

Procedures – Handling Damaged Lead Acid Batteries

CAUTION: Batteries contain acid. This substance, H_2SO_4 , is a corrosive, colorless liquid that will burn your eyes, skin, and clothing. The team mentor and safety captain should post the material Safety Data Sheet (MSDS) and train all team members about battery safety. You can find Emergency handling and first aid on the MSDS, proper protection for handling cracked or damaged batteries, and information on disposal of the battery.

General Damaged Battery Information/Warnings

- Any battery that is visibly damaged in any way is dangerous and unusable, and should be set aside and handled accordingly because:
- It contains stored electrical energy that could cause the battery to rapidly heat up due to an internal electrical short circuit, and possibly explode.
- The 12V batteries *FIRST* provided in your Kit contain sulfuric acid that will burn human tissue on contact.
- Immediately flush any contacted skin with a large quantity of water
- Seek medical treatment
- Don't take a chance. Don't use it.
- Treat it as a hazardous material and process it in accordance with the battery's MSDS.

kellrobotics

Necessary Safety Materials

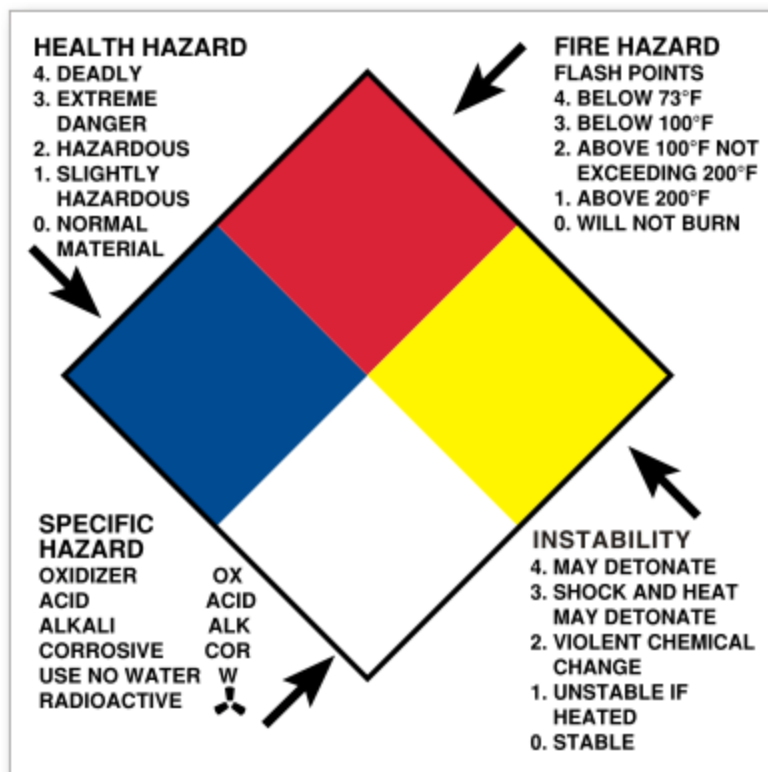
- A box of bicarbonate of soda to neutralize any exposed acid electrolyte.
- A pair of acid-resistant rubber or plastic leak-proof gloves to wear when handling a leaking battery.
- A suitable non-metallic leak-proof container in which to place the defective battery.

Procedure for Handling a Battery when an electrolyte leak occurs:

- Neutralize it by pouring the bicarbonate of soda on all wetted surfaces. The bicarbonate of soda itself is not dangerous, and will react with the acid in the electrolyte leaving a safe residue that can be disposed of in a conventional manner such as rinsing with water.
- Put on the gloves before handling the battery.
- Place the battery in the leak-proof container for removal.
- Be sure to neutralize any acid on the gloves before removing and storing them.
- Follow emergency handling instructions of the MSDS, and notify mentor.
- Seek medical attention.
- Properly dispose of the battery, which is now a hazardous material.

At a *FIRST* event:

- Immediately send any person in contact with acid to the First Aid Station/EMTs
- Report incident to the Pit Administration Supervisor so he/she can fill out an Incident
- Report. Provide team number and available information.
- Carefully sprinkle the sodium bicarbonate on the spill, then clean it and dispose of the now-neutralized cleanup materials in the trash.
- Dispose of the battery properly. Read below.
- Secure damaged battery and dispose of at an approved recycler.



Prior to removing the battery disposal container from area, mark as follows:

- BLUE BOX 2
- WHITE BOX ACID
- RED BOX 0
- WHITE BOX 0