents)

“K” – hazardous wastes from specific industries (e.g. wood treatment wastes)

“P” – discarded commercial chemical products and spill residues as acutely hazardous wastes (e.g. Toxaphene)

“U” – discarded commercial chemical products and spill residues of toxic hazardous wastes (e.g. DDT)

Note: acutely hazardous wastes have an “H”, and the toxic wastes have a “T” listed in the hazard column in the waste tables. Also, wastes with a “U” suffix are Michigan-specific hazardous wastes.
Hazardous Waste Generator Status

Facility’s hazardous waste generator status is based on:

- Total quantity of hazardous waste generated each calendar month, and,
- The amount of hazardous waste accumulated at a site at any one time.
- This information will be used to determine the disposal requirements to the waste generated at the site.
- Site ID number is required.
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<table>
<thead>
<tr>
<th></th>
<th>CESQG</th>
<th>SQG</th>
<th>LQG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of acute or</td>
<td>1 kg (2.2 lbs) or</td>
<td>1 kg (2.2 lbs) or</td>
<td>&gt;1 kg (2.2 lbs)</td>
</tr>
<tr>
<td>severley toxic haz</td>
<td>less</td>
<td>less</td>
<td></td>
</tr>
<tr>
<td>waste generated or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>accumulated at any</td>
<td></td>
<td></td>
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<tr>
<td>time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of acute</td>
<td>100 kg (220 lbs) or</td>
<td>100 kgs (220 lbs) or</td>
<td>&gt;100 kgs (220 lbs)</td>
</tr>
<tr>
<td>spill residue or cont.</td>
<td>less</td>
<td>less</td>
<td></td>
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<tr>
<td>soil generated or</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>accumulated at any</td>
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<td></td>
</tr>
<tr>
<td>time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of non-acute</td>
<td>100 kg (220 lbs) or</td>
<td>&gt;100 kg (220 lbs) but &lt;1000 kg (2200 lbs)</td>
<td>&gt;1000 kg (2200 lbs)</td>
</tr>
<tr>
<td>haz waste generated in</td>
<td>less</td>
<td></td>
<td></td>
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<tr>
<td>1 calendar month</td>
<td></td>
<td></td>
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</tbody>
</table>
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<tr>
<th></th>
<th>CESQG</th>
<th>SQG</th>
<th>LQG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. volume of non-acute haz waste.</td>
<td>25 gallons (assuming the liquid wt equals that of water)</td>
<td>25 to 250 gallons</td>
<td>200 to 250 gallons</td>
</tr>
<tr>
<td>Max amount of non-acute haz waste that can be accumulated on site.</td>
<td>1000 kg (2200 lbs)</td>
<td>6000 kg (13,200 lbs)</td>
<td>No maximum amount</td>
</tr>
<tr>
<td>Max time period before waste must be shipped.</td>
<td>No time limit if never exceeding 2200 lbs.</td>
<td>180 days unless shipped over 220 miles; then 270 days</td>
<td>90 days</td>
</tr>
</tbody>
</table>
Universal Waste

- Provides streamlined standards for managing common types of hazardous wastes. These include:
  - Unbroken lamps/light bulbs
  - Batteries including dry cell and lead acid
  - Mercury-containing devices
  - Consumer electronics that contain circuit boards
  - Antifreeze
  - Pharmaceuticals such as nicotine, etc.

Note: Hazardous waste volumes managed under the universal waste standards are not used in determining the hazardous waste generator status.
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**Inert Materials**

- In general, an inert designation means there are no listed hazardous wastes, or, hazardous substances present in a waste at concentrations above current Part 201 cleanup criteria.

- Inert materials can include dredged spoils, excavated soils, cement kiln dust, asphalt, certain construction materials, rock, etc.

- Many inert materials can be used as alternate daily cover in landfills with DEQ approval.

- Regulated by Part 115 of Act 451.
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**Scrap Tires**

- Regulated by Part 169 of Act 451.
- Requirements for scrap tire generators include:
  - Store tires in a safe manner and the location of generation;
  - Ensure scrap tires are taken to a registered tire collection site;
  - Haulers must register annually; and,
  - Obtain and keep copies of scrap tire manifests.
- Additional information is available through the DEQ’s Scrap Tire Program at 517-241-2924 or 517-284-6588, or, www.michigan.gov/scrap tires.
Asbestos

- Used in more than 3000 products over the past 100 years for its insulation and fire protective properties.

- Common products include pipe insulation, floor and ceiling tiles, and electrical appliances.

- Found in a wide range of settings including industrial and manufacturing, school and universities, and residential properties.
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Asbestos continued…

- Generally disposed in Type II Municipal Solid Waste landfill if the landfill has been approved to accept asbestos-containing wastes.

- Asbestos is the general name of a group of minerals with a similar propensity to become airborne and cause damage to lungs. These minerals include Chrysotile, Amosite, and Crocidolite.

- Additional information is available through the DEQ’s Air Quality Division, NESHAPs Asbestos Coordinator at 517-373-7064.
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Thank you!

If you have any specific questions, please feel free to contact me.

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