

Universal Waste

Universal wastes (UW) are specific hazardous waste streams that a generator can choose to manage in an alternative manner in place of the more complex hazardous waste requirements. These wastes are generated by numerous businesses, typically in small quantities. The Universal Waste Rules (UWR) are intended to promote recycling as well as proper disposal by easing certain regulatory requirements. Ohio's UWRs are located in Ohio Administrative Code (OAC) Chapter [3745-273](#).

A waste must be a hazardous waste before it can be a universal waste. If a hazardous waste stream is not managed as a universal waste, then the waste must be managed as a hazardous waste under the applicable hazardous waste regulations.

Types of Universal Waste:

The following are the four categories of UW that may be managed under the UWR in Ohio:

Lamps

This category includes hazardous waste lamps that meet the definition of OAC rule [3745-50-10\(A\)](#). Lamps are defined as the bulb or tube portion of an electric lighting device. A lamp is designed to produce radiant energy, most often in the ultraviolet, visible and infra-red regions of the electromagnetic spectrum. Lamps can exhibit the toxicity characteristic for some heavy metals (i.e., mercury, lead, cadmium). Examples of universal waste lamps include incandescent, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium and metal halide lamps.

Pesticides

This category includes hazardous waste pesticides that are either suspended and recalled under Section 6 of the Federal Insecticide, Fungicide and Rodenticide Act ([FIFRA](#)), suspended or cancelled as part of a voluntary recall by the registrant or collected in waste pesticide programs.

For more information on Ohio's waste pesticide collection programs, contact the Ohio Department of Agriculture's [Pesticide and Fertilizer Regulation Section](#) at 614-728-6392.

Mercury-Containing Equipment

Mercury-containing equipment consists of devices, items, or articles (excluding batteries and lamps) that contain varying amounts of elemental mercury that is integral to their functions. Some commonly recognized devices are thermostats, barometers, manometers, temperature and pressure gauges, and mercury switches, such as light switches in automobiles.

Discarded Batteries

This category includes hazardous waste batteries such as nickel-cadmium batteries and spent lead-acid batteries. The handler has the option of managing discarded lead-acid batteries under OAC Chapter [3745-273](#) (the UWR), or OAC rule [3745-266-80](#). UW batteries are defined in OAC rule [3745-50-10\(A\)](#) and OAC rule [3745-273-09](#) as devices consisting of one or more electrically connected electrochemical cells that are designed to receive, store and deliver electric energy. An electrochemical cell consists of an anode, cathode and electrolyte. A device is also considered a battery if it is intact, unbroken and all of the electrolyte has been removed.

Universal Waste Requirements:

Categories

There are three categories that a facility or a person handling UW can fall under: handlers, transporters and destination facilities. The rules that each must follow depend on what is done with the UW.

Handlers

UW handlers can include persons who generate UW and persons who receive and store universal wastes generated by someone else. Under Ohio's hazardous waste rules, a person who receives and stores hazardous waste from others (generators) is required to have a storage permit.

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The UWR allows these persons to accept and store UW from off-site without having to obtain a storage permit. So, in effect, simple storage without waste manipulation does not require a permit. Generators of UW who want to take advantage of the UWR instead of the hazardous waste generator requirements must comply with all UW handler requirements. A UW handler cannot treat, dispose of or recycle UW and thus does not need a hazardous waste installation and operation permit.

UW handlers are classified as small or large UW handlers based on the quantity of UW accumulated at any time. Generators and others receiving and storing UW fall under two categories:

- Small quantity handlers (accumulate less than 5,000 kilograms [11,023 pounds] of UW [not by type] at any time), or
- Large quantity handlers (accumulate more than 5,000 kilograms [11,023 pounds] of UW [not by type] at any time).

If a small quantity UW handler accumulates more than 5,000 kilograms of UW on-site at any time, they must comply with the large quantity UW handler requirements for the remainder of the calendar year.

All generators have the option of handling their UW under the UWR or under Ohio's generator requirements found in OAC Chapter [3745-52](#). However, other handlers do not have this option.

Note: UW should not be counted when making quantity determinations for hazardous waste generator categories (i.e., conditionally exempt small quantity generators (CESQGs), small quantity generators (SQGs) and large quantity generators (LQGs)). Universal waste handler status levels should not be confused with the hazardous waste generator status levels.

Transporters

This person engages in the off-site transfer of UW by air, rail, highway or water and must comply with all applicable [DOT](#) regulations. UW transporters may transport UW from one UW handler to another, to UW destination facilities or to foreign destinations. A UW transporter is prohibited from disposing, diluting or treating UW except when responding to a release. A UW transporter must respond to releases of UW during transit. Shipments of UW for export must conform to U.S. EPA's "Acknowledgment of Consent."

UW handlers may act as their own transporter as long as they comply with the UW transporter requirements in OAC rules [3745-273-50 through 3745-273-56](#).

Destination Facilities

A destination facility is defined in OAC rule [3745-273-09\(B\)](#) as a facility that treats, disposes of or recycles a particular category of UW. The owner/operator of a destination facility receives UW from transporters and handlers. If storage of the UW is necessary prior to recycling, then the destination facility must have a hazardous waste installation and operation permit. If the destination facility conducts recycling without storage, they must comply with OAC rule [3745-51-06\(C\)\(2\)](#).

Proper Management for Handlers

Lamps

[Small and large quantity UW lamp handlers](#) are prohibited from crushing lamps. Crushing lamps is prohibited under the UWR except at permitted destination facilities. If they exhibit a characteristic of a hazardous waste, crushed lamps must be managed as a hazardous waste. Generators of lamps have the option of handling their lamps on-site under the hazardous waste generator requirements of OAC Chapter [3745-52](#). Generators may crush their lamps if they comply with all applicable generator treatment requirements in OAC rule [3745-52-34](#) and send them directly to a permitted hazardous waste facility. A handler who is not the generator of the lamps cannot crush the lamps because they do not have the option of complying with OAC rule [3745-52-34](#).

Pesticides

Small and large quantity UW handlers must manage pesticides in containers that remain closed, are structurally sound, compatible with the pesticide and lack evidence of leakage, spillage or damage that could result in a spill. Pesticides managed in a container not meeting these conditions must be over-packed in a structurally sound container. Tanks that are used for managing pesticides classified as UW must comply with the hazardous waste tanks requirements in OAC Chapters [3745-55](#) and [3745-66](#).

Handlers must use transport vehicles or vessels that are closed, structurally sound, compatible with the pesticide and lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

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Mercury-Containing Equipment

Small and large quantity handlers may remove mercury-containing ampules from universal waste mercury-containing equipment provided that:

- the ampules are removed in a manner designed to prevent breakage;
- the ampules are removed only over or in a containment device (tray or pan sufficient to contain any mercury released from an ampule in case of breakage);
- a mercury clean-up system is available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from the containment device to a container;
- any mercury resulting from spills or leaks is immediately transferred from the containment device into non-leaking containers. The containers must be in good condition and closed upon placement of the spill material;
- the area in which ampules are removed is well-ventilated and monitored to ensure compliance with all applicable OSHA exposure levels for mercury;
- the employees removing the ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;
- removed ampules are stored in closed, non-leaking containers that are in good condition; and
- removed ampules are packed in a container with packing materials adequate to prevent breakage during storage, handling and transportation.

Discarded Batteries

[Small and large quantity UW battery handlers](#) have three provisions for managing batteries as UW:

- Any batteries that show evidence of leakage, spillage or damage that could cause leakage must be containerized. The container must be closed, structurally sound, compatible with the contents of the battery and lack evidence of leakage or spillage.
- Handlers are allowed to conduct certain activities associated with battery management under the UWR including:
 - sort batteries by type;
 - mix types in containers;
 - discharge batteries to remove the electric charge;
 - regenerate batteries;
 - disassemble batteries or battery packs into individual batteries;
 - remove electrolyte;and

- remove batteries from discarded consumer products
- Any waste (e.g., electrolytes) removed from batteries must be evaluated to determine whether it is a hazardous waste. Hazardous waste removed from the batteries must be managed in accordance with OAC Chapter [3745-52](#). (If the electrolyte or other waste generated as a result of managing batteries is not hazardous, it may be managed under applicable solid waste regulations.

Notification

Small quantity handlers of UW and UW transporters are not required to notify Ohio EPA of their UW activities and are not required to obtain an EPA hazardous waste ID number. Large quantity UW handlers must [notify Ohio EPA](#) in writing and obtain an EPA hazardous waste [ID number](#) prior to exceeding the 5,000 kg storage limit. A large quantity UW handler who previously notified Ohio EPA of their hazardous waste activities and received an EPA identification number is not required to renotify. For specific details on the notification requirements, see OAC rule [3745-273-32](#).

Note: UW handlers who are accumulating recalled pesticides only and have notified U.S. EPA under the Federal Fungicide, insecticide and Rodenticide Act (FIFRA) are not required to renotify again under the UWR.

Permitting

Small and large quantity UW handlers and transporters **are not** required to have a hazardous waste installation and operation permit provided they comply with all applicable universal waste rules. Destination facilities **are** required to have a hazardous waste installation and operation permit for storage of the material prior to recycling. The recycling process itself is not subject to Ohio's hazardous waste regulations. A facility that collects and stores UW and sends them to a recycler, such as a broker, would not require a permit to operate since the activity is regulated as a handler of UW. If the destination facility conducts recycling without storage, it must comply with OAC rule [3745-51-06\(C\)\(2\)](#).

The permitting process is very involved. When a facility applies for a hazardous waste permit it becomes subject to [corrective action](#), [closure](#) and [financial assurance](#) requirements. For more information on the permitting process, see OAC Chapter [3745-50](#) or contact our permitting staff at 614-644-2621.

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Packaging & Labeling

The labeling requirements are identical for small and large quantity UW handlers. They must be able to demonstrate the accumulation time for all universal wastes.

Accumulation time begins the date the material became a waste or is received. The handlers may make this determination by:

- placing the UW in a container and marking or labeling the container with the earliest date that any UW in the container became a waste or was received;
- marking or labeling the individual item of UW (i.e., each battery or bulb) with the date it became a waste or was received;
- maintaining an inventory system on-site that identifies the date the UW being accumulated became a waste or was received;
- maintaining an inventory system on-site that identifies the earliest date that any UW in a group of UW items or a group of containers of UW became a waste or was received;
- placing the UW in a specific accumulation area and identifying the earliest date that any UW in the area became a waste or was received; or
- any other method which clearly demonstrates the length of time that the UW has been accumulated from the date it became a waste or was received.

Each UW container must be marked, as appropriate, with the words “Universal Waste Lamps,” “Universal Waste Battery(ies),” “Universal Waste Mercury-Containing Equipment,” or “Universal Waste Pesticide(s).” The following phrases are also acceptable: “Waste Lamp(s),” “Used Lamp(s),” “Waste Battery(ies),” “Used Battery(ies),” “Waste Mercury-Containing Equipment,” “Used Mercury-Containing Equipment,” “Waste Pesticide(s)” or “Used Pesticide(s).”

The container for each type of UW must meet the following criteria:

- the container remains closed;
- the container is structurally sound;
- the container is compatible with the UW;
- the container lacks evidence of leaks, spillage or damage that could cause leakage.

Storage Time Limits

Small and large quantity UW handlers may store their UW on-site for up to one year from the time it was generated. If accumulation for greater than one year is required, the handler must be able to prove that the accumulation is

necessary in order to facilitate proper recovery, treatment or disposal.

UW transporters may store UW during the normal course of transportation at a universal waste transfer facility (includes loading docks, parking areas, storage areas and other similar areas where shipments of UW are held) for 10 days or less. If a UW transporter stores UW for more than 10 days, the transporter becomes a UW handler and must comply with all applicable requirements of the UWR.

Universal Waste Handler Requirements

Handler Requirements (and Ohio Administrative Code references)	Universal Waste Handler Categories			
	<u>Small Quantity Handlers</u>	<u>Large Quantity Handlers</u>	<u>Transporters</u>	<u>Destination Facilities</u>
Notification 3745-273-12 3745-273-32	Not required to notify 3745-273-12	Notify Ohio EPA in writing and obtain a U.S. EPA Identification Number 3745-273-32	No applicable requirement	Must comply with all applicable requirements in OAC Chapters 3745-50 through 3745-270
Packaging 3745-273-13 3745-273-33 49 CFR 171 to 180	Containers must meet the requirements in 3745-273-13	Containers must meet the requirements in 3745-273-33	Must comply with all applicable US DOT regulations in 49 CFR 171 to 180	Must comply with all applicable requirements in OAC Chapters 3745-50 through 3745-270
Labeling/Marking 3745-273-14 3745-273-18 3745-273-34 3745-273-38 49 CFR 171 to 180	Must meet requirements specified in 3745-273-14 and 3745-273-18	Must meet requirements specified in 3745-273-34 and 3745-273-38	Must comply with all applicable US DOT regulations in 49 CFR 171 to 180	Must comply with all applicable requirements in OAC Chapters 3745-50 through 3745-270
Storage Time Limits 3745-273-15 3745-273-35 3745-273-53 3745-273-60	Up to one year from date generated or received 3745-273-15	Up to one year from date generated or received 3745-273-35	10 days or less at universal waste transfer facility 3745-273-53	Must comply with all applicable requirements in OAC Chapters 3745-50 through 3745-270
Recordkeeping / Manifesting 3745-273-19 3745-273-39 3745-273-62	Records not required 3745-273-19	Retain receipts of all shipments for at least three years 3745-273-39	No applicable requirement	Must comply with all applicable requirements in OAC Chapters 3745-50 through 3745-270
Employee Training 3745-273-16 3745-273-36	Training required 3745-273-16	Training required 3745-273-36	No applicable requirement	Must comply with all applicable requirements in OAC Chapters 3745-50 through 3745-270
Response To Releases 3745-273-17 3745-273-37 3745-273-54	Must comply with 3745-273-17	Must comply with 3745-273-37	Must comply with 3745-273-54	Must comply with all applicable requirements in OAC Chapters 3745-50 through 3745-270
Permitting 3745-273-60	No applicable requirement	No applicable requirement	No applicable requirement	Must comply with all applicable requirements in OAC Chapters 3745-50 through 3745-270