

Lithium-Ion Safety

The Li-Ion Battery is inherently safe if battery pack is properly designed

- ◆ Li-Ion cells do not have metallic Lithium in them and are, therefore, inherently safer than Lithium cells. Li-Ion cells do not outgas; they can be charged and discharged in air-tight containers.
- ◆ The Li-Ion cell has a shutdown separator in it that prevents internal current flow if the cell temperature gets within about 20° of thermal run away (~130°C).
- ◆ PTCs are mounted to the cells to limit high external currents and external current flow at high temperatures.
- ◆ Pack protect circuits, PTCs, shutdown separators, etc. (developed for mass consumer use) provide several layers of safety not available in other chemistries.
- ◆ All cells sold by SWE are qualified by manufacturer to UL 1642 requirements. SWE has more than 6 years experience and uses proprietary construction methods for building safe battery packs that operate in extreme environments.

Li-Ion Battery Transportation Safety

- ◆ Until 2003, there were no DOT restrictions on transportation of Li-Ion cells or batteries. However, beginning in 2003/2004, the DOT required battery packs to pass new DOT tests. This requirement is exempted for small and prototype battery packs. SWE's Pow-R Tote™ line of large Li-Ion battery packs has passed DOT tests.