





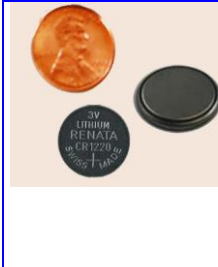


Proper Packaging for Batteries

General

There have been numerous incidents in the industry involving lithium batteries, several of which include waste facility fires, employee injuries, truck fires, retail establishment fires and consumer injuries. All such incidents have involved improper packaging and/or unsafe handling of lithium batteries. CEI's goal in providing these guidelines is threefold. First, CEI wishes to provide guidance to generators of batteries so that when the batteries are taken out of service, they are handled and packaged properly so that the generator may avoid incident at its site. Secondly, CEI needs to ensure that waste batteries are packaged properly, so that they arrive at CEI safely. Finally, CEI must ensure that its employees and facilities remain safe and without incident caused by improper packaging of batteries.

Packaging Guidelines

	<p>SEALED LEAD-ACID / GEL CELL LEAD-ACID Commonly Found In: Small Transport Vehicles, Computer Backup Power Systems On-Site Storage: Bag each battery separately or tape terminals. Packaging: Pack separately from other battery types in a UN-Rated 1H2 or 1G2 container. Do not use metal 1A2 containers for storage or packaging. DOT Description: UN2800, Batteries, Non-Spillable, 8, III (Universal Waste)</p>
	<p>DRY NICKEL CADMIUM (NI-CAD) Commonly Found In : Cordless Power Tools On-Site Storage: Bag each battery separately or tape terminals. Packaging: Pack separately from other battery types in a UN-Rated 1A2, 1H2 or 1G2 container. DOT Description: UN3028, Batteries, Dry, Sealed, n.o.s., 8, III (Nickel Cadmium Batteries – Universal Waste)</p>
	<p>NICKEL METAL HYDRIDE (NiMH) Commonly Found In: Cordless Phones On-Site Storage: Place in secure container Packaging: Pack separately from other battery types in a UN-Rated 1A2, 1H2 or 1G2 container. DOT Description: UN3028, Batteries, Dry, Sealed, n.o.s., 8, III (Nickel Metal Hydride Batteries – Universal Waste)</p>
	<p>LITHIUM ION (Li-ion) Commonly Found In: Cellular Phones, Laptop Computers On-Site Storage: Bag each battery separately or tape terminals. Ok to store with Lithium Buttons Packaging: Pack separately from other battery types in a UN-Rated 1A2, 1H2 or 1G2 container. Use vermiculite or kitty litter to cushion batteries and protect from fire or explosion. DOT Description: UN3090, Lithium Battery, 9, II (Universal Waste)</p>

	<p>LITHIUM BUTTONS</p> <p>Commonly Found In: Watches, Calculators</p> <p>On-Site Storage: Bag each battery separately or tape contact side. Ok to store with Lithium Ions</p> <p>Packaging: Pack separately from other battery types in an UN-Rated 1A2, 1H2 or 1G2 container. Use vermiculite or kitty litter to cushion batteries and protect from fire or explosion.</p> <p>DOT Description: UN3090, Lithium Battery, 9, II (Universal Waste)</p>
	<p>DRY ALKALINE</p> <p>Commonly Found In: Many Miscellaneous Devices (Includes 9V not shown)</p> <p>On-Site Storage: Place in secure container.</p> <p>Packaging: Pack separately from other battery types in an UN-Rated 1A2, 1H2 or 1G2 container.</p> <p>DOT Description: UN3028, Batteries, Dry, Sealed, n.o.s., 8, III (Alkaline Batteries)</p>
	<p>AUTOMOTIVE LEAD-ACID</p> <p>Commonly Found In: Small Transport Vehicles, Automobiles</p> <p>On-Site Storage: Tape or cap posts to prevent short-circuit. Store upright to prevent acid spills.</p> <p>Packaging: Use shrink-wrap or Nylon and secure to wooden pallet, place wood or cardboard between layers of batteries and do not stack more than 3 layers high. Do not package in UN1A2 (steel drums).</p> <p>DOT Description: UN2794, Batteries, Wet, filled with acid, 8, III (Universal Waste)</p>

Impact on Waste Acceptance

Improperly packaged batteries that make it to a CEI TSDf that are not packaged properly cannot legally be returned to the generator thus will be unpacked and properly packed ensuring all terminals are covered to prevent short circuits.

Requirements

CEI requires certification from the generator that all batteries are packed in accordance with DOT regulations and CEI approved methods. This signed certification must accompany all shipments of batteries into CEI facilities.

Impact

Improperly packaged batteries can cause serious damage in transportation or storage. They will be subject to an immediate action fee as well as labor and material costs to properly package batteries and reduce risks.

Recommendations

It is highly recommended that all batteries be properly packed prior to placement into any storage container to reduce risk while stored at your site. It is required that all batteries are packed in accordance with DOT and CEI guidelines to prevent against short circuit and shock during transportation or storage.