



Steps 4 & 5: Label and Store Hazardous Waste

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Improper or inadequate storage is one of the main causes of releases of hazardous waste. Hazardous waste releases have the potential to harm human health and the environment. Follow these recommendations for prevention and requirements for labeling and storing to prevent releases and the problems they cause.

Prevention

Releases are expensive in clean-up costs and lost production time. Minimize the potential for a release by maintaining your equipment and using only tanks and containers that are in good condition. Avoid using large transfer containers that are too heavy to move safely. Store containers in a manner that will prevent damage.

Use funnels and spigots to help prevent spills. Use secondary containment to catch spills and drips. Remember, you must clean up all spills and drips quickly and thoroughly, including those in secondary containment!

Clean up spills by trying to recover as much material as possible for reuse. Dust pans with squeegees work well for recovering small liquid and solid spills. Use absorbents sparingly and as the last step in spill cleanup. Their use adds volume and cost to waste disposal.

New employees need training; seasoned employees can improve with retraining. Provide complete and clear instructions on filling, storing and handling containers.

Go one step further by looking for ways to reduce waste. "Reducing" means lessening the quantity or toxicity of toxic pollutants,

hazardous substances and hazardous wastes used, generated, or released from improperly maintained equipment or containers in poor condition. Preventing waste not only eliminates the costs of handling, storing or disposing of waste, it may have additional benefits of reducing your generator size, regulatory requirements or license fees. Encourage employees to contribute ideas for improving work practices and reducing waste.

Label all materials and containers to prevent mixing mistakes that waste costly products. When a container is empty, remove the label and recycle the container, or re-label and reuse a good quality container.

For hazardous waste you continue to generate, you must comply with the requirements outlined below.

Storing waste

Storage means the holding of hazardous waste on site for a limited time after which the waste is managed appropriately.

Proper or adequate storage means storing the waste in a way that contains the waste, does not threaten human health, and prevents a release to air, land or water.

If you store hazardous waste at your site before treatment or shipment off site for disposal, accumulate (collect) and store it in containers or tanks. Containers include all *portable* hazardous waste storage devices; tanks include all *stationary* devices.

Choose the right container for the waste

When selecting a container to accumulate or store hazardous waste, answer these questions.

- **Is the container compatible with the waste?**

You must ensure that a container will not react with, be affected by, or absorb its contents. Containers that will be used for transporting waste must comply with U.S. Department of Transportation (DOT) regulations. Refer to the DOT Hazardous Materials Table at 49 CFR 172.101 for guidance and requirements. Access the table through the Government Printing Office Web site at: <http://ecfr.gpoaccess.gov/>

- **Is the container sufficiently strong?**

Ensure containers are sturdy and strong enough to withstand side or bottom shock, when full, without leaking waste. Rust, other corrosion, or dents in seam areas indicate a container may not be strong enough to use.

- **Is the container able to fully contain the waste when closed?**

Ensure that a full container will not release waste even when dropped or overturned. To meet this requirement, any containers that hold free liquid must be liquid-tight, even when overturned.

Close the container except when adding or removing waste

Hazardous waste containers must be closed at all times except when waste is being added or removed. *Closed* means bungs are fully screwed in, open-head drums are fully bolted or ‘snapped’ retaining rings, and snap-lid buckets lids are fully locked. Open funnels and lids that shut by gravity alone do not meet this requirement. Funnels with latchable lids or integral shut-off valves may meet the requirement.

TIP: Is the container lid easily closeable for employees? The additional cost of spring-loaded snap-rings, funnels with valves or similar equipment may be a cost-effective means of ensuring containers are closed.

Label the container

Labeling allows personnel and emergency responders to identify the contents of a container and determine a response to any incident.

When labeling a container holding hazardous waste that is fully regulated, you must include the following information and ensure it is legible:

- the words ‘Hazardous Waste’
- a clear description of the waste
- the *accumulation start date* – the date you begin collecting waste in a container*

*Accumulation start date requirements are different for satellite accumulation containers. See page 4.

There is no required format, color, or size for hazardous waste labels. Acceptable methods for labeling a container may include:

- writing on the container with a permanent marker or paint
- stenciling on the container
- using a label you design and print yourself
- using a commercially printed label

TIP: To prevent waste spills from destroying a label, place the label on the side of the container, but not directly under the bung. To protect labels, cover them with clear packing tape or a clear finish or enclose them in a plastic pouch designed for that purpose.

TIP: For quick identification, put all marks and labels on the same side of the container (but not under the bung.)

TIP: Before shipping, check to make sure containers and labels meet DOT requirements for that waste.

Wastes that are not fully regulated, such as used oil and universal wastes, have different labeling requirements. For example, containers that hold used oil or related wastes need only a clear description of the waste.

For more information regarding used oil and related wastes, see hazardous waste fact sheet #4.30, *Managing Used Oil and Related Wastes*, available at: www.pca.state.mn.us/publications/w-hw4-30.pdf

Universal waste requirements are discussed in hazardous waste fact sheet #4.62, *Managing Universal Wastes*, available at www.pca.state.mn.us/publications/w-hw4-62.pdf.

For other wastes, see fact sheets located at www.pca.state.mn.us/waste/pubs/business.html.

Storing the container indoors

Indoor storage means a permanent building consisting of a roof and at least three walls attached to an impermeable floor placed on the ground.

Impermeable means

- a floor having no cracks, drains or sumps that would allow a spill to escape
- a floor that will not react with or be damaged by the waste stored on it

Example: Since solvents and oils will dissolve an asphalt surface, asphalt is **not impermeable** for solvents or oils. Corrosive materials will eat away at a concrete surface unless it is well sealed with a corrosive-resistant epoxy so unsealed concrete is **not impermeable** for corrosive materials.

When storing a hazardous waste container indoors, you must:

- Close the container.
- Ensure labels are legible and visible.
- Leave enough aisle space between containers to allow you to easily inspect each container and remove a leaking container without moving any other containers. Although stacking drums is allowed, MPCA staff strongly recommends placing a stabilizing material between drums and stacking no more than two drums high.
- Separate containers with incompatible contents by using a dike, berm, secondary containment, or distance between the containers.
- Protect containers from inadvertent damage from vehicles or equipment.
- Inspect the hazardous waste container and storage area weekly for leaks, labeling, and proper storage. You must document these inspections.
- Keep emergency and spill equipment (such as fire extinguishers, absorbent materials, and spill containers) in or near the container storage area.

Note: If you use a sorbent material, including cardboard, under a container to absorb spills, when it absorbs a spill, remove it, place it in a sealed container, evaluate it and disposed of it properly. Sorbent materials containing listed hazardous materials are listed hazardous wastes.

TIP: Hazardous waste fact sheet #2.41 *Documenting, Container Inspections*, (www.pca.state.mn.us/publications/w-hw2-41.pdf) contains an inspection log that you may use to record weekly inspections. Hang

it on a clipboard in the storage area. When it is full, file it in your permanent records for at least three years.

For more information on required emergency equipment, see the hazardous waste fact sheet #1.08, *Plan for Emergencies*, version applicable to your generator size available at www.pca.state.mn.us/waste/pubs/business.html#general.

Storing the container outdoors

Outdoor storage is any hazardous waste storage that does not meet the indoor storage definition above. If you store waste outdoors, you must meet all of the indoor storage requirements **plus** these additional requirements:

- Protect outdoor storage areas from unauthorized access;
- Store liquids on an impermeable surface with curbing that is sufficient to contain a release.
- Provide roofing for a container storing ignitable or reactive hazardous waste to protect it from overheating and precipitation. Placing a tarp over the container is not acceptable.

Ensure a container storing ignitable or reactive hazardous waste is placed at least 50 feet from your property line. If your property is too small for this to be possible, ensure the container is placed at least the minimum distance from the property line required by the Minnesota State Fire Code.

TIP: Store an empty container on its side to prevent accumulation of rainwater and melting snow.

TIP: An outdoor curbed containment area with no roof may require a valve to drain rainwater.

TIP: Snow can fill curbed outdoor storage areas; remove it when sidewalks are shoveled.

When must hazardous waste containers be shipped off site?

The amount of waste you may accumulate on site and the length of time you may store it vary with generator size. Table 1 shows the volume and time limits for those hazardous wastes that are not acute.

Acute hazardous wastes are those listed in hazardous waste fact sheet #2.02, *P-listed/ Acute Hazardous Wastes*, available at www.pca.state.mn.us/publications/w-hw2-02.pdf.

Very Small Quantity Generators (VSQGs) and Small Quantity Generators (SQGs) accumulating acute hazardous waste have additional requirements:

- VSQGs must meet the employee training and emergency planning requirements for SQGs while accumulating acute hazardous waste.
- Within 90 days of reaching the acute hazardous waste volume limit of 2.2 pounds, both VSQGs and SQGs must ship it all off site.
- During the time between reaching the limit and shipping the waste, VSQGs and SQGs must meet the employee training and emergency planning requirements for LQGs

Except for a few special situations, hazardous waste must be shipped from your site with a hazardous waste transporter. For more information on transporting hazardous waste off site, see hazardous waste fact sheet #1.06, *Transport and Dispose of Hazardous Waste Correctly*, available

at: www.pca.state.mn.us/publications/w-hw1-06.pdf.

TIP: Make arrangements with the disposal facility 60-90 days before shipment so necessary testing and paperwork can be completed.

What is *satellite accumulation*?

Some wastes accumulate so slowly that requiring you to ship off-site under the normal time limits results in shipping containers holding a very small amount of waste. To eliminate this, you may accumulate hazardous waste in a *satellite accumulation container*. Doing this allows you to accumulate up to 55-gallons of non-acute hazardous waste or up to 1 quart of acute hazardous waste of each waste stream at each point of generation without complying with the normal accumulation time limits.

All labeling and storing requirements discussed so far apply to satellite accumulation containers, with these exceptions:

- Satellite accumulation containers either must be under the direct control of the operator of the process producing the waste and visually inspected daily, *or* inspected weekly and the inspections documented.
- The accumulation start date for a satellite accumulation container is the date the applicable volume limit (1 quart of acute hazardous waste, 55 gallons of all other hazardous waste) is reached

Table 1: Non-acute waste accumulation and storage time limits for generators

Generator size	Volume accumulation limit	Storage time limit
<p>Very Small Quantity Generator (VSQG) Generates 220 pounds* or less of non-acute hazardous waste in a month (less than ½ drum liquid)</p>	<p>2,200 pounds (About four 55-gallon drums liquid.) VSQGs exceeding this limit become fully regulated Small Quantity Generators</p>	<p>Less than 2,200 pounds of waste may be stored indefinitely. Once 2,200 pounds of waste has accumulated, ship the waste off site within 180 days**</p>
<p>Small Quantity Generator (SQG) Generates more than 220 pounds, but less than 2,200 pounds of non-acute hazardous waste (about ½ to 4 drums liquid) and less than 2.2 pounds of acute hazardous waste in a month</p>	<p>6,600 pounds (About twelve 55-gallon drums liquid.) SQGs exceeding this limit are subject to requirements of a storage facility***</p>	<p>Ship waste off site within 180 days of the accumulation start date**</p>
<p>Large Quantity Generator (LQG) Generates 2,200 pounds or more of non-acute hazardous waste (more than 4 drums liquid) or more than 2.2 pounds of acute hazardous waste in a month</p>	<p>No limit to the volume of waste stored on site</p>	<p>Ship waste off site within 90 days of the accumulation start date. LQGs exceeding this limit are subject to requirements of a storage facility***</p>

*220 pounds is 100 kilograms (kg) or about 22 gallons

** If disposal arrangements have been made and the receiving facility is more than 200 miles from the generation site, you may store waste up to 270 days – but do not exceed the volume accumulation limit.

*** Minn. R. pt. 7045.0292, subpt 11

for a waste stream at a satellite accumulation area *or* the date you begin to manage the container as a storage container, whichever occurs first. Until this date, no date needs to be placed on the container.

- You must move satellite accumulation containers to your storage area within three days of the accumulation start date. The container then becomes regulated for volume accumulation and time limits with all of your other hazardous waste.

Satellite accumulation may occur at more than one location at your site and you may accumulate more than one waste at a location; however, you must not exceed the volume limits for each waste at each location. Satellite accumulation containers may be combined into a new satellite accumulation container.

TIP: A rule-of-thumb to differentiate satellite accumulation containers from storage containers: satellite accumulation containers will generally be either emptied into another container or moved to a storage area when full, while storage containers will generally be shipped off-site 'as is' when full.

TIP: You may choose to place a date on a satellite accumulation container when you begin to use it to help you track how quickly the waste is generated. If you do, clearly identify the container as a satellite accumulation container to avoid confusing it with a storage container.

What is a *storage extension* and when might one be needed?

If unforeseen circumstances prevent shipping waste according to the required schedule, you need to get a *storage extension* – permission to store the waste longer than the storage time limit allows. To get an extension, write a letter to the Minnesota Pollution Control Agency (MPCA) or your metropolitan county explaining the need for an extension, the types and amounts of waste affected and the date you anticipate shipping. You must have made, and submit documentation of, attempts to ship the waste off site within the time limits. The MPCA or your metro county hazardous waste office may grant up to a single thirty-day extension, which allows you to keep the waste on site without over accumulating.

More information

Your metropolitan county and the MPCA have staff available to answer your questions about hazardous waste management in Minnesota. Contact your metropolitan county hazardous waste office or the MPCA office closest to your county.

Minnesota Technical Assistance Program (MnTAP) staff offer waste reduction and pollution prevention assistance.

Department of Transportation staff can help you with transportation-related issues.

Metro County Hazardous Waste Offices

Anoka	763-422-7093
Carver	952-361-1800
Dakota	952-891-7557
Hennepin	612-348-3777
Ramsey	651-266-1199
Scott County	952-496-8475
Washington County	651-430-6655
Web sites....	http://www.co.[county].mn.us

Minnesota Pollution Control Agency

Toll free (all offices)	1-800-657-3864
Brainerd	218-828-2492
Detroit Lakes.....	218-847-1519
Duluth	218-723-4660
Mankato	507-389-5977
Marshall	507-537-7146
Rochester	507-285-7343
St. Paul	651-296-6300
Willmar	320-214-3786
Web site	www.pca.state.mn.us

Minnesota Technical Assistance Program

Toll-free	1-800-247-0015
Metro area.....	612-624-1300
Web site	www.mntap.umn.edu

Minnesota Dept. of Transportation

Motor Carrier	651-215-6330
Web site	www.dot.state.mn.us/cvo/index.html