



Ohio Administrative Code

Rule 3745-273-33 Waste management - standards for large quantity handlers of universal waste.

Effective: [October 23, 2022](#)

(A) Universal waste batteries. A large quantity handler of universal waste shall manage universal waste batteries in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A large quantity handler of universal waste shall contain in a container any universal waste battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The container shall be closed, structurally sound, compatible with the contents of the battery, and shall lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(2) A large quantity handler of universal waste may conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but shall be immediately closed after removal):

- (a) Sorting batteries by type;
- (b) Mixing battery types in one container;
- (c) Discharging batteries so as to remove the electric charge;
- (d) Regenerating used batteries;
- (e) Disassembling batteries or battery packs into individual batteries or cells;
- (f) Removing batteries from consumer products; or
- (g) Removing electrolyte from batteries.



(3) A large quantity handler of universal waste who removes electrolyte from batteries, or who generates other waste (e.g., battery pack materials, discarded consumer products) as a result of the activities listed in paragraph (A)(2) of this rule, shall determine whether the electrolyte or other waste exhibit a characteristic of hazardous waste identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code.

(a) If the electrolyte or other waste exhibit a characteristic of hazardous waste, the electrolyte or other waste shall be managed in compliance with all applicable requirements of Chapters 3745-50 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code. The handler is considered the generator of the hazardous electrolyte or other waste and is subject to Chapter 3745-52 of the Administrative Code.

(b) If the electrolyte or other waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable law.

(B) Universal waste pesticides. A large quantity handler of universal waste shall manage universal waste pesticides in a way that prevents releases to the environment of any universal waste or component of a universal waste. The universal waste pesticides shall be contained in one or more of the following:

(1) A container that remains closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions; or

(2) A container that does not comply with paragraph (B)(1) of this rule, provided that the unacceptable container is overpacked in a container that does comply with paragraph (B)(1) of this rule; or

(3) A tank that complies with rules 3745-66-90 to 3745-66-99 of the Administrative Code, except for paragraph (C) of rule 3745-66-97 of the Administrative Code or

(4) A transport vehicle or vessel that is closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably



foreseeable conditions.

(C) Universal waste mercury-containing equipment. A large quantity handler of universal waste shall manage universal waste mercury-containing equipment in a way that prevents releases to the environment of any universal waste or component of a universal waste, as follows:

(1) A large quantity handler of universal waste shall place in a container any universal waste mercury-containing equipment with non-contained elemental mercury or that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The container shall be closed, structurally sound, compatible with the contents of the device, shall lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions, and shall be reasonably designed to prevent the escape of mercury into the environment by volatilization or any other means;

(2) A large quantity handler of universal waste may remove mercury-containing ampules from universal waste mercury-containing equipment provided the handler:

(a) Removes and manages the ampules in a manner designed to prevent breakage of the ampules;

(b) Removes the ampules only over or in a containment device (e.g., tray or pan sufficient to collect and contain any mercury released from an ampule in case of breakage);

(c) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules from that containment device to a container that complies with Chapters 3745-50 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code;

(d) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that complies with Chapters 3745-50 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code;

(e) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable occupational safety and health administration (OSHA) exposure levels



for mercury;

(f) Ensures that employees who remove ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;

(g) Stores removed ampules in closed, non-leaking containers that are in good condition;

(h) Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation;

(3) A large quantity handler of universal waste mercury-containing equipment that does not contain an ampule may remove the open original housing holding the mercury from universal waste mercury-containing equipment provided the handler:

(a) Immediately seals the original housing holding the mercury with an air-tight seal to prevent the release of any mercury to the environment; and

(b) Follows all requirements for removing ampules and managing removed ampules under paragraph (C)(2) of this rule; and

(4)

(a) A large quantity handler of universal waste who removes mercury-containing ampules from mercury-containing equipment or seals mercury from mercury-containing equipment in the original housing shall determine whether the following exhibit a characteristic of hazardous waste identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code:

(i) Mercury or clean-up residues resulting from spills or leaks; and

(ii) Other waste generated as a result of the removal of mercury-containing ampules or housings (e.g., the remaining mercury-containing device).



(b) If the mercury, residues, or other waste exhibit a characteristic of hazardous waste, the mercury, residues, or other waste shall be managed in compliance with all applicable requirements of Chapters 3745-50 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code. The handler is considered the generator of the mercury, residues, or other waste and shall manage the mercury, residues, or other waste in compliance with Chapter 3745-52 of the Administrative Code.

(c) If the mercury, residues, or other waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable law.

(D) Universal waste lamps. A large quantity handler of universal waste shall manage lamps in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A large quantity handler of universal waste shall contain any lamp in containers, cabinets, or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. Such containers, cabinets, and packages shall remain closed and shall lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(2) A large quantity handler of universal waste shall immediately clean up and place in a container any lamp that is broken, and shall place in a container any lamp that shows evidence of breakage, leakage, or damage that could cause the release to the environment of mercury or other hazardous constituents. Containers shall be closed, structurally sound, compatible with the contents of the lamps, and shall lack evidence of leakage, spillage, or damage that could cause leakage or releases to the environment of mercury or other hazardous constituents under reasonably foreseeable conditions.

(E) Universal waste aerosol cans. A large quantity handler of universal waste shall manage universal waste aerosol cans in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) Universal waste aerosol cans shall be accumulated in a container that is structurally sound, compatible with the contents of the aerosol cans, lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions, and is protected from sources of heat.



(2) Universal waste aerosol cans that show evidence of leakage shall be packaged in a separate closed container or overpacked with absorbents, or immediately punctured and drained in accordance with paragraph (E)(4) of this rule.

(3) A large quantity handler of universal waste may conduct the following activities as long as each individual aerosol can is not breached and remains intact:

(a) Sorting aerosol cans by type; and

(b) Mixing intact aerosol cans in one container; and

(c) Removing actuators to reduce the risk of accidental release; and

(4) A large quantity handler of universal waste who punctures and drains their aerosol cans shall recycle the empty punctured aerosol cans and meet the following requirements while puncturing and draining universal waste aerosol cans:

(a) Conduct puncturing and draining activities using a device specifically designed to safely puncture aerosol cans and effectively contain the residual contents and any emissions thereof.

(b) Establish and follow a written procedure detailing how to safely puncture and drain the universal waste aerosol can (including proper assembly, operation and maintenance of the unit, segregation of incompatible wastes, and proper waste management practices to prevent fires or releases); maintain a copy of the manufacturer's specification and instruction on site; and ensure employees operating the device are trained in the proper procedures.

(c) Ensure that puncturing of the aerosol can is done in a manner designed to prevent fires and to prevent the release to the environment of any component of universal waste. This includes, but is not limited to, locating the equipment on a solid, flat surface in a well-ventilated area.

(d) Immediately transfer the contents from the waste aerosol can or puncturing device, if applicable, to a container or tank that meets the applicable requirements of rule 3745-52-14, 3745-52-15, 3745-52-16, or 3745-52-17 of the Administrative Code.



(e) Conduct a hazardous waste determination per rule 3745-52-11 of the Administrative Code on the contents of the emptied aerosol can. Any hazardous waste generated as a result of puncturing and draining the aerosol can is subject to all applicable requirements of Chapters 3745-50 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code. The handler is considered the generator of the hazardous waste and is subject to Chapter 3745-52 of the Administrative Code.

[Comment: Liquids that consists solely of paint from aerosol cans are eligible to be classified and managed as a universal waste paint in accordance with Chapter 3745-273 of the Administrative Code.]

(f) If the contents are determined to be nonhazardous, the handler may manage the waste in any way that is in compliance with applicable law.

[Comment: Large quantity handlers of universal waste who use aerosol can puncturing or crushing units may be subject to requirements of the Clean Air Act or the Occupational Safety and Health Act.]

(g) A written procedure shall be in place in the event of a spill or release and a spill clean-up kit shall be provided. All spills or leaks of the contents of the aerosol cans shall be cleaned up promptly.

(F) Universal waste antifreeze. A large quantity handler of universal waste shall manage universal waste antifreeze in a way that prevents releases of any universal waste or any component of a universal waste to the environment, as follows:

(1) A large quantity handler of universal waste shall store antifreeze in containers or tanks that are structurally sound and compatible with the antifreeze. Such containers and tanks shall lack leakage or damage, including severe corrosion, which could cause leakage under reasonably foreseeable conditions.

(2) A container or tank that does not comply with paragraph (F)(1) of this rule shall be overpacked or taken out of service by the large quantity handler of universal waste by transferring the contents of the container or tank to another container or tank.



(3) A large quantity handler of universal waste who stores antifreeze in a container shall keep the container closed except when adding or removing antifreeze.

(4) A large quantity handler of universal waste shall store antifreeze in a tank that complies with paragraph (B)(3) of rule 3745-52-16 of the Administrative Code.

(5) A large quantity handler of universal waste shall not commingle or contaminate antifreeze with listed hazardous waste or a characteristic hazardous waste as described in Chapter 3745-51 of the Administrative Code subsequent to the removal of the antifreeze from a heat exchanger or other equipment when used to winterize that equipment.

(6) A large quantity handler of universal waste shall develop and maintain at the facility a procedure that describes how antifreeze shall be prevented from being commingled or contaminated with a listed hazardous waste or a characteristic hazardous waste as described in Chapter 3745-51 of the Administrative Code subsequent to removal of the antifreeze from a heat exchanger or other equipment when used to winterize that equipment.

(7) A large quantity handler of universal waste who manages antifreeze shall use dedicated antifreeze collection and storage containers and tanks for the management of antifreeze.

(8) A large quantity handler of universal waste may reclaim antifreeze provided the handler does the following:

(a) The large quantity handler of universal waste shall use commercially available equipment, or equipment specifically custom designed or retrofitted according to accepted engineering practices based on established codes, standards, published technical reports, or similar peer reviewed documents to reclaim the antifreeze as "reclaimed" is defined in rule 3745-51-01 of the Administrative Code.

(b) The large quantity handler of universal waste shall use reclamation equipment that has sufficient processing capacity to reclaim the quantity of antifreeze received or generated by the handler within one year.



- (c) The large quantity handler of universal waste shall train each operator of the reclamation equipment regarding the proper operation and maintenance of the antifreeze reclamation equipment.
- (d) A large quantity handler of universal waste shall determine if the wastes generated from the reclamation of antifreeze are "hazardous wastes" as described in Chapter 3745-51 of the Administrative Code. If a waste meets the definition of "hazardous waste," the handler is a hazardous waste generator and is subject to Chapter 3745-52 of the Administrative Code.
- (9) A large quantity handler of universal waste, upon detection of a release of antifreeze, shall do the following, as applicable:
- (a) Stop the release of antifreeze.
 - (b) Contain the released antifreeze.
 - (c) Clean up and properly manage and dispose the released antifreeze and other materials generated from the clean-up according to applicable waste management requirements.
 - (d) Remove a leaking container or tank from service by transferring the contents to another container or tank.
 - (e) Overpack or replace any leaking storage container.
 - (f) Repair any leaking container or tank prior to returning the container or tank to service.
- (10) Spilled universal waste antifreeze that is recovered in liquid form or materials used to absorb a spill of universal waste antifreeze may be managed as universal waste antifreeze.
- (11) A large quantity handler of universal waste who manages antifreeze shall train employees who manage antifreeze regarding the universal waste requirements applicable to antifreeze, the proper management of antifreeze, the procedure to prevent contamination of antifreeze with characteristic hazardous waste or listed hazardous waste, and the proper response to a release of antifreeze.



(G) Universal waste paint and paint-related waste. A large quantity handler of universal waste shall manage universal waste paint and paint-related wastes in a way that prevents releases of any universal waste or any component of a universal waste to the environment, as follows:

(1) The large quantity handler of universal waste shall store universal waste paint or paint-related wastes in units that feed crushing or shredding equipment (i.e., hopper), containers, or tanks that are structurally sound and compatible with the paint or paint-related wastes. Such hoppers, containers, and tanks shall lack leakage or damage, including severe corrosion, which could cause leakage under reasonably foreseeable conditions.

(2) The large quantity handler of universal waste shall ensure that a hopper, container, or tank that does not comply with paragraph (G)(1) of this rule is overpacked or taken out of service by transferring the contents to another hopper, container, or tank.

(3) The large quantity handler of universal waste shall keep hoppers and containers that hold paint and paint-related wastes closed except when adding or removing paint or paint-related wastes.

(4) The large quantity handler of universal waste shall store paint or paint-related waste in a tank that complies with rules 3745-66-90 to 3745-66-99 except paragraph (C) of rule 3745-66-97 of the Administrative Code.

(5) The large quantity handler of universal waste who generates universal waste paint and paint-related wastes on-site may recycle such paint and paint-related wastes on-site by reclamation, use, or reuse as described in rule 3745-51-02 of the Administrative Code if the wastes are not burned for energy recovery or used in a manner constituting disposal according to rule 3745-51-02 of the Administrative Code.

(6) The large quantity handler of universal waste who receives universal waste paint from another universal waste handler may recycle such paint by reclamation, use, or reuse as described in rule 3745-51-02 of the Administrative Code if the universal waste paint is not burned for energy recovery or used in a manner constituting disposal according to rule 3745-51-02 of the Administrative Code.



(7) Wastes generated from the reclamation of universal waste paint and paint-related wastes are not universal wastes for the purposes of this rule. The handler shall evaluate the wastes to determine if such wastes are listed hazardous wastes or characteristic hazardous waste as described in Chapter 3745-51 of the Administrative Code. If a waste meets the definition of "hazardous waste," the handler is a hazardous waste generator and is subject to Chapter 3745-52 of the Administrative Code.

(8) The large quantity handler of universal waste who recycles universal waste paint and paint-related wastes as described in paragraphs (G)(5) and (G)(6) of this rule shall ensure that employees responsible for recycling universal waste paint and paint-related wastes are trained regarding the proper operation and maintenance of the recycling process.

(9) The large quantity handler of universal waste, upon detection of a release of paint or paint-related wastes, shall do the following, as applicable:

(a) Stop the release.

(b) Contain the released paint or paint-related wastes.

(c) Clean up and properly manage the released paint or paint-related wastes and other materials generated from the cleanup.

(d) Remove a leaking container or tank from service by transferring the contents to another container or tank.

(e) Overpack or replace any leaking storage container.

(f) Repair any leaking container or tank prior to returning the container or tank to service.

(10) A large quantity handler of universal waste shall manage paint and paint-related wastes that are ignitable or reactive in accordance with the following:

(a) Rule 3745-66-76 of the Administrative Code or obtain written approval from the authority having



jurisdiction over the local fire code allowing alternative storage less than fifty feet from the facility's property line. The written approval shall be maintained on-site for as long as the ignitable or reactive paint and paint-related wastes are managed on-site.

(b) Rule 3745-65-17 of the Administrative Code.

(11) A large quantity handler of universal waste shall manage paint and paint-related wastes that are incompatible in accordance with rule 3745-66-77 of the Administrative Code.

(12) The large quantity handler of universal waste shall design, construct, maintain, and operate the facility to minimize the possibility of a fire, explosion, or unplanned sudden or non-sudden release of universal waste or hazardous constituents to air, soil, or surface water which could threaten human health or the environment.

(13) The large quantity handler of universal waste may open containers of universal waste paint and scrape, pour, pump, or drain the universal waste paint from the container to collect the paint and render the container empty.

(14) The large quantity handler of universal waste may puncture, shred, or crush containers of paint that do not exceed five gallons in volume to remove and collect the contents of the container rendering the container empty, provided the handler does all of the following:

(a) The large quantity handler of universal waste shall use commercially available equipment or equipment specifically custom designed or retrofitted according to accepted engineering practices based on established codes, standards, published technical reports, or similar peer reviewed documents to puncture, shred, or crush and empty the paint containers within an enclosed compartment or hopper.

(b) The large quantity handler of universal waste shall use equipment that has sufficient processing capacity to empty the quantity of paint containers received or generated within one year.

(c) The large quantity handler of universal waste shall collect the liquids from the paint container. Collected liquids are still classified as universal waste paint.



(d) The large quantity handler of universal waste shall maintain the puncturing, crushing, and shredding equipment and replace air filters according to the manufacturer's specifications.

(e) The large quantity handler of universal waste shall train each operator of the equipment used to shred, puncture, or crush containers of universal waste paint regarding the maintenance and proper operation of the equipment.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]