# BEST MANAGEMENT PRACTICES

## For Managing Automotive Batteries

TIRE INDUSTRY ASSOCIATION

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Most types of batteries can be recycled. However, some batteries are recycled more readily than others, such as lead-acid automotive batteries (97% are recycled). Other types, such as button cell, standard alkaline and rechargeable batteries, can also be recycled.

Lead-acid batteries include but are not limited to: car batteries, golf cart batteries, UPS batteries, industrial fork-lift batteries, motorcycle batteries, and commercial batteries. These can be regular lead-acid, sealed lead-acid, gel type, or absorbent glass mat (AGM) batteries. These are recycled by grinding them, neutralizing the acid, and separating the polymers from the lead. The recovered materials are used in a variety of applications, including new batteries.

The lead in lead-acid batteries is regularly recycled. Elemental lead is toxic and should therefore be kept out of the waste stream.

Many automotive chains, battery specialists and automotive related distributors offer battery recycling services for lead-acid batteries. In most jurisdictions, including states in the U.S. and provinces in Canada, a refundable deposit is paid on automotive batteries. This encourages recycling of old batteries instead of abandonment or disposal with household waste. In the United States, about 97% of lead from used batteries is reclaimed for recycling.

Businesses that sell new car batteries may also collect used batteries (and may be required to do so by law) for recycling. Some businesses will accept old batteries on a “walk-in” basis (not in exchange for a new battery). Many battery shops and recycling centers will pay for scrap batteries.

In order to encourage the recycling of spent lead-acid batteries, regulators have developed special provisions for their management. These provisions apply to generators, transporters, and interim storage facility operators who manage more than ten batteries at any given time. A generator can be an operator of a retail store, auto repair shop, or service station. A transporter is a person who hauls or transports the batteries from one location to another. An interim storage facility operator is one who stores the batteries until they are transported to a battery breaker.

County and city household hazardous waste collection days will sometimes accept ten or fewer spent lead-acid batteries from homeowners. Retailers are required to accept spent lead-acid storage batteries (including damaged batteries) from consumers in exchange for the purchase of a new battery. A retailer may also accept spent lead-acid batteries from a consumer even if the consumer is not purchasing a new battery. Small businesses and other generators should check the yellow pages for battery retailers or wholesalers who will accept more than ten spent lead-acid batteries.

The disposal of spent lead-acid batteries in landfills is not allowed, and drainage of the battery fluid (electrolyte) should not be attempted.

**Definitions:**

- Spent Lead-Acid Battery (“spent battery” and a “spent lead-acid storage battery” are the same): California regulations define a spent lead-acid battery as any battery that is primarily composed of both lead and sulfuric acid, with a capacity of six volts or more, and is equivalent in type to a car battery. This includes stationary batteries. Batteries can range in size from a motorcycle battery to a forklift battery.
- Damaged Spent Lead-Acid Battery: A spent lead-acid battery is considered damaged if there is a possibility it could leak acid due to a crack, or if it is missing one or more caps.
- Packaging of Damaged Spent Lead-Acid Batteries: Battery reclaimers have recommended that damaged batteries be stored and transported in two six millimeter polyethylene plastic bags. These batteries can be transferred with intact spent batteries. If a cap is missing from a spent battery, it should be replaced.
- Labels: Intact spent lead-acid batteries and properly contained damaged batteries must be marked with either the date the battery was taken out of service or the date it was received for transport/storage. The date must be written in a weather-resistant material such as ink or paint and be legible and conspicuous.

## For Managing Automotive Batteries (continued)

**Handling and Transport** (storage and transport requirements of spent lead-acid storage batteries as discussed in Sections 66266.80 and 66266.81, Title 22, of the California Code of Regulations):

- Storage: Spent batteries must be kept inside a secure building with an intact roof that does not allow precipitation to settle on the batteries, which would result in runoff of toxic lead compounds and sulphuric acid. Storing spent lead-acid batteries outside is a violation of EPA rules and can result in severe penalties. Further, they must be protected so that short circuits are prevented and battery acid does not leak. A Bill of Lading or Hazardous Waste Manifest is to be retained for three years to record shipping.

  Generating locations and interim storage locations may not exceed the following when storing spent lead-acid storage batteries:

  More than a ton of spent lead-acid batteries for more than 180 days at one location, or less than a ton for more than a year at one location. If these quantities or time periods are exceeded, the owner or operator must declare the site as a hazardous waste storage facility and follow hazardous waste requirements.

**Transport:**

- A transporter of spent lead-acid batteries must ensure that the batteries are loaded and braced properly so as to prevent any damage, leakage of lead dust or battery fluid, or short circuits. A Bill of Lading or Hazardous Waste Manifest is to accompany the shipment and must be retained for three years to record shipment.
- Damaged batteries can be transported with intact batteries when properly contained.

For further information regarding the transport of spent lead-acid batteries, contact the U.S. Department of Transportation, Motor Carrier Safety Office.

**Special Note:**
For other household battery chemistries such as alkaline, nickel metal hydride and lithium, the rechargeable battery industry has formed the Rechargeable Battery Recycling Corporation which operates a free battery recycling program (see www.call2recycle.org) throughout the United States and Canada. The program will provide businesses with prepaid shipping containers for rechargeable batteries of all types while consumers can drop off batteries at numerous participating collection centers. The organization claims that no component of any recycled battery eventually reaches a landfill.