



## **Battery Recycling Primary Batteries Identifying Rechargeables for Recycling**

### **Non Recyclable Batteries** *(Under this program)*

#### **Primary Batteries** *(not collected or recycled by MK Battery)*

Primary batteries in many cases are termed “Household Waste” and can be disposed of as normal waste through the normal method. Warning: check state and local regulations first as some areas of the country have special requirements for primary batteries.

Alkaline Manganese Dioxide

Lithium Manganese Dioxide (Li-MnO<sub>2</sub>)

Lithium Thionyl Chloride (4LiCl)

Zinc Chloride

Carbon Zinc

Zinc & Silver Oxide

#### **Wet Batteries** *(not collected or recycled by MK Battery)*

MK Battery does not accept Wet Nickel Cadmium (NiCd) batteries for recycling.

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## **Recyclable Batteries**

### **Identifying Batteries Acceptable for Recycling:**

#### **Nickel Cadmium (NiCd)**

Batteries are marked “Rechargeable”.

Cells’ exterior color is usually white but can be other colors and will usually contain markings.

Battery configurations and packs can be in a variety of shapes, sizes and configurations. There may be no overall exterior covering on the cells or pack or there might be various external coverings from shrink-wrap to hard casings (see examples below). Some applications for this chemistry are defibrillators, otoscopes, bone saws, etc.

### **Nickel Metal Hydride (NiMH)**

Batteries are marked “Rechargeable”.

Cells’ exterior color is usually green but can be other colors and then they will usually contain markings.

Battery configurations and packs can be in a variety of shapes, sizes and configurations. There may be no overall exterior covering on the cells or pack or there might be various external coverings from shrink-wrap to hard casings (see examples below). Some applications for this chemistry are defibrillators, suction pumps, bone saws, etc.

### **Lithium Ion (Li-ion) & Lithium Ion Polymer**

Batteries are marked “Rechargeable”.

Cells’ exterior color can be several colors and they will usually contain markings.

Battery configurations and packs can be in a variety of shapes, sizes and configurations. There may be no overall exterior covering on the cells or pack or there might be various external coverings from shrink-wrap to hard casings (see examples below). Some applications for this chemistry are defibrillators, suction pumps, bone saws, etc.

### **Lead Acid (Pb)**

Batteries are usually marked “Sealed Lead Acid Non-Spillable”

Batteries come in a variety of shapes, sizes and colors. Lead Acid batteries will be the heaviest in weight for their size. Some applications for this chemistry are monitors, med pumps, infusion pumps, patient lifts, portable X-Ray and ultrasound as well as others.



### **Exterior Coverings & Cell Packs/ Cells with no Exterior Covering:**

None – Individual cells or cells tabbed or wired together to form a cell pack or configuration with no outer or a partial covering on the cell pack or configuration.



Shrink-wrap – A plastic material covering the majority of the exterior of the cell configuration or pack that is heat-formed, causing the plastic material to shrink and form tightly around the contents. These battery packs will also have terminations that could be one of the following: pressure contact, bare leads or a plug-type termination.



Various battery packs or numerous applications.

Hard Case – A rigid exterior casing usually molded to fit on or in a particular device.



Defibrillator battery (left) come in many shapes and sizes. Wireless digital phone and cellular phone batteries (right) also come in many configurations.

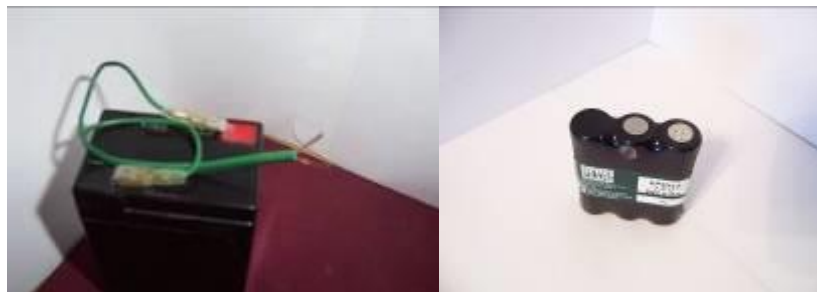
## **Safety:**

### **Short Protection**

If the batteries or battery packs for recycling contain bare wire leads, bare pressure contacts or flush as well as protruding bare tabs, they should be dealt with in the following manner to prevent shorting or short circuiting:

- 1 – Place in a plastic bag and seal the bag
- 2 – Remove tab and or cover tab or remaining contact with electrical tape or some other non-conductive material
- 3 – Cut off wire leads flush
- 4 – Cover bare wire leads with electrical tape or some other non-conductive material
- 5 – Cover terminals on sealed lead acid batteries

Bare leads or pressure contacts are potential short or short circuit hazards.



Cut off wire leads flush or cover leads and or pressure contacts with tape or some other non-conductive material to prevent short circuit hazards.



Bare terminals on sealed lead acid batteries can also be a short circuit hazard.



Cover them with terminal protectors or electrical tape or other non-conductive material.

## **Summary**

Above is derived from a general understanding of recycling rules, regulations, good practices and laws, based on sources such as manufacturers, FDOT and the EPA. We advise all users of primary batteries to check with their State & Local agencies to determine if any special restrictions apply to them and if the “Household Waste” designation applies to primary batteries in specific states, counties and local municipalities before disposing of them.