

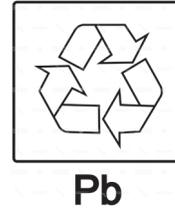
# LEAD BATTERIES

June  
2022

Lead batteries pose a great danger to the land, water and human safety when handled incorrectly. To ensure lead batteries are properly handled, the Canadian Battery Association has guidelines to help collect, store, handle, and transport lead batteries that protect the environment and minimize risk to workers.

The **Canadian Battery Association** (CBA) supports the collection of batteries from:

- Automobiles
- Snowmobiles
- All Terrain Vehicles (ATVs)
- Boats
- All motive and energy storage lead batteries
- Batteries with “Lead” or “PB” written or stamped on the casing



The *Manitoba Household Hazardous Material and Prescribed Material Stewardship Regulation* (<http://canadianbatteryassociation.ca/files/HHMPMSR.pdf>) defines the products collected through the program.

For information on recycling consumer single-use and rechargeable batteries less than 5kg, see the other pages on consumer (household) batteries.

## 1. REGISTRATION

To begin collecting and storing lead batteries you will need to contact the Canadian Battery Association (CBA) directly at: [info@canadianbatteryassociation.ca](mailto:info@canadianbatteryassociation.ca)

In addition, it is necessary to fill out an “Environmental Review Project Form” with an Environment Officer at Indigenous Services Canada (ISC) and register as a generator of hazardous waste with Manitoba to obtain a Manitoba Generator Registration Number. The CBA can help communities with these requirements.

There are important federal and provincial regulations to be followed before collecting or storing lead batteries in order to minimize risk for yourself, workers, and the environment.

Storing facilities should meet the licensing requirements as well as the applicable Fire/Building Code requirements found in the *Manitoba Regulation Hazardous Waste Regulation and the Dangerous Goods Handling and Transportation Act* (<https://web2.gov.mb.ca/laws/statutes/ccsm/d012e.php>).

Lead batteries are considered Dangerous Goods under the *Federal Transportation of Dangerous Goods Regulation* and Hazardous Waste under *Manitoba’s Dangerous Goods Handling and Transportation Act* (DGHTA). The CBA can help communities comply with these requirements.

## 2. COLLECTION & TRAINING

Lead batteries are not appropriate for residential collection and should be delivered to a storage site by the owner of the battery.

Individuals normally generate 5 kg per year per person for lead batteries. For communities with winter road access only, assume one-year storage and a storage footprint of approximately 120 square feet or seven pallets per 1,000 population. Communities with all weather road access require less than one-year storage and should assume a storage footprint of approximately 30 square feet or two pallets per 1,000 population.

Program specific training is provided by the Canadian Battery Association (CBA) and includes basic instruction on preparing batteries for storage and shipment as well as Workplace Hazardous Materials Information System (WHMIS 2015).

Operators are required by regulation to be trained in the Transportation of Dangerous Goods (TDG) including classification, documentation, containment and storage, safety marks, and spills and reporting. There is free web-based training for TDG requirements for collection site operators available from the CBA. Contact them by email at: [info@canadianbatteryassociation.ca](mailto:info@canadianbatteryassociation.ca)

Spill response training for acid in lead batteries is integrated into the Safety First Program.

## 3. STORAGE & EQUIPMENT

It is important to remember that lead batteries contain an acidic liquid that can freeze, causing battery casings to split and acid to spill. Battery acid contains dissolved lead which when exposed to humans can cause a threat to safety and poses a threat to the environment.

In order to prevent freezing, semi-heated storage is required or seasons storage from approximately April to October.

The following requirements should be considered when designing storage areas:

- An average automotive battery is 20kg and a heavy-duty truck battery is 35kg.
- Batteries must be stacked on a pallet or in a battery box (see photos on the next page). A battery box has a maximum capacity of 450 litres. A standard pallet is 48" x 40".
- Cardboard must be placed between stacked battery layers as terminal protection. Cardboard should be minimum 5/8 inch.
- Batteries stacked on pallets must be shrink-wrapped and strapped to prevent shifting during shipment.
- Each layer will weigh approximately 400kg or 20 automobile batteries.

Regulation and best practice require the storage area to include signs clearly indicating lead batteries are being stored at the location.

Each battery box or pallet of batteries requires labels indicating Class 8 corrosive material. Labels are placed on all four sides of the pallet (see photos on the next page). Labels are not the same as the placards that are required on the vehicle used to transport lead batteries.



Battery box



Stacked batteries on pallet



Labels on two sides of battery box and pallet



Lead batteries must be segregated from incompatible material (anything that will react with acid). Segregation may include secondary containment for stored batteries or a separated storage location such that any leaked or spilled battery acid cannot come into contact with incompatible material. Examples of incompatible material include alkaline material such as ammonia and oxidizing material such as bleach.

Specific equipment and supplies are required to collect and store lead batteries. Unless otherwise noted, these are the responsibility of the community.

Supplies include:

- Pallets suitable for heavy weight – typical pallet is 48" x 40".
- Cardboard to use as a layer between stacked batteries as terminal protection – 5/8" of cardboard.
- Flattened cardboard boxes are acceptable but may need to be double layered to ensure good terminal protection.
- Shrink wrap, available at shipper supply outlets for wrapping stacked batteries for shipment.
- Pallet jack, fork lift or skid steer to move and load pallets onto a truck.
- Class 8 Transportation of Dangerous Goods (TDG) labels and placards will be provided to communities registered with the Canadian Battery Association.
- Commercially available, off-the-shelf, spill kits containing neutralizing material and absorbent.
- Personal protective equipment including acid resistant gloves and safety glasses available at safety supply outlets.
- Eyewash station available at safety supply outlets.
- Tools to assist with spill clean up such as a shovel, broom and dust pan available at building supply outlets.

Signs are required by regulation indicating that hazardous waste is being stored. Storage site operators should consider signs advertising that lead batteries are collected at that location.

Best practices based on DGHTA regulations requires that a spill kit be kept in an easy-to-get-to-location at the storage site. The spill kit should contain acid neutralizing material, absorbent material and tools to clean up and contain an acid spill. "Off-the-shelf" spill kits are available at safety supply companies.

## 4. TRANSPORT & REMOVAL

Lead batteries must be shipped using the Canadian Battery Association's TDG (Transportation of Dangerous Goods) Equivalency Certificate using one or more of the three methods listed below:

- Batteries are stacked on a pallet in two layers using 5/8 inch cardboard to separate each layer and the pallet must be shrink wrapped for transport.
- Batteries can be transported in a battery box that is less than 450L.
- Batteries are transported in a "bottle truck" or truck with bracing to secure the load.

Communities with all-weather road access can make arrangements with licensed commercial battery recyclers for lead battery collection. The company will determine the appropriate transportation method and ensure the community is compliant. **Contact the CBA for a list of commercial battery recyclers in Manitoba: [info@canadianbatteryassociation.ca](mailto:info@canadianbatteryassociation.ca)**

For communities with winter-road access only, lead batteries must be shipped with a transporter approved by the CBA using methods reviewed and approved by the CBA. The transporter must be licensed in accordance with the DGHTA and shipments must meet TDGA/TDGR requirements.

*Above information current to June 30, 2022*

Here is an excellent summary ([https://tc.canada.ca/sites/default/files/2020-07/TDG\\_BULLETIN\\_-\\_SHIPPING\\_DOCUMENT\\_-\\_PDF\\_EN.pdf](https://tc.canada.ca/sites/default/files/2020-07/TDG_BULLETIN_-_SHIPPING_DOCUMENT_-_PDF_EN.pdf)) of Transport Canada's requirements for the Transportation of Dangerous Goods (TDG) with shipping documents you can print if needed.

**Your community is considered the consignor (shipper) so when you fill out and/or sign a shipping manifest, you are certifying the dangerous goods have been properly classified, packaged and labelled with safety marks according to the TDG Regulations.**

## 5. RECORD KEEPING

Best practice based on DGHTA hazardous waste facility licensing requires regular inspections of the lead battery storage area. Records must include the date of the inspection, the name of the person who conducted the inspection, observations made during the inspection, and any recommendations for remedial action and actions undertaken. Records are to be kept for a period of two years.

TDG regulations require a manifest or movement document accompanying each shipment of lead batteries from a community. Regulations require facility operators to keep manifest records for two years.

Record storage and retention are a regulatory requirement and industry best practice for most stewardship programs, as well as for waste transfer and waste disposal facilities. Record storage and retention capacity should be included in all facility design as part of the operator's shed or other area that is secure and protected from elements.

## 6. INSURANCE REQUIREMENTS

The Canadian Battery Association (CBA) needs to be named as an Additionally Insured on the Commercial and General Liability insurance. The CBA will ensure that the transporters of lead batteries have adequate insurance.

## 7. CONTACT INFORMATION

For more information on the **Canadian Battery Association's** program and to register, contact the CBA at: [info@canadianbatteryassociation.ca](mailto:info@canadianbatteryassociation.ca)

## LEAD BATTERIES COMMUNITY EXAMPLE - GARDEN HILL FIRST NATION

In February 2020, the end-of-life vehicle recycling crew at Garden Hill First Nation participated in the industry stewardship backhaul pilot program.

The goal of the backhaul was to remove a number of recyclable and hazardous materials on the winter road.

Part of that load was 4 pallets of lead batteries (about 100 batteries) from Garden Hill.

