

Management of Used Batteries

MnDOT Office of Environmental Services Environmental Investigation Unit

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This guidance document is prepared by MnDOT personnel and is intended only for use on MnDOT projects, including partnership projects, and MnDOT Maintenance Operations.

The intent of this guidance document is to provide general procedural information for properly managing used batteries. Any deviation from procedures contained in this document must be discussed with the Environmental Investigation Unit personnel prior to implementation.

This document should not be construed as a full description of all regulations pertaining to the subject matter. Contact the Environmental Investigation Unit in the MnDOT Office of Environmental Services for additional information or legal requirements.

Following is information on storing used batteries. It is a federal requirement to ensure exposed terminals are protected with non-conductive caps, non-conductive tape, or by other appropriate means. Taping battery terminals with masking, duct or electrical tape or individually placed in plastic bags before placing batteries in a non-conductive recycling bin (cardboard, plastic, wood) or in the trash. This is necessary to prevent short circuiting which could cause a fire and to reduce the risk of corrosive chemicals leaking from the batteries.

Non-Disposable Batteries

Used rechargeable batteries, button-style non-rechargeable batteries and lead acid batteries must be recycled.

- Rechargeable batteries include the following products: nickel cadmium (Ni-Cd), greater than 9 volt lithium (Li-ion), nickel metal hydride (Ni-MH), and nickel zinc (Ni-ZN). Rechargeable batteries are commonly used in electronic devices such as computers, cell phones, portable power tools, and cameras.

- Button-style batteries contain mercuric oxide or silver oxide and are commonly used in devices such as watches and hearing aids.
- Lead acid batteries include the following products: small sealed lead acid (SSLA/Pb), flooded or wet cell, gel and absorbed glass mat (AGM). Lead acid batteries are commonly used in vehicles and as remote power for instruments.

Disposable Batteries

Alkaline, carbon zinc, chloride zinc (commonly labeled heavy duty), zinc air, and lithium batteries less than or equal to nine volts can be disposed of in the trash after , AS LONG AS, taping the battery terminals are taped or they are individually placed in plastic bags.

Management Requirements of Rechargeable, Small Sealed Lead Acid (SSLA/Pb), and Button-Style Non-Disposable Batteries

Storage

- Tape battery terminals ends or place individually in plastic bags of all used batteries prior to storage.
- Used batteries may be stored in a cardboard box or plastic tub with a cover.
- Containerize battery types separately.
- Label storage container(s): "Used Batteries".
- Date container when the container is full. The container must be shipped for recycling within one year of the date.

Recycling Facilities

The following options are available for recycling rechargeable batteries and button-style non-rechargeable batteries:

- Go to [MnDOT Approved List of Waste Contractors](http://www.dot.state.mn.us/environment/regulatedmaterials/wastemgmt.html) Located at <http://www.dot.state.mn.us/environment/regulatedmaterials/wastemgmt.html> and scroll down to:
 - Rechargeable Batteries.
 - Rechargeable batteries can be recycled at no cost through Call2Recycle program at: <http://www.call2recycle.org/>
 - Hazardous Waste Contractor
- Return to vendor, if vendor is currently enrolled in the Call2Recycle program.
- An SSLA battery is much smaller than a vehicle lead acid battery and is sealed; there are no caps where fluids can be observed.

Management Requirements of Lead Acid Batteries (typically vehicle batteries or power sources for instrumentation or other remote equipment)

Storage

- Store lead acid batteries within a curbed area constructed of non-acid reactive and impermeable material or in a container, such as a plastic tub. If batteries are stored in a curbed area of the floor, a floor drain cannot be present within the storage area.
- Place cracked or leaking batteries in a labeled acid-resistant, leak-proof, closed container. A five-gallon plastic pail with cover is adequate.
- Store away from outside elements. Storage area does not have to be heated but batteries must not be exposed to the outside elements.
- Regularly inspect storage area and containers for cracks and leaks and integrity of batteries.

Transportation

CFR 49 173.159(e) exempts transport of lead acid batteries (new or used) from ALL transportation requirements if all of the following conditions are met:

- No other hazardous material is in the vehicle.
 - Batteries are secured in a sturdy container (such as a plastic tub with cover) and terminal posts are covered or protected to prevent damage and short-circuiting. Other containers include: wooden boxes, fiberboard boxes, plywood drums, fiber drums, or plastic drums.
- All other material in the truck must be secured to prevent contact with battery terminals.

Spills

Contain small spills and manage as a hazardous waste. Battery fluid is hazardous because it is corrosive and may contain toxic levels of lead. Small spills and leaks may be contained and neutralized using lime, cement, or other base material. Contact your District Safety Administrator for assistance managing spills.

Recycling Facilities

The following option is available for recycling sealed lead acid (vehicle) batteries:

- Vendors that sell lead acid batteries to MnDOT should accept used lead acid batteries for recycling.

Record Keeping

Follow Record Keeping under Waste Handling guidance at:

<http://www.dot.state.mn.us/environment/regulatedmaterials/wastemgmt.html>

Hazardous Waste Generator Reporting

- Used batteries do not count towards the facility hazardous waste generator size; therefore the MPCA does not require reporting. If located in a Metropolitan county, check with your county as this may be a requirement.

Please contact the Environmental Investigation Unit for further assistance.