

Waste Batteries: An Industry Fact Sheet

This fact sheet and the information contained within has been produced by ADEQ with the aim of providing general information and guidance on universal waste battery management. While every measure has been taken to ensure the accuracy and completeness of the information, it is the waste battery generator, handler or processor's responsibility to follow all environmental laws applicable in the Arizona Hazardous Waste Management Act (A.A.C. Title 18, Chapter 8 and A.R.S. Title 49, Chapter 5) and all associated hazardous waste regulations (40 CFR § 260 to § 273).

This fact sheet focuses on universal waste battery management. For general information regarding universal waste, visit static.azdeq.gov/wpd/hazwaste/universal_waste_container_fs.pdf.

What is the difference between a waste battery and a universal waste battery?

Once "spent" or "discarded" (the facility no longer has a use for it), a battery becomes a waste battery. The battery may be Resource Conservation and Recovery Act (RCRA) hazardous waste if it exhibits a characteristic of hazardous waste (D001 - ignitability, D002 - corrosivity, D003 - reactivity, or D004 to D043 - toxicity). For example, if the battery is damaged or leaking, the battery is likely considered hazardous waste and subject to

specific regulations for proper disposal. Depending on the battery design, this may also include heavy metal classifications.

If the battery is fully intact and not leaking, the battery may be managed under 40 CFR § 273 as universal waste. Universal waste is a sub-category of hazardous waste. A battery is considered universal waste if it meets applicability requirements under 40 CFR § 273.2 and meets the definition found in 40 CFR § 273.9.¹

Universal waste batteries are not:

- Spent lead-acid batteries managed under 40 CFR § 266 (learn more at azdeq.gov/LeadAcidBatteries)
- Batteries that are not yet waste (i.e., not disposed of)
- Batteries that do not exhibit a characteristic of hazardous waste (for example, a used, single-use alkaline battery, which often does not exhibit hazardous characteristics)



Note: Batteries with damage like this are NOT universal waste.

¹ A battery is a device consisting of one or more electrically connected electrochemical cells, designed to receive, store, and deliver electrical energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

What can a universal waste handler do?

If you are a small quantity handler (SQH) or large quantity handler (LQH), you can store universal waste batteries for up to a year. If you are a SQH, you may only accumulate up to 5,000 kg (the quantity limit for SQHs).

Per 40 CFR § 273.13(a) and 40 CFR § 273.33(a), as long as the casing of each individual battery cell is not breached and remains intact and closed (except in the event that you open a cell to remove electrolyte, but then immediately close it), SQHs and LQHs may do the following to universal waste batteries:

- Sort batteries by type
- Mix battery types in one container
- Discharge batteries to remove electric charge
- Regenerate used batteries
- Disassemble batteries or battery packs into individual batteries or cells
- Remove batteries from consumer products
- Remove electrolytes from batteries

SQHs and LQHs removing electrolytes or generating solid waste as a result of the handling activities must determine if the waste exhibits hazardous characteristics and manage it appropriately.

What is the difference between a universal waste handler and a recycler?

If your facility accepts universal waste batteries and conducts management activities other than those specified in 40 CFR §273, you are likely classified as a universal waste destination facility, which may lead to your facility being classified as a recycler.

Per 40 CFR § 273 Subpart E, destination facilities are subject to the full requirements of a traditional treatment, storage, and disposal facility. If your facility is recycling a particular universal waste in compliance with the recycling exemptions (40 CFR § 261.6(c)(2)), you must be able to demonstrate the recycling activities are legitimate and comply with ADEQ’s substantive policy regarding storage prior to recycling (static.azdeq.gov/legal/subs_hazstorage_priorrecycling.pdf). This policy states that a facility cannot store waste batteries for longer than a single operational day, prior to recycling, without a hazardous waste permit for storage.

We recommend waste battery recycling facilities contact ADEQ’s hazardous waste permitting team to receive a determination on the legitimacy of the recycling operation. ADEQ can assist you in ensuring compliance with recycling requirements and our substantive policy on storage. Note that if you are storing batteries in a facility

that is on contiguous property to your recycling facility (i.e., your long-term storage warehouse is on the same property as your processing facility), you will likely need a hazardous waste permit.

Best Management Practices

- Make sure batteries are individually packed or have taped terminals to avoid short circuiting.
- Store batteries in temperature-controlled areas and as a best management practice, do not stack large batteries more than two high to avoid thermal activations or damage.
- Do not store batteries in metal (or otherwise conductive) containers.
- Minimize the potential for batteries to be dropped, crushed, or punctured.
- Have contingency plans for handling damaged batteries and for fire responses (may vary based on type of battery being stored or processed). This could include isolating damaged batteries, methods for detecting battery damage, testing and calibrating fire response equipment, etc.
- Have an up to date, properly coded and designed fire protection system that is appropriate for your facility’s operations and batteries. Contact your local fire department and building review agency (city or county) to ensure your system is sufficient!

² Destination facilities are defined in 40 CFR § 273.9 as a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in 40 CFR § 273.13 and 40 CFR § 273.33. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that waste.

Questions?

Contact ADEQ at hazwastepermits@azdeq.gov for questions about universal waste battery handling and whether your operations need a permit. Otherwise, universal waste battery handlers can contact HazardousWasteICU@azdeq.gov for questions about handler compliance.

For translations or other communications aids, please email the Title VI Coordinator, Leonard Drago, at Drago.Leonard@azdeq.gov or call 602-771-2288.

Para traducciones u otras ayudas de comunicación, envíe un correo electrónico al Coordinador del Título VI, Leonard Drago, a Drago.Leonard@azdeq.gov o llame al 602-771-2288.