



Managing Universal Wastes

Guidance for Minnesota handlers of universal wastes

Wastes that are universal wastes

Universal wastes (UW) are a subset of hazardous wastes that may be managed in Minnesota under reduced requirements. These wastes are referred to as *universal* because, at some point, almost every business, non-profit organization, and government agency generates them. Universal wastes include:

- Batteries
- Lamps
- Mercury-containing equipment
- Pesticides

In Minnesota, two additional wastes may be managed the same as universal wastes:

- Dental amalgam being recycled
- Pretreated dental wastewater

If you do not manage these wastes as UW, manage them under the full hazardous waste requirements.

Wastes that are not universal wastes

Waste streams commonly confused with UW include non-hazardous batteries, electronic waste, and lighting ballasts and small capacitors containing polychlorinated biphenyls (PCBs). Each of these has its own different waste requirements:

- **Non-hazardous batteries:** Batteries that are not hazardous at the time of disposal need not be managed as UW. Non-hazardous batteries include alkaline, carbon zinc, chloride zinc (commonly labeled *heavy duty*), nickel metal hydride (NiMH), zinc air, and lithium batteries that are nine volts or less and higher voltage lithium batteries that have been discharged to less than one volt. Although non-hazardous, you are still encouraged to recycle them.
- **Electronic waste:** Circuit boards and cathode ray tubes (CRTs) may be managed in Minnesota under the reduced requirements discussed in Minnesota Pollution Control Agency (MPCA) hazardous waste fact sheet #4.15, [Managing Electronic Wastes](http://www.pca.state.mn.us/publications/w-hw4-15.pdf), available at <http://www.pca.state.mn.us/publications/w-hw4-15.pdf>.
- **PCB-containing ballasts and small capacitors:** Lighting ballasts and small capacitors that may contain PCBs that are found in motors and appliances must be managed under the requirements discussed in MPCA hazardous waste fact sheet #4.48f, [Managing PCBs in Ballasts and Small Capacitors](http://www.pca.state.mn.us/publications/w-hw4-48f.pdf), available at <http://www.pca.state.mn.us/publications/w-hw4-48f.pdf>.

Managing universal wastes

A business or government agency that generates, transports, or stores UW is a UW *handler*. Sites that recycle, treat or dispose of UW are *destination facilities*. Destination facilities must comply with the standard hazardous waste requirements for recycling, treatment, or disposal facilities.

UW handlers are classified as *Small* or *Large Quantity Handlers*, depending on the amount of UW accumulated at any one time. Table 1 (page 2) shows UW handler categories and requirements for each.

Table 1: UW handler categories and requirements

	Small Quantity Handlers (SQH)	Large Quantity Handlers (LQH)
	Accumulate less than 5000 kilograms (approximately 11,000 pounds) total UW at your site at any one time	Accumulate 5000 kg (approximately 11,000 pounds) or more total UW at your site at any one time
And are required to		
Hazardous Waste Identification number (HWID)	Not required	Get a HWID from the MPCA. For more information, see MPCA hazardous waste fact sheet #1.02, Obtain a Hazardous Waste Identification Number , at http://www.pca.state.mn.us/publications/w-hw1-02.pdf .
Employee training	Provide UW handling and emergency procedure information to employees. Training records are not required.	Ensure employees are thoroughly familiar with UW handling and emergency procedures. Training records are not required.
Broken or leaking UW	Place leaking or broken UW that may release hazardous constituents into a compatible closed container. Ensure the container can fully contain the hazardous constituents (i.e., is airtight for broken lamps and liquid-tight for broken batteries). UW broken accidentally may still be managed as UW in Minnesota. Deliberate UW breakage is <i>prohibited treatment</i> . Debris contaminated by leaking UW, and spill clean-up materials are <i>newly generated wastes</i> , not UW, and must be evaluated or assumed to be hazardous.	
Labeling	Label each UW or container with one of these phrases: <ul style="list-style-type: none"> • Universal Waste - [type of UW], such as 'Universal Waste Batteries' • Waste [type of UW], such as 'Waste Thermometers' • Used [type of UW], such as 'Used Lamps' 	
Accumulation time	Accumulate UW for no more than one year from the date you generated or received the UW at your site. Mark the UW with the generated or received date or keep records to verify how long you have accumulated it.	
Off-site shipments	Ship only to a site that has agreed to accept the UW. If the UW is a hazardous material under the U.S. Department of Transportation (DOT) Hazardous Materials Regulations (HMR), ensure you meet all HMR shipping requirements. Contact the DOT for assistance. See the <i>More information</i> section.	
Shipping records	Keeping shipping records is recommended, but not required.	Keep records of each UW shipment received or sent for at least three years from the shipment date. Ensure records include at least the: <ul style="list-style-type: none"> • Shipper and recipient of the shipment • Type and quantity of the UW • Date the shipment was sent or received
Prohibitions	Do not dispose, dilute, or treat UW except for those treatments specifically allowed for each different UW discussed below. Do not crush, shred, or burn any UW.	
Liability	Remember that UW remains hazardous waste; you are ultimately responsible for its proper recycling or disposal.	
Hazardous waste generator size	Do not count UW towards your hazardous waste generator size. The MPCA does not require reporting of UW. If located in a Metropolitan county, check with your county.	

Batteries

UW batteries include any electrochemical storage device that consists of an anode, cathode, and electrolyte and that would be, at the time of disposal, a hazardous waste. UW batteries include, but are not limited to lead acid, nickel cadmium, lithium greater than nine volts, silver-containing and mercury-containing types.

You may drain electrolyte from your UW batteries, however the drained electrolyte is a *newly generated waste* and not a UW. Evaluate the drained electrolyte or manage it as a hazardous waste.

You may also discharge UW batteries if you can do so safely using either the method recommended by the battery manufacturer or a complete discharge device (CDD). Do not simply short-circuit batteries to discharge them; it may cause a fire or battery explosion.

You may accumulate different types of UW batteries together as long as you ensure they will not short-circuit or cause a fire during accumulation. When you ship UW batteries off site, ensure you comply with applicable HMR requirements to prevent short circuits during transport. You may need to enclose each battery in a non-conducting bag or wrap, insulate terminals, or pack batteries to prevent them from touching each other or conductive materials. Contact the DOT for assistance. See the *More information* section.

Lamps

UW lamps include any bulb or tube portion of an electrical lighting device that would be, at the time of disposal, a hazardous waste. UW lamps include, but are not limited to fluorescent, high intensity discharge (HID), mercury vapor, low and high pressure sodium (LPS and HPS), metal halide, and neon (includes lamps containing other noble gases such as argon, krypton, or xenon).

Although the bulb portion of most light-emitting diodes (LEDs) are not hazardous and thus not UW lamps, the circuit board to which the LEDs are attached is a regulated electronic waste in Minnesota. Visit the MPCA at <http://www.pca.state.mn.us/publications/w-hw4-15.pdf> to view hazardous waste fact sheet #4.15, [Managing Electronic Wastes](#) for management requirements for electronic wastes.

Despite the fact that certain models of mercury-containing lamps are designed to pass hazardous waste thresholds for mercury, in Minnesota you must recycle all mercury-containing lamps, regardless of whether they are hazardous. So-called 'green tip' fluorescent lamps still contain mercury and must be recycled.

In Minnesota, you may not crush the hazardous portion of UW lamps on your site unless you can demonstrate that no hazardous constituents (such as mercury) will be released to the environment from the crushing process. The MPCA is not aware of any commercially available lamp crushing equipment that can currently meet this standard. The hazardous portion of many UW lamps is contained in an inner sealed arc tube or capsule. Heat and reactions with the chemicals in the arc tube may cause the glass to become brittle and more susceptible to shattering. This creates a high risk for damage and mercury release if you attempt to extract the tube from the lamp.

Note: If you accumulate more than 1000 UW lamps that you did not generate yourself, you must establish financial assurance with the MPCA. Visit the MPCA at <http://www.pca.state.mn.us/publications/w-hw7-20.pdf> to complete and submit hazardous waste form #7.20, [Lamp Accumulation Financial Assurance Form](#).

Mercury-containing equipment

UW mercury-containing equipment is any device that contains elemental mercury integral to its function and would be, at the time of disposal, a hazardous waste. UW mercury-containing equipment includes but is not limited to thermometers, thermostats, barometers, pressure gauges, switches, relays, and pump seals. Manage batteries and lamps that contain mercury as UW batteries or UW lamps, not as mercury-containing equipment.

You may remove sealed mercury ampoules and open housings holding mercury from UW mercury-containing equipment only if you do all of the following:

- Perform the removal over a tray, pan, or other containment device large enough to catch and contain any mercury that could spill from the equipment
- Provide appropriate mercury spill clean-up materials and equipment
- Ensure the mercury is contained in sealed ampoules or you seal the open housings airtight immediately after removal
- Perform air monitoring to ensure you do not exceed U.S. Occupational Safety and Health Administration (OSHA) exposure levels
- Do not pour, extract, or remove liquid mercury from any mercury-containing equipment

Pesticides

UW pesticides are pesticides managed by an authorized waste pesticide-collection program or recalled by the pesticide registrant and would be, at the time of disposal, a hazardous waste. Medical sterilants are not included as *UW pesticides*. UW pesticides may include but are not limited to fungicides, herbicides, insecticides, nematicides, and rodenticides.

In addition to the standard UW labeling, ensure your UW pesticide containers also either:

- Retain their original manufacturer label
- Display complete DOT labeling and marking applicable under the HMR or
- Bear an alternate label specified by an authorized waste pesticide collection program that has agreed to accept the UW pesticide

You may be eligible to take your waste pesticides as UW to a site operated by the waste pesticide-collection program authorized in Minnesota, an outreach of the Minnesota Department of Agriculture (MDA). To participate, you must be the pesticide end user as defined by MDA and meet the MDA program specifications. Contact the MDA for assistance. See the *More information* section.

If you accumulate less than 300 pounds (about 35 gallons) of waste pesticide on your site at any one time, you may assume those waste pesticides are UW unless the MDA rejects them or you have been informed that the pesticides are otherwise ineligible.

If you accumulate 300 pounds or more of waste pesticide on your site at any one time, you may not assume those waste pesticides are UW, and must manage them under the full hazardous waste requirements, until you have:

1. Notified the MDA of the type and volume of the waste pesticides
2. Received approval from the MDA for the management through the waste pesticide collection program

You may take waste pesticides as UW to a waste pesticide-collection program authorized in another state if you can document that you have contacted that program and they have agreed to accept the waste pesticides.

Waste pesticides that are ineligible for management as UW are fully regulated hazardous wastes in Minnesota unless:

- You show, through evaluation, they are non-hazardous
- They are used as products for their intended purpose in compliance with all applicable MDA pesticide-use requirements

Dental amalgam being recycled

Dental amalgam being recycled is mercury-containing amalgam generated by dental care providers from which mercury will be reclaimed. Dental amalgam includes but is not limited to amalgam capsules, extracted teeth, filter-trap waste and amalgam-separator sludge.

Document that your dental amalgam wastes are recycled and not disposed. Dental amalgam wastes that will not be recycled are fully regulated hazardous wastes.

Extracted teeth containing dental amalgam are not infectious wastes in Minnesota; however, your amalgam-recycling vendor may require that you disinfect the teeth before accepting them for recycling.

Pretreated dental wastewater

Pretreated dental wastewater is mercury-containing dental wastewater that has been pretreated using an amalgam separator approved by the Minnesota Dental Association. Contact the association for assistance identifying approved amalgam separators. See the *More information* section.

Transport pretreated dental wastewater as a UW to a publicly owned treatment works (POTW) or a Very Small Quantity Generator Collection Program if you have notified them and received approval. When notifying, include information on the type, volume, and hazardous waste status of the wastewater. Do not discharge pretreated dental wastewater to a septic system or any other subsurface treatment system (SSTS).

More information

Guidance and requirements in this fact sheet were compiled from the Code of Federal Regulations, Part 40, Section 273; Minnesota Statutes, Chapters §18B and §115A; Minnesota Rules, Chapters 1509, 7001, and 7045; and incorporates regulatory interpretation decisions made by the MPCA on September 9, 2008; October 27, 2008; December 31, 2008; and April 27, 2011. Visit the U.S. Government Printing Office at <http://www.gpo.gov/fdsys/> to review the Code of Federal Regulations directly. Visit the Office of the Revisor of Statutes at <https://www.revisor.mn.gov/pubs> to review the Minnesota Statutes and Rules.

The MPCA and metropolitan counties have staff available to answer waste management questions. For more information, contact your metropolitan county or nearest MPCA regional staff.

As you work to generate the least amount of waste and reduce the toxicity of your waste and your costs whenever possible, you will need to weigh many factors. The Minnesota Technical Assistance Program (MnTAP) can assist you with comparing these 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..... 952-496-8475
Washington..... 651-430-6655
Websites [http://www.co.\[county\].mn.us](http://www.co.[county].mn.us)

Minnesota Department of Agriculture

Toll free..... 1-800-967-2474
Metro 612-201-6000
Website..... <http://www.mda.state.mn.us>

Minnesota Department of Transportation

Hazardous Materials..... 651-215-6330
Website.....
<http://www.dot.state.mn.us/cvo/hazmat.html>

U.S. Department of Transportation

Hazardous Materials..... 1-800-467-4922
Website...<http://www.phmsa.dot.gov/hazmat>

Minnesota Dental Association

Toll free..... 1-800-950-3368
Metro 612-767-8400
Website <http://www.mndental.org/>

Minnesota Pollution Control Agency

Toll free (all offices)..... 1-800-657-3864
Brainerd.....218-828-2492
Detroit Lakes218-847-1519
Duluth218-723-4660
Mankato507-389-5977
Marshall507-537-7146
Rochester507-285-7343
St. Paul651-296-6300
Willmar320-214-3786
Website <http://www.pca.state.mn.us>

Small Business Environmental Assistance

Toll free 1-800-657-3938
Metro651-282-6143
Website ..<http://www.pca.state.mn.us/sbeap>

Minnesota Technical Assistance Program

Toll free 1-800-247-0015
Metro612-624-1300
Website <http://www.mntap.umn.edu>