

How to Safely Handle a Battery Event:

Hot Cell or Pack

- As soon as a hot cell is detected, alert people in the vicinity of the cell or pack then completely evacuate the area.
- Periodically monitor the temperature of the cell with a remote sensing probe for the first two hours or until one of the three following situations occur:
 - 1) The cell/pack starts to cool
 - 2) The cell/pack vents; or
 - 3) The cell/pack explodes.
- If the cell/pack starts to cool, monitor the temperature once per hour until it returns to ambient temperature.
- If remote sensing equipment is not available, DO NOT handle the cell/pack for a period of 24 hours.
- Remove the cell/pack from the work area once it has cooled and return to normal operations.
- Dispose of Properly.

Cells or Packs That Have Vented

- Evacuate all personnel from the area that is affected by the gas from the venting cell/pack.
- Ventilation should be initiated until the cell/pack is removed from the area and the pungent odor is no longer detectable.
- If the cell vented as a result of excessive heating is must be allowed to cool before handling.
- Before handling the cell/pack put on protective gear: Lab Coat or Apron, Goggles or Face Shield, Rubber Gloves and Respirator if needed. **(DO NOT handle the cell/pack if it is still hot! If in direct sunlight, try to shade the cell/pack.)**
- Cover with Baking Soda to neutralize any spilled electrolyte. Remove cell/pack to an isolated and/or well-ventilated area when it is no longer actively outgassing.
- Place the cell/pack into a plastic tube or bag and cover with baking soda to help neutralize the acids. Eliminate excess air and seal bag.



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- Place this package into a second sealable package and cover with vermiculite or other material suitable to absorb moisture (cat litter). Eliminate excess air and seal the bag.
- Absorb and/or neutralize spilled electrolyte with baking soda.
- Sweep contaminated baking soda into a sealable plastic bag for disposal.
- Clean the area with copious amount of water and an ammonia based cleaner to further neutralize any remaining acids.
- Dispose of cell/pack and all contaminated material in accordance with all applicable regulations.

Cells or Packs That Have Exploded

- Evacuate all personnel from the area that is affected by the smoke from the exploded cell/pack.
- Ventilation should be initiated until the cell/pack is removed from the area and the pungent odor is no longer detectable.
- The exploded cell may still be hot. It must be allowed to cool before handling.
- Before handling the cell/pack put on protective gear: Lab Coat or Apron, Goggles or Face Shield, Rubber Gloves and Respirator if needed. **(DO NOT handle the cell/pack if it is still hot!)**
- If there are fires present, contain the fires first before proceeding. At this point most of the lithium will have been consumed, but there is still a slight possibility of having pieces buried in the debris. Turn over the material slowly to expose and then extinguish any subsequent fires created.
- The area surrounding the cell/pack may be covered with a black carbonaceous powder along with metal shards from the cell(s). Cover the area with a 50/50 mixture of Baking Soda and Vermiculite.
- Sweep the material into a central pile making sure not to create dust as you clean. Place contaminated mixture into a sealable plastic bag. Remove excess air and seal bag. **(NEVER pack metal fragments into containers with live cell(s) as this could result in a short-circuit!)**
- Seal the plastic bag into a class jar or wooden crate and dispose of properly.
- Clean the area with copious amounts of baking soda/water solution or and ammonia based cleaner. Follow up with soapy water.