

# Battery Safety Requirements

2019 RoboSub

[www.robosub.org](http://www.robosub.org)

## Background

Teams are required to understand and follow battery safety best practices based on the battery chemistry selected by the team. Lithium-ion chemistry batteries may become damaged and create a hazard if misused/abused, representing the greatest risk to people, facilities, and the environment. Therefore, the safety rules and requirements outlined in this document must be followed to participate in the competition.

## Rules and Requirements

1. Students must submit a copy of their battery specifications, safety information, and safe disposal instructions for all batteries.
2. In addition to the online submission, students must keep a hard copy of their submitted documentation for all batteries (lithium ion, auto / motorcycle, etc.) in their Team tents (on-site) at all times for reference.
3. **Students must bring a LiPo safe bag(s) adequate for the lithium batteries they are using. LiPo bag(s) must be available at the competition and the hotel.**
4. Note that Li-Po (Lithium Polymer) battery packs need safety and balancing circuits and must be labeled HAZMAT when shipped.
5. Each team must understand and follow both their own country's regulations as well as those of the host nation.
6. All batteries shall be stored, used, and maintained in accordance with manufacturer guidelines.
7. Students are required to inspect their batteries daily for signs of swelling, heat, leaking, venting, burning or any other irregularities.
  - a. Lithium batteries that become too warm during use or have become swollen or malformed must be removed from use and reported to the Technical Director.
  - b. Lithium batteries which do not hold a charge should be removed from use and reported to the Technical Director.
8. **A team member must be present to monitor charging batteries.**
9. At the competition site, students must immediately notify the Technical Director or a staff member if any issues arise with batteries and must provide the battery specifications and safety information.
10. At the hotel, if a battery irregularity occurs at any time, students must **notify Cheri Koch immediately by phone at 850-642-0536** and have battery specs / safety information available.
11. Failed or Failing Lithium ion batteries handled in accordance with the manufacturer's safety and disposal guidelines. This may include placing the battery in a LiPo safe bag, which will then be placed in a 5-gal bucket, covered with sand and placed in a designated safety zone.

**TEAMS NOTE: Contact Cheri Koch with any questions at 850-642-0536 or [ckoch@robonation.org](mailto:ckoch@robonation.org).**