

# MHA Health Care Pharmaceutical Waste Management Guidebook





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## MHA Health Care Pharmaceutical Waste Guide

### Index

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#### 1. GUIDE

- a. Introduction
- b. Glossary of Terms
- c. Bulk Chemotherapy Waste Guide for Health Care
- d. Trace Chemotherapy Waste Guide for Health Care
- e. Universal Waste Guide for Health Care

#### 2. TOOLS

- a. Large Quantity Generator Weekly Hazardous Waste Maintenance Inspection Checklist
- b. Small Quantity Generator Hazardous Waste Emergency Information Poster
- c. Manifest Tracking Form for Large Quantity Generators
- d. Manifest Tracking Form for Small Quantity Generators
- e. MHA Chemotherapy Waste Disposal Guidelines

#### 3. RESOURCES

- a. Notification and Manifesting Resource
- b. Generator Resources
  - i. Summary of the Hazardous Waste Generator Categories
  - ii. Summary of the Hazardous Waste Generator Requirements
  - iii. Summary of Universal Waste Handler Categories
  - iv. Accumulation Time and Amount Limits
- c. Large Quantity Generator Personnel Training Guidance
- d. Liane J. Shekter Smith, P.E., Chief, Resource Management Division Letter; RE: Dual Waste (*Dec. 1, 2010*)

# GUIDE

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## MHA Health Care Pharmaceutical Waste Guide

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### Why be concerned about pharmaceuticals?

Pharmaceuticals are drugs that are used to treat human and animal ailments. Some pharmaceuticals are toxic (chemotherapy agents) while others function to cause more limited physiological changes. Unused pharmaceuticals are problematic because they do not readily break down into common elements once released to the environment. As such, they generally remain intact and can be absorbed by other plants, animals and/or humans.

**What is the environmentally preferred disposal option for unused pharmaceuticals?** The preferred disposal method for unused pharmaceuticals is incineration. Incineration is preferred because it prevents unused medications from entering our water.



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***Incineration of pharmaceuticals prevents unused drugs from entering our water.***

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**Why was the MHA Health Care Pharmaceutical Waste Guide developed?** There are many different regulations that apply to the hundreds of thousands of pharmaceuticals manufactured today. Under environmental regulations, unused medications that can no longer be used are generally a hazardous waste, liquid industrial waste, or non-hazardous solid waste. However, they can also be a [mixed medical waste](#) or managed as a [universal waste](#). Complicating matters further is the fact that the less hazardous waste a site generates, the less regulation they are required to meet. To determine the level of management that must be met, each site must determine how much hazardous waste it generates **monthly** and determine the management standards that apply. Navigating environmental requirements, controlled substance regulations, and the medical professional licensing and occupational safety drug handling requirements is complicated enough as it is. But, then add the newly developed pharmaceuticals, each with many different names and dosages, and you have an especially daunting task. This guide is meant to simplify the process by providing a streamlined means to meet the waste regulations in a manner that will facilitate proper handling to meet all of the other requirements that apply to unused drugs in a health care setting. This guide provides health care with a tool to quickly ensure that they meet the laws and regulations set forth by all governing bodies. Most significantly, this guide provides a simple option for protecting patients, health care employees, and future generations from exposure to harmful substances.

**How do I use this waste guide?** This guide provides one of many compliance options health care facilities can use to comply with the waste regulations that apply to their unused pharmaceuticals. It streamlines how health care facilities can meet their waste storage, transportation, and disposal requirements and is intended to facilitate compliance with the many other pharmaceutical regulations that generally apply in a health care setting. This guide focuses strictly on the waste storage,



transportation, and disposal requirements for handling **bulk chemotherapy waste, trace chemotherapy waste, and universal waste pharmaceuticals**. Furthermore, this guide assumes any health care facility using this guide is in compliance with the personnel training, contingency planning, biennial reporting, waste characterization, and other requirements that may apply under the hazardous waste regulations. Health care facilities must also characterize their entire pharmaceutical inventory and maintain a record of their waste determination.

**How do I verify that this guide comprehensively serves to meet other pharmaceutical regulations?** Consult with your pharmacy and environmental, health, and safety staff about whether this guide will satisfy the requirements of the Michigan Board of Pharmacy, National Institute for Occupational Safety and Health (NIOSH), and the American Nurses Association. Coordinate with your disposal vendor(s) to ensure they understand how you are collecting your pharmaceutical and medical (infectious biohazard waste) and that your facility meets the various other regulations that may apply to your pharmaceutical and medical waste.

**What regulations and guidelines were considered in creating this guide?** The Federal Resource Conservation and Recovery Act (RCRA) and Title 40, Parts 260-279, of the Code of Federal Regulations (40 CFR 260-279); Part 111, Hazardous Waste, of the Natural Resource and Environmental Protection Act (NREPA) and the Part 111 Rules; Part 115, Solid Waste Management, of the NREPA and the Part 115 Rules; Part 121, Liquid Industrial Waste, of the NREPA; Part 138, Medical Waste Regulatory Act, of the Public Health Code, Act 368 (Act 368) and the Part 138 Rules; Part 161, General Provisions, of Act 368; Part 177, Pharmacy Practice and Drug Control, of Act 368 (Board of Pharmacy) and the Part 177 Rules; NIOSH Guidelines for Controlling Occupational Exposure to Hazardous Drugs, OSHA Technical Manual, 49 CFR Parts 100-199 (Hazardous Materials and Oil Transportation)

## Glossary of Terms –

1. **Accumulation area** means a hazardous waste storage area and does not include satellite accumulation area(s). For more information on hazardous waste accumulation, see the hazardous waste accumulation [Webinar](http://www.michigan.gov/environmentalassistance) at [www.michigan.gov/environmentalassistance](http://www.michigan.gov/environmentalassistance).
2. **Acute hazardous waste** means waste that has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, has been shown in studies to have an oral LD50 toxicity (in rabbits) of less than 2 mg/L, or a dermal LD50 toxicity of less than 200 mg/kg, or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible illness.
3. **BMP** means best management practice.
4. **Bulk chemotherapy waste** (Bulk Chemo) is material intended for discard that is known to contain or have come in direct contact with chemotherapy agents.
5. **Chemotherapy agent** means a chemical used to treat cancer.
6. **Closed system drug transfer device** means a device used for hazardous drug compounding or administration that mechanically prohibits release of the hazardous drug(s) to the environment by containing the drug(s) in a system that prevents escape of the hazardous drug(s) or drug vapor(s) to the environment outside the system. A closed system drug transfer device typically includes a needle within a protective device that functions to contain the hazardous drug.
7. **Conditionally exempt small quantity generator** (CESQG) is a site that generates less than 100 kilograms or 220 pounds of non-acute hazardous waste, less than 2.2 pounds of acute hazardous waste in a calendar month, and never accumulates over 1,000 kilograms or 2,200 pounds of non-acute hazardous waste at any time.



8. **Contingency plan** is a plan for responding to an emergency situation (spill, fire, explosion, etc.) posed by the hazards associated with the waste handled at a site. Contingency planning requirements include a requirement to coordinate with local emergency planning officials for large quantity generators of hazardous waste.
9. **DEA** means Drug Enforcement Administration.
10. **DOT** means United State (U.S.) Department of Transportation.
11. **Empty container** means a container that no longer contains any residue subject to the RCRA.
  - a) For **non-acute hazardous waste**, the container is empty if all waste has been removed from the container that can be removed using practices commonly employed to remove materials from that type of container, such as pouring, pumping, and aspirating, and not more than 3% by weight of the total capacity of the container remains in the container for all containers less than 119 gallons in size.
  - b) For **compressed gas**, the container is empty when the pressure inside the container is equal to atmospheric pressure, the container is not clogged, and there are no audible liquids in the container when shaken.
  - c) For **acute hazardous waste**, the container is empty when triple rinsed with a solvent that is effective in removing the acute hazardous waste (note: the rinsate is a hazardous waste) or if the acute hazardous waste was listed solely because it exhibited a hazardous characteristic and the waste no longer exhibits the characteristic (e.g., reactivity for nitroglycerine).
12. **Hazardous waste generator status** is determined by counting the weight of all the hazardous waste generated at a site in a calendar month. There are three generator statuses (also known as types or categories) under the RCRA: Large Quantity Generator (LQG), Small Quantity Generator (SQG), and Conditionally Exempt Small Quantity Generator (CESQG). The generator status is used to determine the handling requirements the generator must meet at the site.
13. **Inspection log** means a record documenting hazardous waste tank (daily) and/or container (weekly) accumulation area(s) inspections to verify there is/are no release(s) and/or to respond to release(s).
14. **IV** means intravenous, within a vein, or administering by injection into a vein.
15. **Large quantity generator (LQG)** means a site that generates equal to or greater than 1,000 kilograms or 2,200 pounds of non-acute hazardous waste and/or equal to or greater than 1 kilogram or 2.2 pounds of acute hazardous waste in a calendar month.  
Beyond meeting the **SQG** requirements, all LQGs must also have:
  - a) **Secondary containment** for the hazardous waste storage area and inspect it weekly
  - b) More elaborate **training**, and
  - c) Established and maintained a **contingency plan** for emergenciesAn LQG must also meet the **land disposal restrictions**, submit a **biennial report** and pay higher **handler and manifest fees**. An LQG may not store hazardous waste on-site for more than 90 days.
16. **Manifest** means a Uniform Manifest form used for tracking waste from the site of generation to the site of disposal.
17. **Medical waste** is any infectious or potentially infectious waste. For purposes of this guide, medical waste will also be referred to as biohazardous waste. Medical waste specifically includes any of the following waste that is not generated from a household, a farm, an agricultural business, a home for the aged, or a home health care agency:
  - a) Cultures and stocks of infectious agents and associated biologicals, including laboratory waste, biological production waste, discarded live and attenuated vaccines, culture dishes, and related devices



- b) Liquid human and animal waste, including blood and blood products and body fluids, but not including urine or materials stained with blood or body fluids
  - c) Pathological waste
  - d) Sharps
  - e) Contaminated waste from animals that have been exposed to agents infectious to humans, these being primarily research animals
18. **Non-empty** means a container that has residue subject to the RCRA. See empty definition for clarification on when empty is achieved under the RCRA.
19. **NREPA** stands for the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended.
20. **OSHA** stands for Occupational Health and Safety Administration.
21. **Part 111** means the Michigan hazardous waste law found under Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended, and the Part 111 hazardous waste rules.
22. **Pharmaceutical** means a drug intended for use in the diagnosis, cure, mitigation, treatment, therapy, or prevention of disease in humans or animals.
23. **PPE** means personal protective equipment and includes caps, gowns, shoe covers, safety glasses, etc. used to protect people from exposure to hazardous drugs.
24. **RCRA** stands for the [Resource Conservation and Recovery Act of 1976](#) and, for the purposes of this guide, includes the requirements of [Part 111 and the Part 111 rules](#).
25. **Regulated medical waste** means medical waste that requires disposal through incineration.
26. **Reverse distributor** is a third-party that collects unused pharmaceuticals from health care facilities, including controlled substances in accordance with the DEA requirements, and either returns them to the manufacturer or arranges for their disposal.
27. **Satellite accumulation area (most likely a soiled utility room)** means an area that is at or near the point of waste generation, under the operator's (waste generator's) control, and used to accumulate no more than 55 gallons of hazardous waste at any given time. The satellite accumulation area is where hazardous waste is initially accumulated prior to moving it to the storage area.
28. **Small quantity generator (SQG)** stands for a Small Quantity Generator of Hazardous Waste. An SQG produces more than 100 kilograms or 220 pounds of hazardous waste in a calendar month, but less than 1,000 kilograms or 2,200 pounds of non-acute hazardous waste and less than 1 kilogram or 2.2 pounds of acute hazardous waste in a calendar month. An SQG may not store more than 6,000 kilograms at any time. The SQGs may only store hazardous waste on-site for up to 180 days.
29. **Spill**, for purposes of this guide, means any visible hazardous drug that was not contained and administered to a patient as intended. Spill generally includes any releasing, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing to the environment.
30. **Spill residue** refers to any negligible, insignificant, inconsequential material which remains after a spill has been cleaned up.
31. **Storage area** means the RCRA accumulation area where satellite accumulation containers are accumulated and stored prior to shipping for disposal.
32. **Trace chemotherapy waste** (Trace Chemo) includes materials intended for discard that are not visibly contaminated with chemotherapy agents but were used in chemotherapy compounding or administration and may have been contaminated with chemotherapy agents. This can include empty IV bags/ bottles/vials/containers and syringes and infectious or biohazard materials.



33. **TSDF** stands for a hazardous waste treatment, storage, or disposal facility that is licensed under the RCRA to receive hazardous waste for treatment, storage, and/or disposal of the hazardous waste.
34. **Waste characteristic** means ignitable, corrosive, reactive, or toxic as defined under the RCRA.
35. **Universal waste** means a waste managed in accordance with streamlined universal waste standards adopted for specific, common, hazardous waste types.
36. **Waste characterization** is the process of determining the waste type using the steps specified by the RCRA. Generally, a waste is either a hazardous, liquid industrial, or non-hazardous solid waste under the waste regulations. However, waste may also be subject to more than one waste regulation if it is also a **medical waste** (e.g. **mixed medical waste**), **radiological waste**, or subject to the **Toxic Substance Control Act**, or have additional regulatory requirements (e.g., **used oil** and **batteries**). For more information on waste characterization, also see the waste characterization **Webinar** at [www.michigan.gov/environmentalassistance](http://www.michigan.gov/environmentalassistance). Also note, Michigan has additional “U” listed hazardous waste.
37. **Waste Data System** is the database used by the DEQ to track waste-related activities, including hazardous waste manifests, site notification, inspections, etc.



## Bulk Chemotherapy Waste MHA Guide for Health Care

### What is Bulk Chemotherapy Waste (Bulk Chemo)?

Bulk chemotherapy waste or Bulk Chemo includes materials intended for discard that are known to contain chemotherapy agents. Bulk Chemo includes spill cleanup residues and contaminated personal protective equipment used in spill cleanup, empty containers, non-empty vials, and non-empty IVs. Bulk Chemo also includes these materials associated with investigative drugs used for chemotherapy applications and fluids associated with intracavity installations of chemotherapy drugs. Bulk Chemo includes chemotherapy agents identified as a hazardous waste.

Note: Non-empty vials and non-leaking IVs may be segregated and managed as Universal Waste Pharmaceuticals. See the Universal Waste Pharmaceutical guide.

### What is Included in Bulk Chemo?

Materials used in chemotherapy spill cleanup including PPE (gowns, gloves, shoe covers, absorbent pads, absorbent materials)
RCRA/Part 111 hazardous waste
Hazardous chemotherapy waste defined by NIOSH
Nonempty containers, syringes, IVs, bottles, and tubing used in chemotherapy administration or compounding
Heavily soiled items used in chemotherapy compounding
Chemotherapy contaminated PPE
Closed system drug transfer devices used in pharmacy compounding (noninfectious)
P-listed hazardous waste
Fluids or devices removed from intracavity chemotherapy installations
Investigative chemotherapy drugs
Empty stock bottles and unit dose packaging that come in contact with solid P-listed drugs

### What is Excluded from Bulk Chemo?

Infectious materials/biohazardous materials (medical waste)
Closed system drug transfer devices used in administration of chemotherapy agents

### Container Requirements

- Constructed of material that is compatible with the waste
- Conveniently located as near as possible to where the waste is generated
- Spill, leak, and puncture proof
- Kept closed except during active addition or removal of waste to/from the container
- Meet the DOT packaging regulations

### Satellite Area and Labeling Requirements

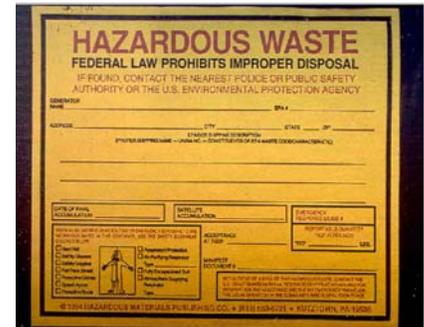
- Label waste as “Hazardous Waste”
- Label to indicate Bulk Chemo
- Move containers to storage area routinely
- Locate secure satellite area as near as possible to where waste is generated
- When one quart of P-listed waste is collected move to storage area within three days
- Date and label when picked up at satellite area and moved to storage area



Satellite Area Label

### Storage, Labeling, and Transportation Requirements

- Secure from weather, fire, and vandals
- Inspect weekly and document inspections
- Provide secondary containment for liquids if LQG or storing  $\geq 2200$  lbs of nonacute or  $\geq 2.2$  lbs of acute hazardous waste
- Do not store over 90 days for LQG or over 180 days if documented SQG
- Maintain label as RCRA Hazardous Waste
- Identify contents or waste code(s) and include on the label when placing in storage area
- Transport by a hazardous waste transporter
- Use Uniform Manifest for hazardous waste as shipping document
- Comply with DOT requirements
- Attach proper shipping label



Storage/Shipping Label

### Disposal Requirements

- Bulk Chemo waste must be transported to a licensed hazardous waste TSD in Michigan, an out-of-state equivalent facility, or a facility otherwise authorized to accept the hazardous waste pharmaceuticals
- Incineration is the BMP for pharmaceuticals

### Record-Keeping Requirements

- Maintain records for at least three years
- Accumulation area inspection logs
- Uniform Manifests
- Land disposal restriction notifications
- Monthly waste inventory
- Waste characterization records (most likely from facility pharmaceutical formulary analysis)
- Training records if LQG
- Maintain Uniform Manifest copies and send generator copy to the DEQ by 10th day of month following shipment

Note: Bulk Chemo must be included in the monthly hazardous waste generator status determination.

## Trace Chemotherapy Waste

### MHA Guide for Health Care

#### What is Trace Chemotherapy Waste?

Trace chemotherapy waste (Trace Chemo) includes materials intended for discard that **are not** visibly contaminated with chemotherapy agents. This material includes personal protective equipment, packaging, empty vials, and IVs. These materials do not include spill cleanup materials or hazardous waste, but may contain items regulated as medical waste. Trace Chemo waste **does not** include any materials regulated as hazardous waste. Where desirable, like large infusion clinics, Trace Chemo waste can be combined with biohazardous medical waste to eliminate the need for additional containers. However, the combined waste must be incinerated at a facility authorized to accept nonhazardous solid waste and medical waste, and the containers must be properly labeled and managed as an infectious, biohazardous, medical waste.



Trace Chemo without medical waste

#### What is Included in Trace Chemo?

Items <i>Included</i> in Trace Chemotherapy Waste
Pharmacy items used in preparation of chemotherapy agents like: <ul style="list-style-type: none"> <li>• PPE (gowns, gloves, bouffant caps, shoe covers)</li> <li>• Disposable wipes</li> <li>• Absorbent pads (not contaminated)</li> <li>• Closed system drug transfer devices not used for P- or U-listed hazardous waste</li> </ul>
Nursing items used in administration of chemotherapy agents like: <ul style="list-style-type: none"> <li>• PPE (gowns, gloves, bouffant caps, shoe covers)</li> <li>• Absorbent pads (not contaminated)</li> <li>• Disposable wipes</li> <li>• Closed system drug transfer administration devices</li> <li>• Empty tubing</li> </ul>
Empty IV bags/bottles/vials/containers and syringes
Infectious materials/biohazardous materials (medical waste) <sup>1</sup>

<sup>1</sup> Where desirable, like large infusion clinics, Trace Chemo waste can be combined with medical waste to eliminate the need for additional containers. However, the combined waste must be incinerated at a facility authorized to accept nonhazardous solid waste and medical waste and the containers must be properly labeled and managed as an infectious, biohazardous, medical waste.



Biohazard Symbol



### What is Excluded from Trace Chemo?

Pharmacy items like: <ul style="list-style-type: none"> <li>• Visibly soiled items used in chemotherapy compounding</li> <li>• Non-empty containers used in compounding</li> <li>• P-listed hazardous waste containers and syringes used for compounding</li> <li>• Materials used in chemotherapy spill cleanup including PPE (gowns, gloves, shoe covers, absorbent pads, absorbent materials)</li> </ul>
Nursing items used in chemotherapy administration like: <ul style="list-style-type: none"> <li>• Partially filled/infused chemotherapy agents including bags, syringes, bottles, and tubing</li> <li>• Materials used in chemotherapy spill cleanup including PPE (gowns, gloves, shoe covers, absorbent pads, absorbent materials, and bouffant caps)</li> </ul>
RCRA/Part 111 hazardous waste
P-listed waste hazardous waste
Non-empty containers

Note: Items excluded from Trace Chemo must follow appropriate hazardous waste disposal requirements and be managed as Bulk Chemo or Universal Waste Pharmaceuticals.

### Container Requirements

- Compatible with the waste
- Spill, leak, and, if containing medical waste, puncture-proof
- Thick leak-proof liner
- Kept closed except during active addition of waste to container
- Meet the DOT packaging regulations

### Satellite Area and Labeling Requirements

- Label container "Trace Chemo — Incineration Only" or "Trace Chemo & Medical Waste — Incineration Only"
- Move sealed containers to storage area within three days of container being three-fourths full (routinely)
- Date container when first waste is added to the container
- Schedule pickup when full or 90 days from date when use of container initiated
- Close when not actively adding chemotherapy waste
- Satellite area must be secured

### Storage Area Requirements

- Secure from weather, fire, and vandals
- Inspect weekly
- Do not store over 90 days
- Maintain label



### Transportation Requirements

- Comply with the DOT requirements
- Attach proper shipping label
- Use a properly prepared shipping document, generally bill of lading

### Record-Keeping Requirements

- Shipping papers or manifest are required to be signed
- Training records must be maintained
- Inspection of storage areas (BMP)

### Disposal Requirements

- Trace Chemo Waste must be transported to a facility properly licensed or otherwise authorized to accept medical waste, if included
- Incineration is the BMP for Trace Chemo
- Incineration is required for Trace Chemo mixed with Medical Waste
- Trace Chemo cannot be treated by autoclave

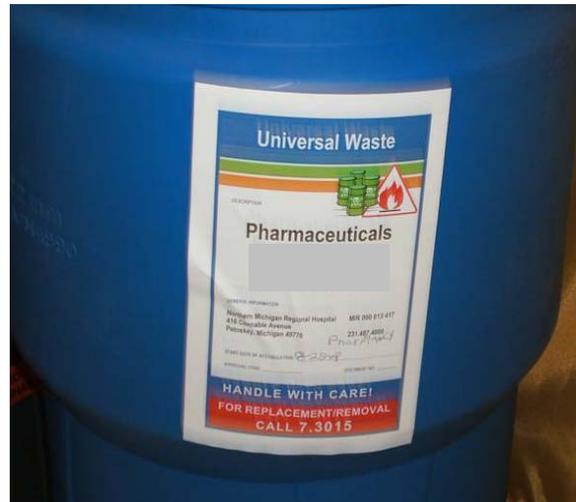
Trace Chemo must be disposed of 90 days from the first day Trace Chemo drugs are placed in the container for storage of Trace Chemo/regulated medical waste. Start date begins when waste is first added to the container.

Note: Trace Chemo is not included in the monthly hazardous waste generator status determination.

## Universal Waste MHA Guide for Health Care

### What are Universal Waste Pharmaceuticals?

Universal Waste Pharmaceuticals include pharmaceuticals that cannot be used or administered because of expiration, contamination, or any other reason. Universal Waste Pharmaceuticals may be liquid, solid, or paste and include drugs identified as U- or P-listed hazardous waste or characteristic hazardous waste. Universal Waste Pharmaceuticals can include full or partially used containers. Universal Waste Pharmaceuticals can also include OSHA hazardous drugs, NIOSH hazardous drugs, and drugs that are not currently regulated but considered hazardous. Universal Waste Pharmaceuticals do not include infectious, biohazardous, medical waste.



### Container and Labeling Requirements

- Compatible with the waste
- Labeled universal waste pharmaceutical
- Kept closed except to add or remove waste
- Meet the DOT packaging regulations
- Date container when waste is first added to container

### Satellite and Storage Area Requirements

- Be secured from weather, fire, vandals, etc.
- Separate incompatible materials
- Inspected weekly (BMP)
- Provide secondary containment

### Transportation Requirements

- Occur within one year of accumulation
- Be in compliance with the DOT requirements
- Accompanied by a properly prepared shipping document

### Disposal Requirements

- Disposal must ultimately include treatment and/or destruction at a hazardous waste TSD/DF
- Disposal may include return to manufacturer through a reverse distributor if reverse distributor is compliant with universal waste handler requirements



- Universal Waste Pharmaceuticals may also be transported to another universal waste handler prior to ultimate disposal
- Universal Waste Pharmaceuticals must ultimately be transported to a licensed hazardous waste TSD in Michigan, an out-of-state equivalent facility, or a facility otherwise authorized to accept the hazardous waste pharmaceuticals
- Incineration is the BMP for pharmaceuticals

Note: Universal Waste Pharmaceuticals are **not** included in the monthly hazardous waste generator status determination. Also, other states may not recognize universal waste status for hazardous waste pharmaceuticals. Presently, only Michigan and Florida allow for hazardous waste pharmaceuticals to be managed as a universal waste.

# TOOLS

## REQUIRED WEEKLY HAZARDOUS WASTE MAINTENANCE INSPECTION CHECKLIST

MONTH: YEAR:																				
WEEK #	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Labeled																				
Dated																				
Containers Closed																				
Spills																				
Containment																				
Corrective Measures																				
Date																				
Initials																				

On the back, write comments on any areas below that were not in compliance (include the date).

- Labeled: Check that all drums and all other containers are properly labeled (“Hazardous Waste” and waste number).  
If satellite container, check if label has “Hazardous Waste” and either waste number or chemical name, or it can have both.
- Dated: Check to see if the container has the date listed when waste was first put in the container, and confirm the date on the container has not exceeded 90 days for Large Quantity Generator, or 180 days for Small Quantity Generator, which ever is applicable. If the date on the container has exceeded 90 days or 180 days, contact management.  
If it was a satellite container, check if the date was listed when the containers from that satellite area reached the maximum amount, either 55 gallons non acute, or 1 quart acute or severely toxic, hazardous waste.
- Containers Closed: Make sure that containers are closed (e.g.. both bungs are in drums, drum ring top is secure, funnel tops closed, funnel valve closed, or tarp over roll-off box).
- Spills: Check that all containers are not leaking, bulged, or in poor condition. Are spills or staining present? If so, contact management.
- Containment: Make sure that there hasn’t been any degradation to the secondary containment, (e.g., any cracks, is coating sufficient?)  
Is there enough set back distance of containers for squirt protection? Are all containers in the containment area?
- Corrective Measures: Are corrective measures needed and taken? Record details on the back.
- Date & Initials: Inspector dates and initials.

Revised 5/2006. Use of this DEQ WHMD checklist is optional, but Large Quantity Generators are required to have written inspection records and all others are encouraged to have written records. Written records are required for regulated waste tanks. Keep records at least 3 years.  
See [Part 111 of Act 451 of 1994 administrative rule](#) R 299.9306(1)(a)(i), 306(2), and Chapter 2 of the [MDEQ Michigan Manufacturers' Guide to Environmental Safety, and Health Regulations](#) for more information.

# HAZARDOUS WASTE EMERGENCY INFORMATION

EMERGENCY	NAME _____	Map of facility with emergency equipment, spill equipment, exit routes, and alarm locations.
COORDINATOR	PHONE _____	
ALTERNATE	NAME _____	
	PHONE _____	
FIRE DEPT.	PHONE _____	
HOSPITAL	PHONE _____	
POLICE	PHONE _____	
Fire alarm is located: _____ _____		
Spill control equipment is located: _____ _____ _____		
Fire extinguishers are located: _____ _____ _____		



**National Response Center: 1-800-424-8802**  
**Michigan Pollution Emergency: 1-800-292-4706**

*Provided by:* The Environmental Assistance Division and the Waste Management Division of the Michigan Department of Environmental Quality  
Environmental Assistance Center 1-800-662-9278

Other hazardous waste requirements may apply.



Part III, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451) requires Small Quantity Generators of hazardous waste to post information and respond to hazardous waste related releases. **Enter the information for your company and post this form by the facility telephone** located in an area where employees could report a release of hazardous waste. **Keep the listed information current.** It is recommended Conditionally Exempt Small Quantity Generators also post this information, but is not required. Large Quantity Generators must have a written contingency plan. This form is not required to be used by the generator but is provided as a resource to meet Michigan's hazardous waste administrative rule R 299.9306.

At least one employee must be on premises or on call and be able to reach the facility within a short time to coordinate all emergency response measures. It is recommended that alternative coordinators are identified to cover when the primary person is on vacation or not otherwise available. Coordinators, or their designee, need to respond as follows:

- If there is a fire, call the fire department or attempt to put out the fire using a fire extinguisher.
- If there is a spill, contain the hazardous waste to the extent possible, and as soon as practical, clean up the spill and any contaminated materials and soils.
- If there is a fire, explosion, or release of hazardous waste that threatens human health or the environment, or the release has reached the surface water or groundwater, immediately call 800-292-4706 to report the incident.
- If a release could threaten human health outside of the generator's site, immediately call 800-424-8802 to report the incident.

See the *Spill Reporting Requirements* publication for additional reporting information and for a generic form to help you meet the regulations.

The telephone number for the fire department is not required if you have a direct alarm to the fire department.

There are additional hazardous waste requirements regarding release prevention and response, including training employees in emergency response. Following is a summary of the preparedness and prevention requirements with which you must comply. It is recommended you review the regulations and the *Small Quantity Generator Requirements* publication for more details.

1. Have proper emergency equipment available and test and maintain the equipment as necessary.
  - Communication devices (phones, radios, intercom, etc.);
  - Portable fire extinguishers;
  - Spill control equipment (absorbents, containers, kits) and decontamination equipment; and
  - Water for fire control in sufficient volumes.
2. Have immediate access to an internal alarm system. This means personnel can activate an alarm within seconds, not minutes.
3. Provide and maintain sufficient aisle space in the hazardous waste handling areas to ensure access of emergency equipment and emergency personnel.
4. Have arrangements in place with emergency response authorities appropriate for the waste handled at your business. Small Quantity Generators are required to send a diagram or discuss the layout of their facility, access roads, evacuation routes, along with identifying the areas where the employees normally are working, and the hazardous waste properties and associated hazards with the response agencies.
  - Invite police, fire departments, and emergency response teams to tour your business.
  - Keep documentation of any visits by emergency response people, agreements, etc.

If authorities decline your arrangement, you must have written documentation of that refusal. If you use outside contractors to respond to emergencies, you must make arrangements with those emergency response contractors and suppliers.

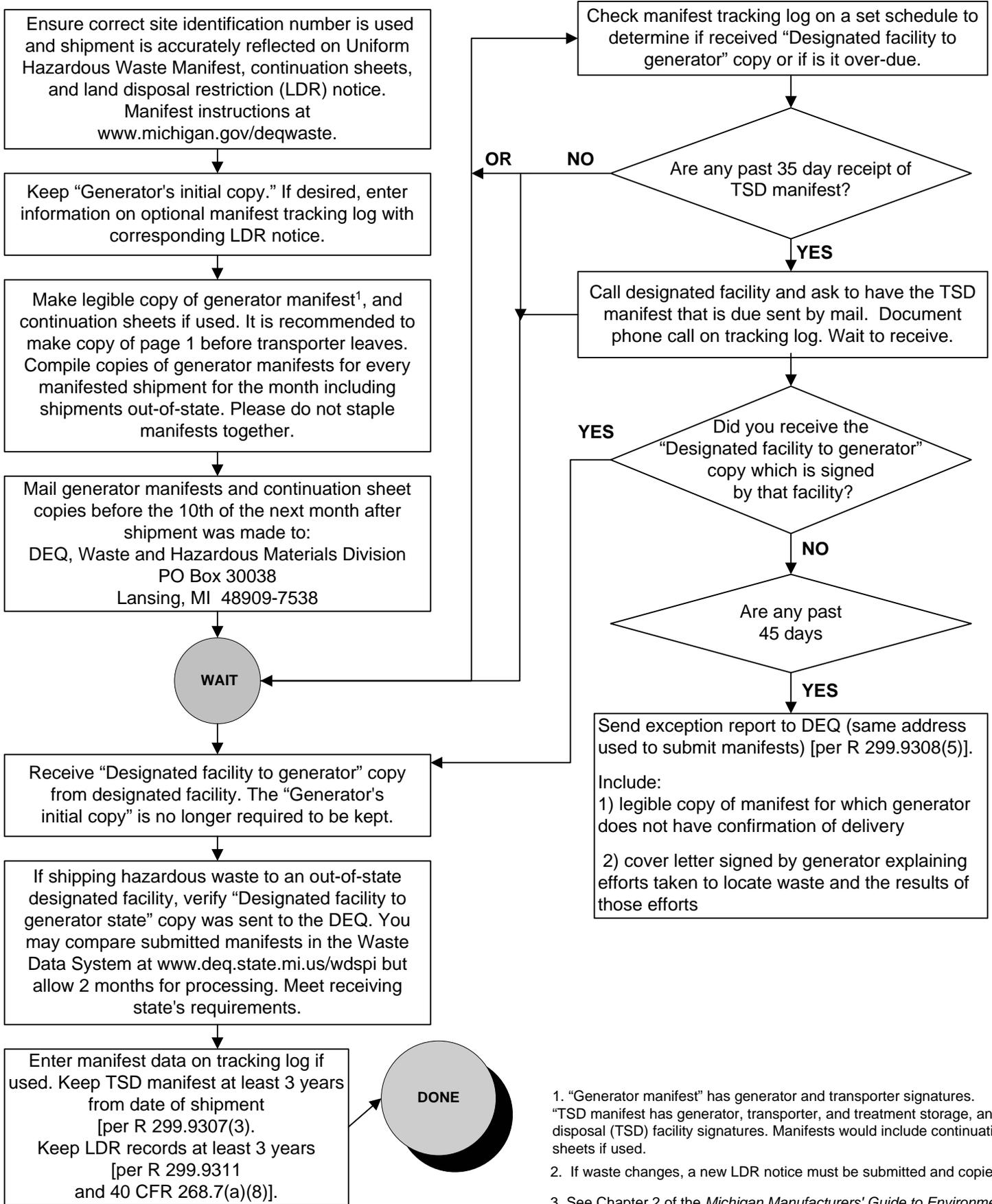
5. Small Quantity Generators must submit to local hospitals, the possible types of injuries or illnesses that could result from the hazardous waste at your business. It is recommended Conditionally Exempt Small Quantity Generators also submit this information.

The hazardous waste regulations and publications can be obtained off the Internet at [www.deq.state.mi.us/wmd](http://www.deq.state.mi.us/wmd). Or the regulations may be purchased from the Waste Management Division. Call 517-373-9875 or 800-662-9278 for current prices. Contact your Waste Management Division district office or call the Environmental Assistance Center at 800-662-9278 for more information or to request publications.

This form was revised in July 1999. Partial funding was provided by an EPA grant. Regulations are subject to change. Reliance on information from this text is not usable as a defense in any enforcement action or litigation. Refer to the regulations or discuss your specific requirements with the regulating agency.

# LARGE QUANTITY GENERATOR'S TRACKING SYSTEM FOR HAZARDOUS WASTE MANIFESTS

For hazardous waste shipments via permitted and registered transporters per PART 111, R 299.9304. Shipments by water and rail have different requirements.



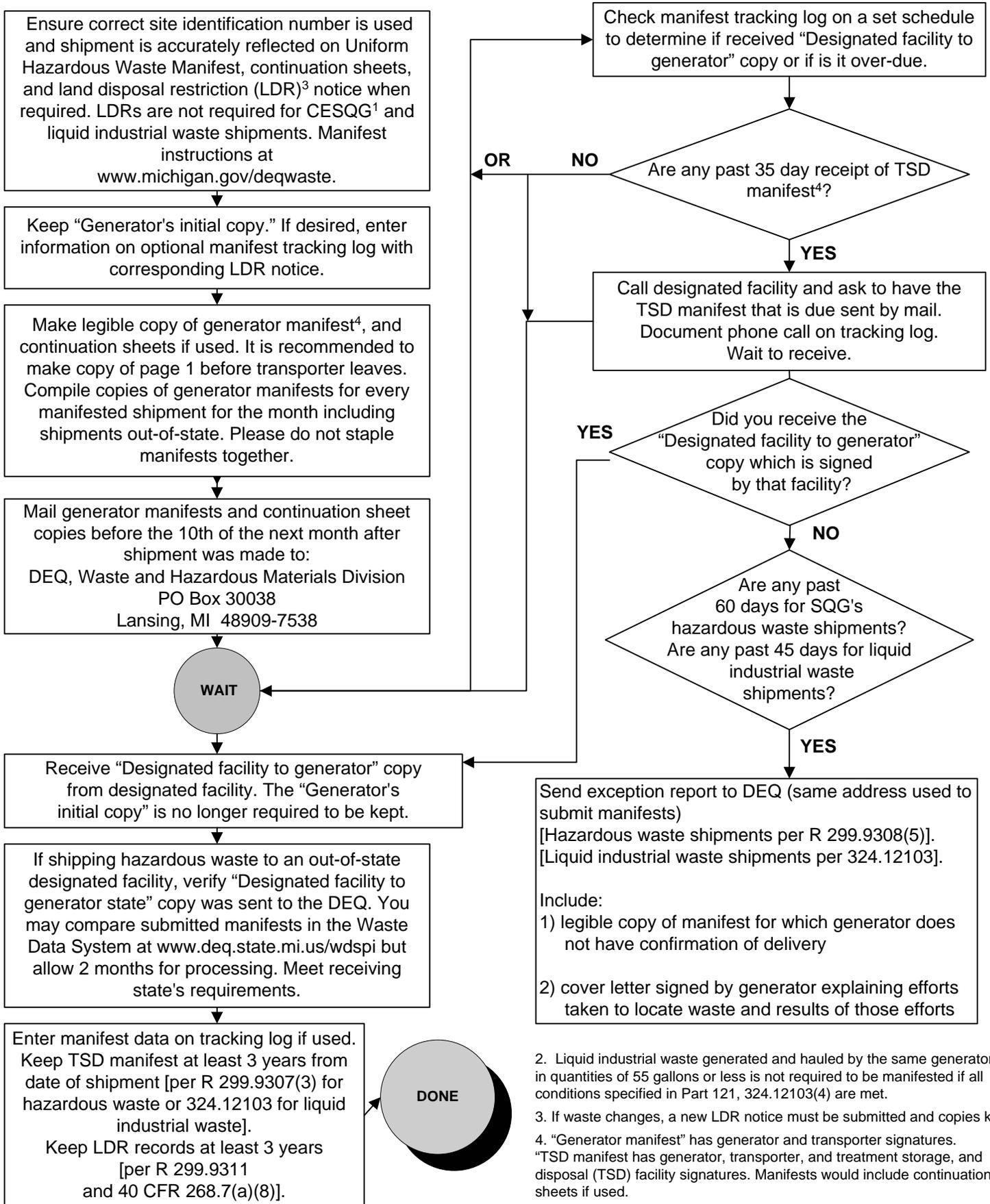
1. "Generator manifest" has generator and transporter signatures. "TSD manifest has generator, transporter, and treatment storage, and disposal (TSD) facility signatures. Manifests would include continuation sheets if used.

2. If waste changes, a new LDR notice must be submitted and copies kept.

3. See Chapter 2 of the *Michigan Manufacturers' Guide to Environmental, Safety, and Health Regulations* for more information.

# SMALL QUANTITY GENERATOR'S (SQG'S) MANIFEST TRACKING SYSTEM FOR HAZARDOUS WASTE (PART 111, R 299.9304), AND ALL LIQUID INDUSTRIAL WASTE (PART 121, SEC. 12103) SHIPMENTS<sup>1, 2</sup>

For hazardous waste shipments via permitted and registered transporters. Shipments by water or rail have different requirements.



1 Conditionally Exempt Small Quantity Generators (CESQG) must meet the Part 121 requirements for shipments of their liquid hazardous waste if not shipping as hazardous waste per Part 111.

2. Liquid industrial waste generated and hauled by the same generator in quantities of 55 gallons or less is not required to be manifested if all conditions specified in Part 121, 324.12103(4) are met.  
 3. If waste changes, a new LDR notice must be submitted and copies kept.  
 4. "Generator manifest" has generator and transporter signatures. "TSD manifest has generator, transporter, and treatment storage, and disposal (TSD) facility signatures. Manifests would include continuation sheets if used.  
 5. See Chapter 2 of the *Michigan Manufacturers' Guide to Environmental, Safety, and Health Regulations* for more information.

## CHEMOTHERAPY WASTE DISPOSAL GUIDELINES

TRACE CHEMO REGULATED MEDICAL WASTE	BULK CHEMO & CHEMO SPILLS HAZARDOUS WASTE				
<p style="text-align: center;">Empty IV Bags/bottles/Syringes</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p><b><u>Pharmacy</u></b></p> <p>Gowns Gloves Bouffant Caps Shoe Covers</p> <div style="text-align: center;">  </div> <p style="text-align: center;">used in preparation</p> </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p><b><u>Nursing</u></b></p> <p>Gowns Gloves Tubing Blue pads Closed System Transfer Devices</p> <div style="text-align: center;">  </div> <p style="text-align: center;">used in administration</p> </td> </tr> </table> <p style="margin-top: 20px;"><b>Approved regulated medical waste container</b></p>	<p><b><u>Pharmacy</u></b></p> <p>Gowns Gloves Bouffant Caps Shoe Covers</p> <div style="text-align: center;">  </div> <p style="text-align: center;">used in preparation</p>	<p><b><u>Nursing</u></b></p> <p>Gowns Gloves Tubing Blue pads Closed System Transfer Devices</p> <div style="text-align: center;">  </div> <p style="text-align: center;">used in administration</p>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p><b><u>Pharmacy</u></b></p> <p>All items used in chemo compounding (partially &amp; empty vials, syringes)</p> </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p><b><u>Nursing</u></b></p> <p>Partially (not empty) filled/infused chemo agents (bags, syringes, bottles, tubing)</p> </td> </tr> </table> <p style="text-align: center; margin-top: 20px;">[Materials used in chemo &amp; <b>spills</b> clean up (e.g., gown, gloves)]</p> <p style="margin-top: 20px;"><b>Approved hazardous waste container</b></p>	<p><b><u>Pharmacy</u></b></p> <p>All items used in chemo compounding (partially &amp; empty vials, syringes)</p>	<p><b><u>Nursing</u></b></p> <p>Partially (not empty) filled/infused chemo agents (bags, syringes, bottles, tubing)</p>
<p><b><u>Pharmacy</u></b></p> <p>Gowns Gloves Bouffant Caps Shoe Covers</p> <div style="text-align: center;">  </div> <p style="text-align: center;">used in preparation</p>	<p><b><u>Nursing</u></b></p> <p>Gowns Gloves Tubing Blue pads Closed System Transfer Devices</p> <div style="text-align: center;">  </div> <p style="text-align: center;">used in administration</p>				
<p><b><u>Pharmacy</u></b></p> <p>All items used in chemo compounding (partially &amp; empty vials, syringes)</p>	<p><b><u>Nursing</u></b></p> <p>Partially (not empty) filled/infused chemo agents (bags, syringes, bottles, tubing)</p>				

**Trace:** any items used for administration of chemotherapy agents, but no longer contain (except for a few drops) the agent. All waste has been removed using the practices commonly employed to remove materials from any type of chemo container.

**Bulk:** Partially infused IV Bag, spilled chemotherapy agent, unused chemical

# RESOURCES



# Notification and Manifesting Resources



## Notification, Site/U.S. Environmental Protection Agency (U.S. EPA) Identification Number (MAC R 299.9303,<sup>1</sup> MAC R 299.9402, MCL 324.12103,<sup>2</sup> and MCL 324.12112)

- Required notifications must be filed in Michigan using [EQP 5150 Form](#) and [Instructions](#)
- Results in issuance of a Site (aka. EPA) Identification Number for use in manifesting hazardous waste and liquid industrial waste for disposal
- Submittal of Site Identification Form required for:
  - small quantity generators (SQGs) and large quantity generators (LQGs)
  - conditionally exempt small quantity generators (CESQGs) manifesting liquid industrial waste (LIW)
  - transportation of hazardous waste and/or LIW
  - used oil collection and processing
  - large quantity universal waste handlers
  - generators of ≥100 PPM polychlorinated biphenyl (PCB) wastes
- Subsequent/updated notification filed for changes in site waste activity (e.g. change in generator classification/status)
- Request pre-populated Site Identification Form for subsequent/updated notifications from Data Management and Tracking Unit at 517-335-2690
- Expedite form processing by faxing notification & paying on-line with credit card, faxing form and verification of payment (receipt)
- Liquid industrial waste generators who are not required to manifest wastes are not required to notify
- See Hazardous Waste Site Notification information at [www.michigan.gov/DEQ](http://www.michigan.gov/DEQ), “Waste,” “Hazardous and Liquid Industrial Waste,” “Hazardous Waste and Liquid Industrial Waste Management”

## National Uniform Hazardous Waste Manifest must be used for (MAC R 299.9105(m) and MCL 324.12102(a)):

- Hazardous wastes from LQGs
- Hazardous wastes from SQGs
- Liquid hazardous waste from CESQGs
- Non-hazardous liquid wastes from all generators required to manifest for disposal
- Wastes with ≥ 50 PPM PCBs
- Exceptions:
  - CESQG solid hazardous waste
  - Non-hazardous solid waste
  - Consolidate manifest shipments (e.g. used oils, antifreeze, see Op Memo 121-3)

**Manifesting** - For information to order manifests or review on-line instructions to complete a manifest go to [www.michigan.gov/deq](http://www.michigan.gov/deq), select “Waste,” “Hazardous and Liquid Industrial Waste Transportation,” then “[Uniform Manifest Information](#)”

<sup>1</sup> MAC is the “[Michigan Administrative Code](#)” reference for the rule, so MAC R 299.9303 is Rule 303 of the Part 111 Rules.

<sup>2</sup> MCL is the “[Michigan Compiled Law](#)” reference for the statute, so MCL 324.12103 is Section 12103 of Part 121.

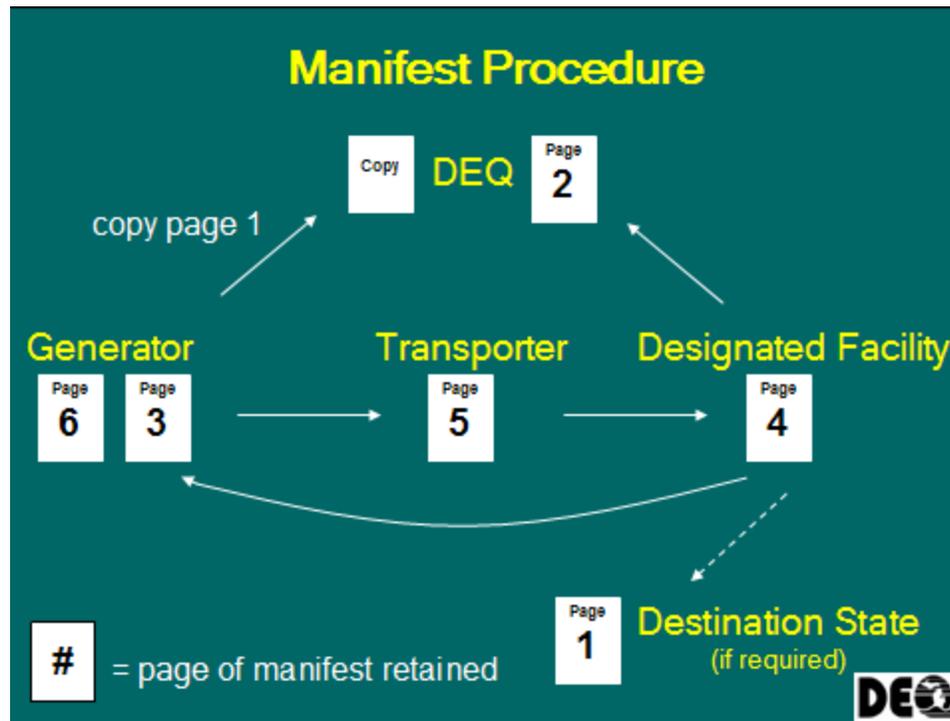


# Notification and Manifesting Resources



**Manifest Procedure** (MAC R 299.9105(m), MAC R 299.9304, MAC R 299.9308, MAC R 299.9608, and MCL 324.12102(a)):

- Generator completes manifest and Transporter signs manifest at pick-up
- Generator sends COPY of Page 6 (or Page 1 to ensure it is legible) with Generator and Transporter signatures to DEQ by 10th day of month following shipment
- Transporter delivers shipment to TSD obtains signature from TSD and keeps Page 5
- TSD keeps Page 4
- TSD sends DEQ Page 2 & Destination State oversight agency Page 3 of TSD signed copies by the 10<sup>th</sup> day of the month following waste delivery
- TSD sends Generator Page 3 with TSD signature within 30 days of waste delivery
- When TSD signed copy is not received by LQG within 45 days of shipment, LQG must investigate and submit exception report detailing known waste disposition to DEQ
- When TSD signed copy is not received by SQG within 60 days of shipment, SQG must submit to DEQ a copy of the manifest and an indication that the SQG has not received confirmation of delivery to the TSD
- If a liquid industrial waste generator has not received designated facility signed copy within 35 days of shipment, the generator must investigate and submit exception report to DEQ if not receiving designated facility signed copy within 45 days
- See DEQ Publication Center [Manifest Tracking Log](#) for recordkeeping system for manifest tracking





# Generator Resources



<b>HAZARDOUS WASTE GENERATOR CATEGORIES SUMMARY</b>			
	<b>Conditionally Exempt Small Quantity Generator (CESQG)<sup>1</sup></b>	<b>Small Quantity Generator (SQG)<sup>1</sup></b>	<b>Large Quantity Generator (LQG)</b>
<b>Amount of acute or severely toxic hazardous waste generated or accumulated at any time<sup>2</sup></b>	1 kilogram (2.2 pounds) or less	1 kilogram (2.2 pounds) or less	More than 1 kilogram (2.2 pounds)
<b>Amount of acute spill residue or contaminated soil generated or accumulated at any time<sup>2</sup></b>	100 kilograms (220 pounds) or less	100 kilograms (220 pounds) or less	More than 100 kilograms (220 pounds)
<b>Amount of non acute hazardous waste generated in 1 calendar month</b>	Less than 100 kilograms (220 pounds)	At least 100 kilograms (220 pounds) but less than 1,000 kilograms (2,200 pounds)	1,000 kilograms (2,200 pounds) or more
<b>Approximate volume of non acute hazardous waste<sup>3</sup></b>	Less than half of a 55gallon drum, or 25 gallons	One-half to five drums, or 25 to 250 gallons	Five full drums, or 200-250 gallons or more
<b>Maximum amount of non acute hazardous waste that can be accumulated on-site</b>	1,000 kilograms (2,200 pounds)	6,000 kilograms (13,200 pounds)	No maximum amount
<b>Maximum time period before waste must be shipped</b>	No time limit unless if never exceed 2,200 pounds	180 days, unless shipping over 200 miles, then 270 days	90 days
<p><sup>1</sup> If you are registered at one generator status but have a monthly hazardous waste shipment larger than the quantities allowed at that status, then you will need to update your generator status by renotifying and meet the additional hazardous waste management requirements (see Chapter 2.4.4).</p>			
<p><sup>2</sup> Acute hazardous wastes are those in the "P" list and certain wastes in other lists indicated with an "(H)" hazard code; severely toxic wastes are those with an "S" in their number.</p>			
<p><sup>3</sup> The liquid volume is only given as an estimate and is based on the waste having approximately the same weight and volume as water. Your liquid hazardous waste might have a different volume based on its weight. The regulations state amounts by weight.</p>			



# Generator Resources



## HAZARDOUS WASTE GENERATOR REQUIREMENTS SUMMARY

	Conditionally Exempt Small Quantity Generator (CESQG)	Small Quantity Generator (SQG)	Large Quantity Generator (LQG)
<b>Off-site Treatment, Storage or Disposal Destination for Waste</b>	Permitted/licensed solid waste disposal facility (solids); Liquid industrial waste designated facility (liquids); or permitted/licensed or exempt recycler. Also, universal waste handler or universal waste destination facility for hazardous waste managed as universal waste.	Permitted/licensed hazardous waste facility; or exempt hazardous waste recycling facility. Also, universal waste handler or universal waste destination facility for hazardous waste managed as universal waste.	Permitted/licensed hazardous waste facility; or exempt hazardous waste recycling facility. Also, universal waste handler or universal waste destination facility for hazardous waste managed as universal waste.
<b>On-site Treatment, Disposal, &amp; Waste Analysis Plan</b>	Small and Large Quantity Generator on-site treatment is allowed without a hazardous waste permit or license if conditions in Rule 503 or Rule 206 of the Part 111 rules are met. CESQGs can treat on-site and are not subject to Rule 503. Facilities with waste discharges to a POTW (municipal sewer system authorized under the Clean Water Act) may need wastewater operator certification depending on process (Chapter 3.5), require POTW approval for discharge, and require records of disposal. LQGs doing on-site treatment must have Waste Analysis Plan and keep records (Chapter 2.4.2)		
<b>Maximum Time Period Before Waste Must Be Shipped</b>	No time limit if never exceed 2,200 pounds.	180 days, unless shipping over 200 miles, then 270 days. Storage beyond time period requires a hazardous waste permit/license for storage.	90 days Storage beyond time period requires a hazardous waste permit/license for storage unless meeting Rule 306(7) (R 299.9306(7)).
<b>Maximum Amount Of Hazardous Waste That Can Be Accumulated On-site</b>	2,200 pounds non-acute and/or 2.2 pounds or less acute. If exceed 2,200 pounds non-acute, subject to SQG requirements. If exceed 2.2 pounds acute, subject to LQG requirements.	13,200 pounds non-acute and/or 2.2 pounds or less acute. If exceed 13,200 pounds non-acute, requires a hazardous waste permit/license for storage. If exceed 2.2 pounds acute, subject to LQG requirements.	No maximum amount
<b>Waste Characterization</b>	Records of waste characterization required for all businesses generating waste (Chapter 2.4.2). Keep records at least 3 years from date waste was last sent for on or off site treatment, storage, or disposal.		
<b>Generator Status Determination</b>	Records of monthly generator status determinations required (for all businesses generating hazardous waste Chapter 2.4.3). Keep records at least 3 years from date hazardous waste was last sent for on or off site treatment, storage, or disposal.		
<b>Weekly Accumulation Area Inspections</b>	No Recommend meet SQG requirements. May be subject to other regulations depending on waste (Chapter 2.4.7)	Yes Recommend written inspection logs (Chapter 2.4.7)	Yes Written inspection logs required (Chapter 2.4.7)
	A facility may have requirements under the Air Quality Division regulations that are not referenced in this chapter.		

(continued on next page)



# Generator Resources



## HAZARDOUS WASTE GENERATOR REQUIREMENTS SUMMARY (continued)

	Conditionally Exempt Small Quantity Generator (CESQG)	Small Quantity Generator (SQG)	Large Quantity Generator (LQG)
<b>Air Emissions Control for Volatile Organic Compounds Hazardous Wastes</b>	No	No	Yes (Chapter 2.4.7.b)
<b>Labeling Requirements</b>	Yes under MIOSHA and used oil rule (Chapters 2.4.8, 2.4.9, & 13)	Yes (Chapters 2.4.8 & 2.4.9)	Yes (Chapters 2.4.8 and 2.4.9)
<b>Site/EPA identification Number</b>	Yes if liquids shipped by registered transporter (Chapter 2.4.4)	Yes (Chapter 2.4.4)	Yes (Chapter 2.4.4)
<b>Personnel training<sup>1</sup></b>	No Recommend meet SQG requirements (Chapter 2.4.12). U.S. DOT training required when shipping hazardous waste (Chapters 4.4.10 & 6.2.7). MIOSHA training may also be required (Chapter 13)	Yes Basic training required (Chapter 2.4.12). U.S. DOT training required when shipping hazardous waste (Chapters 4 & 6). MIOSHA training may also be required (Chapter 13)	Yes Written documentation also required (Chapter 2.4.12). U.S. DOT training required when shipping hazardous waste (Chapters 4 & 6). MIOSHA training may also be required (Chapter 13)
<b>Contingency plan<sup>1</sup></b>	No Recommend meet SQG requirements (Chapter 6.2.1). U.S. DOT security plan if shipping excess of 1000 pounds hazardous waste (Chapter 6.2.7)	Yes Basic plan and emergency posting by phones required (Chapter 6.2.1). U.S. DOT security plan if shipping excess of 1000 pounds hazardous waste (Chapter 6.2.7)	Yes Written plan required (Chapter 6.2.10). U.S. DOT security plan if shipping excess of 1000 pounds hazardous waste (Chapter 6.2.7)
<b>Emergency procedures<sup>1</sup></b>	No Recommend meet SQG requirements (Chapter 6.2.1)	Yes (Chapter 6.2.1).	Yes (Chapter 6.2.1)
<b>Manifests/Shipping Records</b>	Yes if liquids or use alternative records (Chapter 2.4.5)	Yes OR meet tolling arrangement recordkeeping (Chapter 2.4.5)	Yes (Chapter 2.4.5)
<b>Requirements to use Permitted and Registered Transporter</b>	Self haul option (see Chapter 2.4.5.a) or permitted and registered transporter if liquid (Chapter 2.4.10)	Permitted and registered transporter (Chapter 2.4.10)	Permitted and registered transporter (Chapter 2.4.10)

(continued on next page)



# Generator Resources



## HAZARDOUS WASTE GENERATOR REQUIREMENTS SUMMARY (continued)

	Conditionally Exempt Small Quantity Generator (CESQG)	Small Quantity Generator (SQG)	Large Quantity Generator (LQG)
<b>Land Disposal Restriction Records</b>	No	Yes (Chapter 2.4.5.c)	Yes (Chapter 2.4.5.c)
<b>Waste minimization requirements</b>	Recommend meet SQG requirements (Chapter 2.1)	Yes (Chapter 2.1)	Yes (Chapter 2.1)
<b>Annual Handler and Manifest User Fees</b>	No fees at this time However, if a facility was on file as a SQG or LQG during any period of the billing cycle, they will receive an invoice for those activities	\$100 user charge \$8.00/manifest used for hazardous waste shipments in the calendar year	\$400 user charge when generates < 900,000 kg in calendar year; OR \$1000 user charge when generates ≥ 900,000 kg in the calendar year AND \$8.00/manifest used for hazardous waste shipped in the calendar year.
<b>Hazardous Waste/Biennial Report</b>	No	No	Yes (Chapter 2.4.6)
<b>Used Oil Biennial Report</b>	Not required for generators. Used oil processors, re-refiners, and transfer facilities storing used oil more than 35 days are required to submit used oil biennial reports by March 1 of each even numbered year that covers the previous calendar year's activities. See summary at <a href="http://www.michigan.gov/documents/deq/deq-ess-p2tas-usedoilreport_225479_7.pdf">www.michigan.gov/documents/deq/deq-ess-p2tas-usedoilreport_225479_7.pdf</a> .		
<b>U.S. DOT Transport Requirements</b>	Yes, when required by U.S. DOT (Chapters 2.4.8 & 4)	Yes (Chapters 2.4.8 & 4)	Yes (Chapters 2.4.8 & 4)
<b>Annual Import/Export Report</b>	Yes for hazardous and universal wastes (Chapter 2.4.5.d). Also see if subject to Annual Wastewater Report (Chapter 3.4)		
<b>Closure of Accumulation Areas</b>	Meet Part 201 of Act 451 cleanup requirements (Chapter 6.4)	Meet requirements in 40 CFR Parts 265.111 and 265.114: Decontaminate and remove all contaminated equipment, structures, and soil, and minimize the need for further maintenance of your site. Meet unit-specific closure standards for tanks, containment buildings, and drip pads. Also meet Part 201 cleanup requirements (Chapter 6.4)	Meet requirements in 40 CFR Parts 265.111 and 265.114: Decontaminate and remove all contaminated equipment, structures, and soil, and minimize the need for further maintenance of your site. Meet unit-specific closure standards for tanks, containment buildings, and drip pads. Also meet Part 201 cleanup requirements (Chapter 6.4)



## Generator Resources



<b>UNIVERSAL WASTE HANDLER CATEGORIES SUMMARY</b>		
	<b>Small Quantity Handler (SQH)</b>	<b>Large Quantity Handler (LQH)<sup>1</sup></b>
<b>Amount of all universal waste types accumulated at any time during the calendar year beginning January 1</b>	Less than 5,000 kilograms (11,000 pounds)	5,000 kilograms (11,000 pounds) or more
<b>Maximum amount of all universal waste types that can be accumulated on-site during the calendar year beginning January 1</b>	Less than 5,000 kilograms (11,000 pounds)	No limit
<b>Maximum time period before waste must be shipped</b>	1 year after generated or received from another facility	1 year after generated or received from another facility
<b>Notification Required<sup>2</sup></b>	No, unless universal waste is a liquid then use form <a href="#">EQP 5150</a> . See Chapter 2.4.4	Yes, use form <a href="#">EQP 5150</a> See Chapter 2.4.4
<b>Employee Training &amp; Emergency Response</b>	Yes, see Chapters 2.4.12 and 6	Yes, see Chapters 2.4.12 and 6
<b>Permitted and registered transporters required to be used<sup>2</sup></b>	No, unless liquid which is managed as liquid industrial waste (Chapter 2.4.10)	No, unless liquid which is managed as liquid industrial waste (Chapter 2.4.10)
<b>Manifests<sup>3</sup> or shipping papers<sup>2</sup></b>	If liquids, use Uniform Manifest or keep alternative records. See Chapter 2.4.5.a and b.	If liquids, use Uniform Manifest or keep alternative records. See Chapter 2.4.5.a and b.
<b>Export/Import</b>	Additional federal notification and reporting requirements, see Chapter 2.4.5.d	Additional federal notification and reporting requirements, see Chapter 2.4.5.d
<p><sup>1</sup> Once the LQH status is reached, the business must keep that designation through the end of that calendar year.</p> <p><sup>2</sup> Universal wastes that are a liquid would need to be hauled as liquid industrial waste. In addition, some universal waste may be regulated as U.S. DOT hazardous material if it meets the criteria specified in 49 CFR 173.2. For example, shipments of more than one pound of mercury per package, and many pesticides, are regulated U.S. DOT hazardous materials. The amount of mercury varies in the different devices. This material must be packaged, labeled, marked, placarded, and transported with the proper shipping papers according to U.S. DOT requirements. Contact the Michigan State Police, Commercial Vehicle and Enforcement Division at (517) 241-0506 or the U.S. DOT at (517) 853-5990 or visit their Web site at <a href="http://www.phmsa.dot.gov/hazmat">www.phmsa.dot.gov/hazmat</a> for information about their requirements. Also see Chapter 4.4 for further discussion of these requirements.</p> <p><sup>3</sup> Liquid universal wastes would be shipped as Part 121 liquid industrial waste, not as hazardous waste</p>		



# Generator Resources



**TABLE 2.7: ACCUMULATION TIME AND AMOUNT LIMITS**

	<b>CESQG</b>	<b>SQG</b>	<b>LQG</b>	<b>SQH</b>	<b>LQH</b>
<b>Storage Time Limit</b>	No state time limit if don't exceed volume limit	180 days (or 270 if distance to disposal site is over 200 miles)	90 days	1 year from generation or receiving from another handler	1 year from generation or receiving from another handler
<b>Total Limit</b>	2,200 pounds non-acute or 2.2 pounds of acute or severely toxic hazardous waste	13,200 pounds non-acute or 2.2 pounds of acute or severely toxic hazardous waste	No limit	<11,000 pounds	No limit

Regulated under Part 111, Hazardous Waste Management, Michigan Compiled Laws (MCL) 324.11101 et seq. (Part 111) of Michigan's Natural Resources and Environmental Protection Act; 1994 PA 451, as amended and Subtitle C of the Resource Conservation and Recovery Act of 1976, as amended (RCRA), and any administrative rules or regulations promulgated pursuant to these acts.

Rule 306(1)(d) promulgated under the Natural Resources and Environmental Protection Act 1994 PA 451, Chapter 3: Waste Management, Part 111 Hazardous Waste Management, requires facilities that generate over 1000 kilograms (2200 lbs.) of hazardous waste or 1 kilogram (2.2 lbs.) of acutely or severely toxic hazardous waste, in a calendar month, to conduct and document personnel training.

### General Comments

1. Training under the Federal Communication Standards (right-to-know) will not suffice for hazardous waste training. The purpose, content, authority, frequency, required attendance and recordkeeping requirements are different. However, portions of your developed program can be incorporated into the hazardous waste training.
2. All personnel are not required to be trained, and for this reason prior identification of key personnel is essential. Training is required for all personnel who are involved with hazardous waste management, such as personnel at the areas of generation, their supervisors, hi-low drivers who move the hazardous waste, shipping dock employees, emergency coordinators, waste handlers, operator of distillation unit, etc.
3. Keep in mind there is a distinction between hazardous waste and hazardous materials. This training is required for the management of hazardous waste.
4. It is important to understand the purpose, content requirements, timing and frequency of training, scope and documentation requirements to be able to develop and implement this training.

### Requirements

1. **When must personnel be trained?**  
Personnel must receive initial training within six months after the date of their employment or assignment to a job that is related to the management of hazardous waste. After the initial training facility personnel must be trained annually. Remember, if you add a shift the additional staff will require training.

## Requirements continued

### 2. **Where and what topics are required?**

The training can either be classroom instruction or on-the-job training that teaches personnel how to respond effectively to emergencies. This is accomplished by familiarizing them with emergency procedures, emergency equipment, emergency systems (such as: communication or alarm systems, response to fires or explosions, shutdown of operations, response to unplanned sudden or non-sudden releases of hazardous waste or hazardous waste constituents to air, soil or surface water) and management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

### 3. **Who can conduct the training?**

The program must be directed by a person trained in hazardous waste management procedures.

### 4. **Who must be trained?**

Identifying who must receive training can be accomplished in a number of ways, such as determining which activities are needed to keep the facility in compliance, whose actions or failure to act will result in violations, or by following the hazardous waste from point of generation to removal off-site and determine whose job is in any way related to the generation, handling or management. This includes employees on any shift.

### 5. **What documents are required?**

When training is conducted it must be documented and the documentation must be kept at the facility. Documentation must include the job title, job description and names of employee(s) for each position at the facility related to the management of hazardous waste. The documentation also must include a written description of the types and amount of both the introductory and continuing training that will be given to each person filling a position as described above. The following further breaks down the documentation with explanations and examples:

The job title and employee name should not be a sign-up list identifying who attended training. Rather, this is a list against which attendance records can be compared to ensure that all identified staff have received training. If you also indicate when the employee first started in this job, a determination if they received their training before the six month deadline will be simple.

The preamble to the regulation discussed that the "only interest in the job descriptions of facility personnel is to enable the Agency" (inspector) "to determine if each person is receiving a level of training that is commensurate with the person's duties and responsibilities."

The description of the type and amount of training must be specific and detailed enough to allow the inspector to evaluate the content of the training program for adequacy.

The actual training records are necessary to document who was trained. This is where the development of sign-in sheets is needed. For cross reference it is easier if you start with a typed listing of the employees name, job title and shift, with a space for a signature and date.

## Approach to Training

As previously stated, the regulations allow for training to consist of formal classroom training or on-the-job training (or a combination). The format is not strictly prescribed. This allows some flexibility in selecting the training methods that best fit your needs. As stated in the preamble, it is expected, however, that "the content, schedule, and techniques to be used in the on-the-job training program must be described in the training records maintained at the facility . . ." and ". . . given the variability in waste types, management processes, and employee functions at hazardous waste facilities, the Agency believes that it is neither necessary nor desirable to rigidly specify training courses in regulations. . . ."

Thus, you can tailor your training specifically to those hazardous waste procedures relevant to your facility and staff organization. It is standardized only to the extent that it must meet the requirements of the regulation as to intent and minimum content, and must be documented in the required format.

## 265.16 Personnel Training

40 CFR Ch. I (7-1-93 Edition)

(a)(1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this part. The owner or operator must insure that this program includes all the elements described in the document required under paragraph (d)(3) of this section.

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

- (i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- (ii) Key parameters for automatic waste feed cut-off systems;
- (iii) Communications or alarm systems;
- (iv) Response to fires or explosions;
- (v) Response to ground-water contamination incidents; and
- (vi) Shutdown of operations.

(b) Facility personnel must successfully complete the program required in paragraph (a) of this section within six months after the effective date of these regulations or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements of paragraph (a) of this section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this section.

(d) The owner or operator must maintain the following documents and records at the facility:

(1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under paragraph (d)(1) of this Section. This description may be consistent in its degrees of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position;

(3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this section;

(4) Records that document that the training or job experience required under paragraph (a), (b), and (c) of this section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for a least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

( 1/2/98: doc/y/personnel training rest of new: EAB)

This document was prepared on January 2, 1998. Be advised that subsequent law, rule and other information may change the applicability of this document. This document is a summarization of state and federal rules and regulations and is not to be used as a substitution for the actual regulations. This document is not intended to convey any rights to any parties nor create any duties or responsibilities under law. This document and matters addressed herein are subject to revision.

The Michigan Department of Environmental Quality (MDEQ) will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability or political beliefs. Questions or concerns should be directed to the MDEQ Office of Personnel Services, P.O. Box 30473, Lansing, MI 48909.



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT  
LANSING



REBECCA A. HUMPHRIES  
DIRECTOR

December 1, 2010

Ms. Sheila Finch  
Detroit Medical Center  
University Health Center  
UHC 2B - Box 331  
4201 St. Antoine  
Detroit, Michigan 48201

Dear Ms. Finch:

During the September 17, 2010, meeting of the Michigan Health & Hospital Association (MHA) and Department of Natural Resources and Environment (DNRE) Pharmacy Advisory Group, you posed a question to the group as to how hospitals and pharmacies should properly handle medical waste that has become contaminated with hazardous waste. The Pharmacy Advisory Group was convened as a collaborative effort between members of the MHA and DNRE to develop and establish best management practices for waste handling and disposal in hospital and pharmacy settings. This correspondence serves to provide DNRE's interpretation on mixed hazardous waste and medical waste streams; for example, in the administration of chemotherapy treatment in hospitals and preparation of pharmaceutical agents in pharmacies.

The DNRE, Environmental Resource Management Division (ERMD), recognizes the disposal procedures for these dual waste streams may create confusion due to an overlap in current regulations and, as such, has prepared this correspondence to identify acceptable disposal practices.

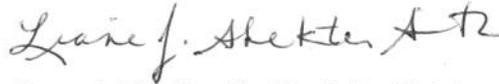
To address your inquiry, the ERMD has interpreted Sections 13811(b)(v), 13811(c)(v), and 13811(d)(iii) of the Medical Waste Regulatory Act, Part 138 of the Public Health Code, 1978 PA 368, as amended (MWRA), to allow for the following provision as "a process approved by the department" for the disposal of blood, blood products, body fluids, sharps, and pathological waste as defined that may be contaminated with hazardous waste:

Any medical wastes as defined in the MWRA that also meet the definition of hazardous waste or are mixed with hazardous waste should be managed as hazardous waste in accordance with the most current Michigan rules and regulations for the management of hazardous waste. Hazardous waste, however, if commingled with medical waste, should not be managed as a medical waste.

This interpretation does not preclude or exempt any rules or regulations under the jurisdiction of the United States Department of Transportation, such as labeling, transport, and packaging requirements, nor does it negate any rules and regulations pertaining to these waste streams in other states in the event that these wastes are transported for treatment and disposal outside of Michigan. It is recommended that you contact your hazardous waste and/or medical waste disposal vendor to verify the types of waste they are qualified to accept for treatment and disposal.

Should you have questions or comments regarding this correspondence, please contact Mr. Andrew Shannon, Solid Waste Management Unit, Solid Waste and Land Application Section, ERMD, at 517-335-1146; shannaona1@michigan.gov; or DNRE, P.O. Box 30241, Lansing, Michigan 48909-7741.

Sincerely,

A handwritten signature in black ink that reads "Liane J. Shekter Smith". The signature is written in a cursive style with a large initial "L" and a stylized "S".

Liane J. Shekter Smith, P.E., Chief  
Environmental Resource Management Division  
517-373-9523

cc: Ms. DeLores Montgomery, DNRE  
Mr. Steve Sliver, DNRE  
ERMD District Supervisors, DNRE  
Mr. Andrew Shannon, DNRE