

Universal Waste

Universal wastes are wastes that meet hazardous waste criteria but, because they pose a relatively low-risk compared to other hazardous wastes and are generated by a wide variety and large number of businesses, are exempt from regulation as hazardous waste.

Although universal wastes are exempt from the hazardous waste regulations of Subchapters 1 through 7 of the Vermont Hazardous Waste Management Regulations (VHWMR), they still must be managed according to the Subchapter 9 Universal Waste Management Standards. Wastes that can be managed as universal waste in Vermont include:

- **batteries,**
- **certain pesticides,**
- **mercury thermostats,**
- **PCB-containing fluorescent light ballasts,**
- **lamps** (e.g., fluorescent bulbs),
- **mercury-containing devices** (e.g., mercury switches),
- **cathode ray tubes** (e.g., color computer monitors and TV screens), and
- **postconsumer paint** (e.g., unused oil and latex architectural paint).

In general, the Universal Waste Management Standards include requirements that apply to small and large quantity “handlers” of universal waste (including specific management standards for each category of universal waste), “universal waste transporters,” and “destination facilities.” However, since the majority of the Vermont businesses that manage universal waste fall into the “small quantity handler” category, this fact sheet focuses primarily on those requirements.

What is a Small Quantity Handler?

A “**universal waste handler**” is defined as:

- 1) *A generator of universal waste; or*
- 2) *The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.*

A “**small quantity handler**” is defined as:

A -universal waste handler who does not accumulate 5,000 kilograms (11,000 pounds) or more total of universal waste other than CRTs (batteries, pesticides, thermostats, ballasts, lamps, mercury-containing devices, or postconsumer paint calculated collectively), and who does not accumulate 36,288 kilograms (40 tons) or more of CRTs, at any time.

Environmental Fact Sheet: Universal Waste

What does a Small Quantity Handler need to comply with?

Although **each category of universal waste has unique waste management requirements** (individual fact sheets are available for lamps, mercury-containing devices and CRTs), small quantity handlers must manage all universal wastes according to the following general requirements:

- Manage universal waste in a way that prevents breakage and releases to the environment.
- Keep containers of universal waste closed.
- Immediately contain and transfer any universal waste that shows evidence of leakage or damage to an appropriate container.
- Meet waste-specific container or packaging requirements.
- Label or mark the universal waste (or container holding the universal waste) to indicate that it is a waste or universal waste. For example, universal waste lamps should be marked as “Universal Waste Lamps,” “Waste Lamps,” or “Used Lamps.”
- Accumulate universal waste for no longer than one year (a handler must be able to demonstrate the length of time that a universal waste has been accumulated from the date it became a waste or is received).
- Ensure that employees handling universal waste are familiar with proper handling and emergency procedures, relative to their responsibilities.
- In the event of a release of universal waste, comply with the emergency actions and reporting requirements of VHWMR Section 7-105(a), and determine if any material resulting from the release is hazardous waste.

Where can Small Quantity Handlers bring Universal Waste?

Small quantity handlers can bring their universal waste to another universal waste handler or a destination facility (which, in general, is defined as *a facility that treats, disposes of, or recycles a particular category of universal waste*). Small quantity handlers may also send universal waste to a foreign destination provided the specific export requirements of VHWMR Section 7-912(k) are met.

Who can Transport Universal Waste?

Small quantity handlers can either self-transport their own universal waste or hire a commercial transporter. Anyone that transports universal waste must comply with applicable Department of Transportation (DOT) requirements and, if transporting solid waste for compensation, with the solid waste permit requirements of 10 V.S.A. § 6607a. No hazardous waste manifest shipping document is required for the transport of universal waste.

For more information contact:

Vermont Department of Environmental Conservation:

Waste Management Division
1 National Life Drive – Davis 1
Montpelier, VT 05620-3704
802-828-1138

Environmental Assistance Office
1 National Life Drive – Main 2
Montpelier, VT 05620-3804
800-974-9559

WASTE ELECTRONIC DEVICES

What Electronics are banned from disposal?

Waste Electronic Devices from households and businesses cannot be disposed in the trash. Electronic Devices banned from landfill disposal include:



- computers
- computer peripherals
- computer monitors
- cathode ray tubes
- televisions
- printers
- VCRs & DVD players
- digital converter boxes
- game consoles

- all telephones
- fax machines
- answering machines
- personal electronics
- stereo equipment
- portable music players
- power supply cord (as used to charge electronic devices)

There are many other electronic devices that are not included in this list; it is recommended that devices that contain potential hazardous components such as circuit boards and screens be managed in the same manner even if they are not specifically banned from landfill disposal. In addition, whole computers, monitors, printers, televisions or computer peripherals cannot be placed in the scrap metal bin.

What Electronics are required to be collected for FREE at VT E-cycles collection locations?

- Computers (such as desktops, all-in-one computers, laptops, notebooks, netbooks, and tablets)
- Computer monitors (any type - i.e. CRTs, flat panel displays, LCD displays, plasma displays)
- Printers (most types including multifunctional machines - does not include floor-standing models)
- Televisions (any type - i.e. CRTs, flat panel displays, LCD displays, plasma displays)
- Computer Peripherals (items sold exclusively for external use which connects to a computer such as a mouse, keyboard, scanner, external hard drive, etc.)

Note: A Covered Entity is a Vermont household, charity, school district, business with 10 or fewer employees (with no limit on the number of devices), or anyone else dropping off 7 or fewer devices.

How must VT E-Cycles Electronics be managed?

Electronic Waste must be stored at registered locations: 1) on a surface that prevents potentially hazardous materials in electronic devices from migrating into the soil, groundwater, or surface water, 2) within a structure or transportation unit that protects the electronic devices from precipitation, and 3) in a manner that prevents breakage during transportation, storage and handling. Do not overfill gaylords or stack loose devices. Outdoor storage is prohibited at any time – for any amount of time! For more information see: www.vtecycles.org.

How do I manage a broken or damaged Computer, Monitor, Printer or Television?

Some electronic devices are fragile and subject to breakage (e.g., Cathode Ray Tubes (CRTs), flat panel and LCD display screens). These devices pose a potential threat to human health and the

environment because they contain hazardous substances such as lead and mercury and there is a physical threat from broken glass. Other electronic devices contain components with hazardous constituents/substances that are more rugged (i.e. circuit boards, batteries, capacitors) under normal conditions (i.e. not bulging or leaking) and pose less of a threat. As such, the decision about how to manage broken electronic devices should be based on the type(s) of components contained within a device as follows:

- Damaged Electronic Devices whose only hazardous components are intact and within the device, (such as circuit boards).
 - Do not require anything beyond the standard storage and packaging requirements for Electronic Devices. These standard requirements protect the devices sufficiently (even if they are damaged cosmetically) from any further damage.
- Broken Cathode Ray Tubes or “CRTs” (i.e., older televisions and computer monitors; contain leaded glass or picture tubes): If the CRT glass is broken or shows evidence of damage that could cause a release of glass particles, the glass or all of the television or monitor must be:
 - Placed in a closed labeled container that is structurally sound and will contain the glass. Do not dispose in the trash.
 - If the back part of the TV or monitor is exposed and there are bare copper wires, handle carefully as the tube can implode violently and wires can sometimes still carry an electrical charge.
- Broken Electronic Devices that contain mercury lamps, where there is visual evidence that the lamp inside is broken (i.e. Liquid Cathode Display (LCD)):
 - Clean up immediately by carefully scooping up the glass fragments and powder with stiff paper. Pick up any remaining small pieces of glass and powder using sticky tape. Wipe area clean with a damp paper towel. Place glass and all cleanup materials in a closed labeled container that is structurally sound and compatible with the waste (i.e. not a metal container). Do not dispose of in the trash.
 - Do not vacuum broken lamps as this may spread mercury vapor.
 - If the screen is broken and the lamps are intact, the device must be protected and managed in a way to prevent further damage and potential breakage of the lamps during storage.
- Bulging or Leaking Batteries
 - Contain any battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container that is structurally sound and compatible with the contents of the battery.
 - The container must be kept closed and must lack evidence of leakage or spillage.
 - Be aware of the risk of fire with batteries – do not handle or store haphazardly.
- Labeling and Storage of Broken Devices
 - Containers used to store broken electronic devices must be labeled “broken electronic waste” or “broken used electronics” and can be shipped to a recycling facility along with other containers of intact electronic devices.
 - Multiple broken electronic devices can be placed into one collection container provided the commingled wastes are not incompatible.
 - Tape or shrink wrap glass screens that are not fully broken to avoid further damage before placing them into a collection container.

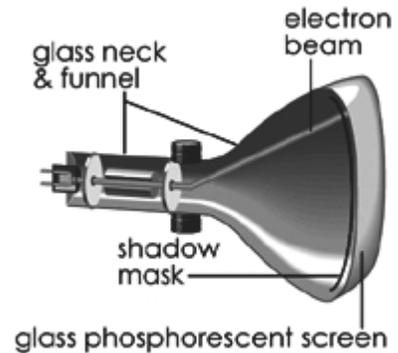
For more information contact:

Vermont Department of Environmental Conservation
Waste Management and Prevention Division – Vermont E-cycles Program
1 National Life Drive, Davis 1
Montpelier VT 05620-3704
1-855-632-9253
www.vtecycles.org

Used Televisions and Computer Monitors

What is a Cathode Ray Tube?

Cathode Ray Tubes (CRTs) are the vacuum tubes or video displays found in most televisions and older computer monitors. CRTs consist of a phosphorescent glass screen, a shadow mask, and a glass funnel and neck. A picture is created when electrons travel from an electron gun (housed within the neck) to the screen.



Why are CRTs of concern?

Harmful radiation is generated when an image is created on a CRT screen. In order to shield viewers from this radiation, a substantial amount of lead is incorporated into the glass used to manufacture the various glass components of a CRT (approximately 4 pounds of lead per CRT). It is this high lead concentration, coupled with the rapid increase in volume of discarded electronics, which make waste CRTs a health and environmental concern. Exposure to lead can cause adverse health effects such as behavioral problems, learning disabilities, and seizures. Since lead affects the central nervous system, children under age 6 (with developing nervous systems) are at a higher risk.

How are CRTs regulated?

Due to the large amount of lead found in CRT glass, and the arsenic, cadmium, mercury and other heavy metals used in TV and computer circuit boards, it is important to ensure that CRTs and other electronic devices are disposed of properly. Studies have shown that **color CRTs** in particular contain enough lead to exceed regulatory levels for hazardous waste by a considerable margin. As such, the Vermont Department of Environmental Conservation (DEC) presumes that all waste color CRTs generated by businesses and municipalities are subject to regulation under the Universal Waste Management Standards found in subchapter 8 of the Vermont Hazardous Waste Management Regulations (VHWMR).

Although **household-generated** wastes are exempt from the VHWMR, the DEC recommends that homeowners manage their waste CRTs through a local household hazardous waste collection event.

Color CRTs that have been collected, but still must be evaluated to determine if they can be reused or repaired are not considered waste and therefore are not subject to the VHWMR provided:

- 1) The CRTs are managed to prevent breakage and cosmetic damage;
- 2) The CRTs remain intact;
- 3) The CRTs are stored within a structure or transportation unit such that the CRTs are protected from precipitation; and
- 4) The person in control of the CRTs plans to evaluate the CRTs for reuse or repair on-site, or send the CRTs off-site for such evaluation.

Continued ►

Environmental Fact Sheet: Used Televisions and Computer Monitors

How must waste color CRTs be managed?

In general, waste color CRTs generated by Vermont businesses and municipalities must be:

- ✓ Managed in a way that prevents breakage, or releases to the environment;
- ✓ Packaged in a manner adequate to prevent breakage during transportation, and when necessary during storage and handling. Such packaging must lack evidence of damage that could cause breakage under reasonably foreseeable conditions;
- ✓ Stored within a structure or transportation unit such that the CRTs are protected from precipitation;
- ✓ Placed in a closed container if the CRTs show evidence of damage that could cause a release of glass particles under reasonably foreseeable conditions. The container must be structurally sound, and compatible with the broken CRT(s); and
- ✓ Labeled or marked with one of the following phrases: "Universal Waste-Cathode Ray Tube(s)," or "Waste Cathode Ray Tube(s)," or "Used Cathode Ray Tube(s)" or "Universal Waste-CRT(s)," or "Waste CRT(s)," or "Used CRT(s)."

For general information about Vermont's Universal Waste Management Standards, refer to the "Universal Waste" fact sheet at <http://www.anr.state.vt.us/dec/wastediv/rcra/assist.htm>

How are waste monochrome CRTs and Flat Panel Displays (FPDs) regulated?

Older monochrome (black and white) CRTs contain much less lead than color CRTs, and generally do not exceed regulatory levels for hazardous waste. FPDs, which do not contain lead, do in some cases contain small amounts of encapsulated mercury. According to Vermont law, all mercury-added products must be labeled as containing mercury and are prohibited from disposal in Vermont solid waste landfills. Although monochrome CRTs can be managed as solid waste, the Vermont DEC strongly recommends keeping them out of the municipal solid wastestream in order to prevent the heavy metals contained in those devices from being released to the environment (e.g., in landfills or through incineration).

How can waste CRTs and FPDs be managed?

Individuals and businesses should contact their local Solid Waste District / Alliance (listed below), or Town Clerk for information about managing waste electronics. In addition, many non-profit and private organizations offer recycling services. A listing of these organizations can be found at:

<http://www.anr.state.vt.us/dec/wastediv/R3/computers.htm>

Vermont Solid Waste Organizations

Addison County Solid Waste District 802-388-2333	Northeast Kingdom Waste Management District 1-800-734-4602 or 802-626-3532
Bennington Regional Planning Commission 802-375-2576	Northwest Vermont Solid Waste District 802-524-5986
Central Vermont Solid Waste District 1-800-730-9475 or 802-229-9383	Rutland County Solid Waste District 802-775-7209 or 802-773-4083
Chittenden Solid Waste District 802-872-8111	Solid Waste Alliance Communities 518-854-9702
Greater Upper Valley Solid Waste District 802-296-3688	S. Windsor/Windham County Solid Waste Mgmt Dist. 603-543-1201 or 802-885-5827
Lamoille Regional Solid Waste District 802-888-7317	White River Alliance 802-234-9340
Mad River Solid Waste Alliance 802-244-7373	Windham Solid Waste District 802-257-0272

For more information contact:

VTDEC-Waste Management Division
1 National Life Drive – Davis 1
Montpelier, VT 05620-3704
802-828-1138

VTDEC-Environmental Assistance Office
1 National Life Drive – Davis 1
Montpelier, VT 05620-3704
800-974-9559

Fluorescent & HID Mercury Containing Lamps

What are the concerns about mercury?

Mercury is a highly toxic heavy metal that is released into the environment when mercury-containing lamps are broken or discarded. Although lamps contain a relatively small amount of mercury, the high volume of spent lamps generated in Vermont each year contributes to mercury contamination, particularly in fish and wildlife. State and federal fish advisories restrict consumption of certain freshwater and marine fish (see: www.mercvt.org).

What kinds of lamps contain mercury?

Fluorescent lamps (linear and compact fluorescent) and high intensity discharge (HID) lamps contain mercury. HID is a term used to describe mercury vapor, metal halide, and high pressure sodium lamps.

How are mercury-containing lamps regulated?

Spent lamps, whether generated by businesses or households, cannot by law be disposed in the trash, and if possible, should be recycled. Spent lamps generated by businesses and institutions are subject to Universal Waste Management Standards contained in the Vermont Hazardous Waste Management Regulations (VHWMR) ([Subchapter 9](#)). See the fact sheet on [Universal Waste](#) for more information.

What are the options for recycling mercury-containing lamps?

The following recycling options are available to homeowners and businesses:

- Contact your local solid waste district or municipality for information about the availability of nearby collection sites or household hazardous waste collection events. Many hardware stores and other retailers offer free collection programs for smaller quantities of lamps from households and small businesses.
- Some electrical wholesale suppliers accept lamps from their customers for recycling.
- Businesses that already use a permitted hazardous waste transporter to pick up hazardous wastes may be able to ship spent lamps using that same transporter.
- Lamp recycling facilities (out-of-state) have pick-up and mail-back programs for spent lamps.

Check www.mercvt.org for more recycling information.

Are there special storage requirements for businesses?

Yes. Under the Universal Waste Management Standards, businesses are required to package lamps in structurally sound containers (boxes) that prevent breakage. Boxes or containers must be:

- Kept closed and sealed with tape once full (Do not tape lamps together);
- Labeled with words like "Universal Waste Lamps" or "Waste Lamps;"
- Stacked no higher than five feet; and
- Stored on site for no more than one year. Businesses may self-transport mercury-containing lamps to a Universal Waste Handler without a manifest.

Can the so-called "green tip" or low mercury lamps be disposed in the trash?

No. Even though some manufacturers now make lamps that are low in mercury, these lamps are also prohibited from disposal as solid waste in Vermont.

Environmental Fact Sheet: Fluorescent & HID Mercury Containing Lamps

Is crushing an acceptable method of managing spent lamps?

No. Vermont regulations prohibit the intentional breaking or crushing of mercury-containing lamps since studies have shown that even enclosed crushing devices designed specifically for lamps release a significant amount of mercury vapor. Although lamp crushing devices are commercially available for the purpose of increasing lamp storage space (decreasing lamp volume), the use of such devices is prohibited without full certification under the VHWMR. Lamps that are intentionally broken must be managed as hazardous waste.

What if a lamp accidentally breaks?

If a lamp breaks during routine handling, collect the residue (see below for safe clean-up instructions) into a container and evaluate the residue to determine if it is subject to regulation as hazardous waste under the VHWMR. If the residue exhibits the toxicity characteristic for mercury (see [VHWMR section 7-208](#)), it must be managed on-site and disposed of as hazardous waste according to applicable VHWMR requirements.

If a lamp is broken after being placed in a shipping container (e.g., box, drum, etc), the lamp should be left in the shipping container, and the container should be sealed immediately. The sealed container may still be managed as Universal Waste.

You can safely clean up a broken lamp by following the directions below:

- ✓ **DO NOT VACUUM OR SWEEP** – up the broken lamp, as this may spread any mercury vapor that is present to other rooms. Keep all people and pets away from the breakage area.
- ✓ Ventilate the room by closing all interior doors and vents, opening windows and any exterior doors in the room and leaving the room (restrict access) for at least 15 minutes.
- ✓ Remove all materials you can, and don't use a vacuum cleaner.
 - Wear disposable gloves if available
 - Carefully scoop up the glass fragments and powder with a stiff paper or cardboard (such as playing cards or index cards)
 - Pick up any remaining small pieces of glass and powder using sticky tape (such as masking or duct tape)
 - Wipe the area clean with a damp paper towel or disposable wet wipe
- ✓ Place all cleanup materials (cardboard, gloves, tape, etc.) into a glass or rigid container with a lid.
- ✓ Wash your hands.
- ✓ Leave windows in the affected room open as long as practical (weather permitting).

If the residue is determined to be hazardous waste, it must be disposed properly in accordance with the VHWMR.

For more information contact:

Vermont Department of Environmental Conservation:

Waste Management and Prevention Division
103 South Main Street, West Bldg.
Waterbury VT 05671-0404
802-241-3888

Environmental Fact Sheet



AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation

Waste Management & Prevention Division
802-828-1138

Safe Management of Household Lithium Batteries

For lithium batteries from businesses, which must be managed as hazardous waste, contact the Vermont DEC [Hazardous Waste Program](#) for requirements at 802-828-1138.

There are two types of lithium-based batteries, **Primary Lithium** (metal) and **Rechargeable Lithium Ion**. Lithium Primary batteries are starting to replace the commonly used alkaline batteries because they are longer lasting. These batteries can be found as AA/AAA, C, D, Coin/Button cell, and 9v and are usually labeled with the word "lithium". Lithium batteries are used in common household items such as flashlights, cameras, toys, and for medical devices and security systems. Lithium-Ion batteries are rechargeable and are used in vaping devices, many personal electronics such as cell phones, tablets, and laptops, E-Bikes, electric toothbrushes, tools, hoverboards, scooters, and for solar power backup storage. As the industry advances, more and more products will utilize these powerful batteries.

Lithium batteries can cause fires and even explode if managed incorrectly.

1. IDENTIFYING Lithium primary or Lithium-ion rechargeable batteries

Lithium Primary batteries **MAY** be marked "Lithium;" button/coin cells may begin with (CR###).



Lithium Primary Batteries (non-rechargeable) can be found as AA/AAA, C, D, Coin/Button cell, and 9v. They are starting to replace many common alkaline batteries because they are longer-lasting.



Lithium-Ion batteries **MAY** be marked "Rechargeable," "Lithium Ion," "Li-ION," "Li-ion," "Li-Ion", "LiPo" (lithium polymer); button/coin cell begins with (LIR###). They **MAY** or may not have a battery seal or other mark.

2. STORING/HANDLING Lithium Batteries

- Do not remove any lithium battery that is not intended to be replaceable within the product it powers (such as cell phones, vaping devices, thin laptops, and other electronic products).

Environmental Fact Sheet: Lithium Batteries

- The battery may be glued into the product. Forced removal of the battery can result in an immediate fire or explosion.
- The battery may be in silver colored, cellophane-type bags or hard-plastic casing. Tearing or puncturing the bag or crushing/penetrating the plastic casing can result in an immediate fire or explosion.
- After removing a spent battery from a product, bag it individually in a clear sealable bag or tape the terminals with clear packing tape.
 - This prevents fires resulting from contact with other batteries or other conductive materials.
 - Less-durable tapes (such as masking or cellophane tape) and open bags commonly fall off during transport.
 - Non-clear bags or tapes (such as duct tape or electrical tape) do not allow a visible identification of the chemistry of the battery when being sorted for recycling and can be a safety hazard to workers.
- Never store ANY batteries where the terminals are touching or anywhere they can come into contact with metal objects such as keys or coins.
- Consider storing large quantities of lithium-based batteries in a separate containment area or building to prevent property loss in the event of a reaction or fire.

3. HANDLING DAMAGED Lithium batteries

Do not use damaged or abused batteries.

- Store outdoors in a watertight covered container filled with sand or kitty litter.
- [Contact](#) your solid waste management district or municipality for proper management in your area.

IF a lithium battery starts to swell, smoke or catch fire

1. Do NOT touch the battery with bare hands.
2. Immediately bring the battery outside and either:
 - a. Submerge it in a container of water.
 - b. Place it in a container of kitty litter or sand.
3. [Contact](#) your solid waste management district or municipality for proper management.

4. RECYCLING Lithium batteries



Primary (single-use) lithium batteries and rechargeable lithium-ion batteries less than 11 pounds* can be recycled at one of the many free manufacturer-funded collection locations across the state. This program also accepts all AA, AAA, C, D, 9-volt, button cell, rechargeable, hearing aid batteries, and cell phones.

To find a location near you go to [Call2RecycleVT](#) or call 1-855-63-CYCLE

*For batteries larger than 11 pounds, please [contact](#) your solid waste management district or municipality.

Hybrid and Electric Vehicle Batteries

What types of batteries are found in Electric Vehicle and Hybrid Vehicles and why are they of concern?

Lithium Ion and Nickel Metal Hydride Rechargeable batteries are currently used in both Hybrid and Electric Vehicles and have high-voltage electrical systems that typically range from 100 to 600 volts. Nickel metal hydride battery packs can contain up to approximately 250 individual battery cells and lithium ion battery packs can contain up to approximately 95 individual battery cells.

Lithium Ion batteries may present a fire and explosion hazard when damaged and can also be reactive if not fully discharged. Lithium Ion batteries are increasing in use and can also be found in motorcycles, scooters, RV equipment and many other products.

Nickel Metal Hydride batteries are not reactive but contain valuable metals that can be recycled.

How are Lithium Ion and Nickel Metal Hydride batteries from businesses regulated?

Lithium Ion Battery Management

Spent lithium ion batteries that are generated by businesses can be managed by either of the following standards:

- 1) As **Universal Waste** by following the standards outlined in Subchapter 9 of the [Vermont Hazardous Waste Management Rules](#) (VHWMR) and Part 273 of the Code of Federal Regulations Title 40 (refer to the "Universal Waste" fact sheet for more information about this option).

Or

- 2) As reactive **Hazardous Waste**, following the management standards provided in Subchapter 3 of the [VHWMR](#).

Nickel Metal Hydride Battery Management

Spent nickel metal hydride batteries that are generated by businesses are not regulated as hazardous waste, but most businesses in VT choose to recycle nickel metal hydride batteries.

Best Management Practices

- ✓ Avoid stockpiling spent batteries.
- ✓ Contact the automotive manufacturer/retailer for the type of vehicle the battery has been removed from to see if they will accept for recycling.
- ✓ If an automotive manufacturer/retailer will not accept the battery for recycling, Schedule pickups with a recycling contractor at least once a year or more if needed.
- ✓ Check batteries for swelling and damage prior to storing.
- ✓ Place swollen or damaged batteries in a closed, watertight, storage container such as a five-gallon plastic (polyethylene) pail or bin. Add Sand, kitty litter, vermiculite or another fire containment material such as CellBlockEx to aid in safe storage.

Environmental Fact Sheet: Hybrid and Electric Vehicle Batteries

- ✓ Store batteries upright on an impervious surface and separate by battery type.
- ✓ Store under cover and consider storage in a separate containment area or building to prevent property loss in the event of a reaction or fire.
- ✓ When handling batteries, always wear safety equipment (e.g., gloves, apron, and eye protection).
- ✓ Keep an ABC Fire Extinguisher next to battery storage area. Class D is also recommended for extra safety with lithium ion or any lithium-based batteries.
- ✓ For shipping purposes, remember that any damaged lithium ion battery or a lithium ion battery that is over 300 watt hours is a hazardous material per Department of Transportation Code and considered highly dangerous.

How are Lithium Ion and Nickel Metal Hydride batteries from households regulated?

Although household wastes are exempt from the VT Hazardous Waste Management Regulations, all spent nickel metal hydride and lithium ion batteries, including those generated by households, should be recycled through one of the following: an automotive manufacturer/retailer, battery recycling contractor, or solid waste management entity. Contact information for [solid waste management entities](#) in VT.

For information on the recycling of other small consumer batteries such as those used in lap tops, phones, drills, toys, flashlights, etc. please see [Call2RecycleVT](#)

Resources:

Battery Recycling Contractors

[Battery Solutions](#)

[Complete Recycling Solutions](#)

[Veolia](#)

[ENPRO](#)

[Clean Harbors](#)

[Call2Recycle](#)

Solid Waste Management Entities- <https://dec.vermont.gov/waste-management/solid/local-districts>

Maintenance and Safety of Hybrid and Plug-In Electric Vehicles-Battery Maintenance

https://afdc.energy.gov/vehicles/electric_maintenance.html

Alternative Fuel Vehicles Safety Training

Training, tools, and information for emergency responders to safely handle emergencies involving alternative fuel vehicles

<https://www.nfpa.org/Training-and-Events/By-topic/Alternative-Fuel-Vehicle-Safety-Training>

Hybrid Cars.Com- <https://www.hybridcars.com/hybrid-car-battery/>

Rechargeable Battery Association

<https://www.prba.org/wp-content/uploads/Overview-of-Battery-Transport-Regulations.pdf>