

High Temperature Lithium Thionyl Chloride Battery / Battery Pack Safety Handling Guideline

1. Scope

1. This document applies to High Temperature Lithium Thionyl Chloride Battery and Battery Pack supplied by Akku Tronics Technology Co., Limited.

2. Battery Type

High Temperature Lithium Thionyl Chloride Battery/Battery Pack

3. Chemical Composition

The battery and battery pack do not contain heavy metal, such as Pb, Cd, Hg, the main composition is shown in below table.

Material	Formula	CAS#	% wt.
Lithium	Li	7439-93-2	<5%
Thionyl Chloride	SOCl ₂	108-32-7	<47%
Carbon	C	1333-86-4	<6%
Aluminum Chloride	AlCl ₃	7446-70-0	<5%
Lithium Chloride	LiCl	7447-41-8	<2%
PTFE	—	9002-84-0	<1%
Epoxy resin	—	38891-59-7	<1%

*Electrolyte is strong acidic, corrosive and irritant.

4. Installation and Usage

4.1 Battery/ Battery pack inspection

- a. check if the battery package is damaged, handle with care during removals.
- b. check the appearance of battery / battery pack, make sure battery is no scratch, swell, or deformation, no sign of corrosion or leakage, all marking should clear and readable.

4.2 Battery/ Battery pack Installation

- a. clean the installation position, make sure no dust, metal objects or other blockage.
- b. check battery / battery pack positive and negative, place the battery / battery pack at the installation position, connect the battery / battery pack's connector or wires with equipment, make sure the battery is not connected reversely.

In case of battery / battery pack with tabs, place the battery / battery pack at the installation position, solder the tabs of battery / battery pack and fix on the equipment instantly. Avoid long time handling during soldering, which leads to battery / battery pack heat, trade mark burnt, over soldering tin.

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- c. Handle with care, do not treat the battery/battery pack by force.
 - d. After battery / battery pack installation, check if battery / battery pack loose or drop.
 - f. Pre-start the equipment, observe if the battery / battery pack works properly.

5. Storage

batteries should be stored in a cool, clean, dry environment, the recommended temperature is $\leq +30^{\circ}\text{C}$, relative humidity $\leq 70\%$, should avoid contact with corrosive materials, away from fire and heat.

6. Safety

During usage of lithium battery/ battery packs, comply with the following provisions.

- Before use, do not remove the battery from the original packaging.
- Do not put the battery/battery pack scattered together to avoid accidental short circuit.
- Do not heated above 150°C or incinerate.
- Do not recharge the battery.
- Do not solder directly on the battery. Solder on the tabs or wires of the battery/battery pack
- Do not mix new and used batteries or different brand batteries
- Do not disassemble the battery/battery pack.
- Do not short circuit the battery or install on equipment with the positive and negative reversely.
- Do not store the battery/ battery pack with metal objects or corrosive material.
- Properly insulate the battery/ battery pack after usage to avoid short circuit.

7. Common malfunction and solutions of the battery/battery pack

7.1 After installation, equipment does not work properly

Possible reasons: battery passivation or false connection

Solution: make sure battery / battery pack connect with equipment properly, start equipment for 10 mins to depassivate the battery / battery pack. Observe equipment operation status until the battery voltage goes up to equipment operational voltage and stay stable.