# LITHIUM-ION BATTERY SAFETY DAMAGED EV VEHICLE BATTERIES





#### **ELECTRIC VEHICLE BATTERY IDENTIFICATION & TRANSPORTATION, AFTER DAMAGE**

Automotive batteries (12v, hybrid, and EV batteries) pose a risk if **not properly prepared and transported**, **using all necessary standard operating procedures**. This **danger can be higher** if the battery systems in the vehicles have been **compromised from an accident**. Lithium-ion batteries contain high-energy and present electrical, chemical, and thermal hazards.

### **Before Vehicle Collection**



**Identify the type of car**: gas powered, hybrid electric, plug-in hybrid, or fully electric. The VIN can be used to identify the type of car. If the car cannot be identified, assume it's electric.



Hybrid electric (HEV) and electric vehicles (EV) should be **marked with** "HAZARDOUS VOLTAGE" warnings.



Transportation drivers and loader operators should be **trained of the potential dangers** with HEV / EV batteries.



HEV / EV specific personal protective equipment (PPE) should be available to all involved in the collection and intake of the vehicle.



**Qualified personnel** should assess the type of damage the vehicle has and identify any vehicle at high risk of having a compromised battery compartment.

## **During Vehicle Collection**



**Proper PPE must be** worn, and qualified personnel must be present.



HEV / EV "HAZARDOUS VOLTAGE" warning signs must be applied to multiple sides of the vehicle.



Qualified personnel should assess possible damage to batteries prior to loading the vehicle, and the transportation team should look for physical damage and symptoms (fire, discoloration of voltage cables).

## Vehicle On-Site and Check-In



Follow vehicle manufacturer's process to make the vehicle electrically-safe.



Remove hazardous voltage battery master disconnect service plug and zip tie it to the steering wheel.



HEV / EV should be placed in a segregated area awaiting final dismantling.



Removed high voltage batteries must be **safely stored** to prevent risk of thermal events.