Important Safe Use Document for Lithium Polymer Batteries Including Thunder Power RC LiPolys

WARNING: You must read and understand before charging or using your lithium polymer battery. Failure to read and follow the below instructions may result in fire, personal injury and damage to property if charged or used improperly. If you do not agree with these conditions, return the lithium polymer battery immediately and before any use.

The following terms all mean "Lithium Polymer Battery"

- Lithium Polymer
- Li Polymer
- LiPoly
- LiPolys
- Li Poly
- Li-Poly
- LiPo
- Li Po
- Li-Po

IMPORTANT SAFETY INSTRUCTIONS AND WARNINGS:

- **You must read and understand these safety instructions and warnings before using or charging your lithium polymer batteries.**
- Lithium Polymer batteries are volatile. Failure to read and follow the below instructions may result in fire, personal injury and damage to property if charged or used improperly.
- Thunder Power, its distributors or retailers assume no liability for failures to comply with these warnings and safety guidelines.
- By purchasing this battery, the buyer assumes all risks associated with lithium batteries. If you do not agree with these conditions, return the battery immediately before use.

General Guidelines and Warnings:

1. Use specific Lithium Polymer charger only. Do not use a NiMH or NiCd charger - Failure to do so may a cause fire, which may result in personal injury and property damage.
2. **Never charge batteries unattended.** When charging LiPo batteries you should always remain in constant observation to monitor the charging process and react to potential problems that may occur.
3. Some LiPo chargers on the market may have technical deficiencies that may cause it to charge the LiPo batteries incorrectly or at an improper rate. It is your responsibility solely to assure the charger you purchased works properly. Always monitor charging process to assure batteries are being charged properly. Failure to do so may result in fire.
4. If at any time you witness a battery starting to balloon or swell up, discontinue charging process immediately, disconnect the battery and observe it in a safe place for approximately 15 minutes. This may cause the battery to leak, and the reaction with air may cause the chemicals to ignite, resulting in fire.
5. Since delayed chemical reaction can occur, it is best to observe the battery as a safety precaution. Battery observation should occur in a safe area outside of any building or vehicle and away from any combustible material.
6. Wire lead shorts can cause fire! If you accidentally short the wires, the battery must be placed in a safe area for observation for approximately 15 minutes. Additionally, if a short occurs and contact is made with metal (such as rings on your hand), severe injuries may occur due to the conductibility of electric current.
7. A battery can still ignite even after 10 minutes.
8. In the event of a crash, you must remove battery for observation and place in a safe open area away from any combustible material for approximately 15 minutes.
9. If for any reason you need to cut the terminal wires, it will be necessary to cut each wire separately, ensuring the wires to not touch each other or a short may occur, potentially causing a fire.
10. To solder a connector: Remove insulating tape of Red wire and solder to positive terminal of a connector, then remove insulating tape of Black wire and solder to the negative terminal of connector. Be careful not to short the wire lead. If you accidentally cause the battery to short, place it in a safe open space and observe the battery for approximately 15 minutes. A battery may swell or even possibly catch fire after a short time.

11. Never store or charge battery pack inside your car in extreme temperatures, since extreme temperature could ignite fire.

Charging Process:

1. **Never charge batteries unattended.**
2. Charge in an isolated area, away from other flammable materials.
3. Let battery cool down to ambient temperature before charging.
4. Do not charge batteries packs in series. Charge each battery pack individually. Failure to do so may result in incorrect battery recognition and charging functions. Overcharging may occur and fire may be the result.
5. When selecting the cell count or voltage for charging purposes, select the cell count and voltage as it appears on the battery label. As a safety precaution, please confirm the information printed on the battery is correct.
    a. Example: The label on a 2-Cell battery pack in series will read – "Charge as 2-Cell (7.4V), or may cause fire" – You must select 2-Cell for charging.
    b. Example: The label on a 3-Cell battery pack in series will read – "Charge as 3-Cell (11.1V), or may cause fire" – You must select 3-Cell for charging.
6. Selecting a cell count other than the one printed on the battery (always confirm label is correct), can cause fire.
7. You must check the pack voltage before charging. Do not attempt to charge any pack if open voltage per cell is less than 3.3v
   Examples:
    a. Do not charge a 2-cell pack if below 6.6v
    b. Do not charge a 3 cell pack if below 9.9v
8. You must select the charge rate current that does not to exceed 1C (one times the capacity of the battery). A higher setting may cause fire. The below chart is calculated at 1 x capacity of pack.
   Examples:
    a. 730 mAh: Charge below 730 mA
    b. 860 mAh: Charge below 860 mA
    c. 1320 mAh: Charge below 1.32 Amps
    d. 2100 mAh: Charge below 2.1 Amps
    e. 8000 mAh: Charge below 8 Amps

First Discharge: Keep to 6-minute sessions with 15-minute breaks.

Storage & Transportation:

1. Store battery at room temperature between 40 and 80 degrees F (4 and 27 degrees C)for best results.
2. Do not expose battery pack to direct sunlight (heat) for extended periods.
3. When transporting or temporarily storing in a vehicle, temperature range should be greater than 20 degrees F (-7 degrees C) but no more than 150 degrees F (66 degrees C).
4. Storing battery at temperatures greater than 170 degrees F (77 degrees C) for extended periods of time (more than 2 hours) may cause damage to battery and possible fire.

Caring For Your Lithium Polymer Battery:

1. Charge battery with good quality Lithium Polymer charger. A poor quality charger can be dangerous.
2. Set voltage and current correctly (failure to do so can cause fire).
3. Please check cell voltage after the first charge.
   Examples:
    - 1-Cell: 4.2V (4.15 to 4.22)
    - 2-Cell: 8.4V (8.32 to 8.44)
    - 3-Cell: 12.6V (12.48 to 12.66)
    - 4-Cell: 16.8V (16.64 to 16.88)
    - 5-Cell: 18.5V (18.30 to 18.60)
4. Do not discharge battery to a level below 3V per cell under load. Deep discharge below 3V per cell can deteriorate battery performance.
5. Use caution to avoid puncture of the cell. Puncture of cells may cause a fire.

Operating Temperature:

- **Charge:**
  - 32 to 113 degrees F (0 to 45 degrees C)
  - Let battery cool down to an ambient temperature before charging.
- **Discharge:**
  - 32 to 140 degrees F (0 to 60 degrees C)
  - During discharge and handling of batteries, do not exceed 160 degrees F.
- **Battery Life**
  - Batteries that lose 20% of their capacity must be removed from service and disposed of properly.
  - Discharge the battery to 3V/Cell, making sure output wires are insulated, then wrap battery in a bag for disposal.