

Battery Safety

Joel Willard

Battery Safety

Benefits of “new technology” batteries:

Lighter-Smaller-”More power per pound”

They hold a charge for extended periods

Long lasting

Uses:

Smartphones, laptops, power tools, wearables, back-up systems, toys (drones) etc.....

Battery Safety

Cons:

They require care and “feeding”.

They have to be charged with the charge rate monitored and adjusted.

Charge controllers can fail.

Regular fire extinguishers are not effective.

They must be used within specific parameters

Battery Safety

Batteries should be stored in a dry area in closed containers or on pallets.

Dry Cell Batteries may be stored in poly-pails or 55-gallon steel drums. Lithium batteries MUST be stored in separate containers.

Dry Cell Batteries 9 volts and UNDER do not need to have the terminals taped and can be combined in the same container

Dry Cell Batteries OVER 9 volts MUST have terminals taped and put in a container containing only taped batteries over 9 volts

Lithium Batteries must have terminals taped and stored in a container with ONLY Lithium Batteries

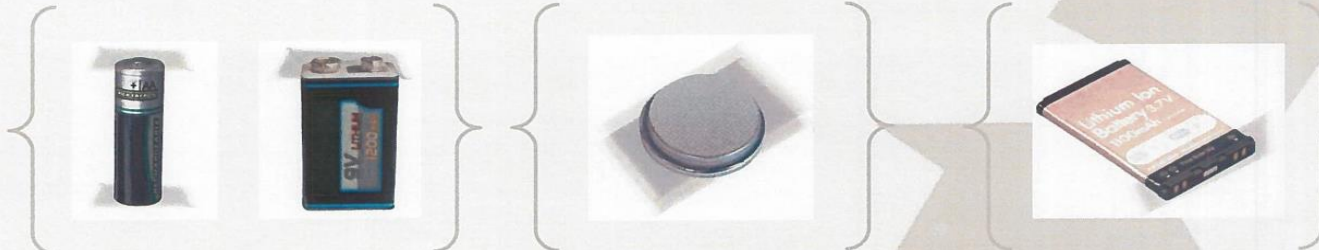
Wet cell batteries should be stored on skids with a layer of cardboard between each skid and a maximum of 3 layers. The layers should be shrink-wrapped to the pallet.

Batteries should be labeled with labels, indicated the type and date accumulated “Used Batteries”.

Battery Safety

IV. Proper Taping Methods

These rules apply **only for the batteries that need taping** (see slide 6)



Regular Terminals

Simply tape the terminals positive & negative with any kind of tape

**DO NOT TAPE
WHOLE BATTERY
TAPE TERMINALS
ONLY**

Button Cell

Some button cells do not need tape but lithium batteries need it.

**DO NOT STACK
SOME BUTTON CELLS
NEED NO TAPE**

Irregular Types

Many irregular types of batteries exist, please ask with questions.

**TAPE TERMINALS
IF POSSIBLE**



Note: Batteries **must** meet these requirements to meet regulations and avoid extra fees from Cleanlites

Battery Safety

IV. Dry Cell Requirements



Any Lithium Type

Lithium, Lithium Ion, sometimes button cells, cell phones or laptop

MUST BE TAPED

**MUST BE
SEGREGATED**

**APPLIES FOR
ALL VOLTAGES**



9V & Under

Common household batteries lithium still must be separated.

**NO TAPING
REQUIRED**

**CAN BE
CO-MINGLED**



Over 9V

Must have terminals taped. Some are already taped (see above).

MUST BE TAPED

**CAN BE
CO-MINGLED**



Note: Batteries **must** meet these requirements to meet regulations and avoid extra fees from Cleanlites

Lithium Battery

V/S Lithium (ion) Battery

Lithium Battery

- Lithium Batteries
- Free Lithium metals
- Combustible and Explosive
- Very good Power source
- Not Rechargeable
- Contain Large Amounts of Energy

Lithium (ion) Battery

- Lithium Ion Batteries
- No Free Lithium metals
- Lithium Ions & Highly Flammable Electrolytes
- Contain Large Amounts of Energy
- Rechargeable

Battery Safety



Battery Safety



Battery Safety



Battery Safety



Battery Safety



Battery Safety



Battery Safety



Battery Safety



Battery Safety



Battery Safety



Lithium & Lithium Ion Batteries

- This unit has worked great for me.
- I have learned the importance of following guidelines and take precautions as listed in the manual. (now)
- *"Caution: Cranking the engine in excess of 4 times can cause the jump starter to become very warm and possibly damage the jump starter/charger. Please handle with care and follow all safety warnings."*



Battery Safety



Battery Safety



Battery Safety



Battery Safety



Battery Safety



Questions?



Joel Willard

Facility Manager

CLEANLITES RECYCLING

195 Ben Abi Road, Spartanburg SC 29307

864.579.4800 phone 864.579.4802 fax

joel@cleanlites.com

Booth 330 (near the stage)