

What causes lithium battery exploding

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You might have noticed that there are several fire or explosion accidents caused by lithium battery. Are you curious about the reasons? Will lithium battery really cause explosion? Yes, lithium battery will explode in certain circumstances. Thus you should take care of it while using.

Due to the chemical properties of lithium-ion batteries, when we overcharge the battery, the negative electrode of the lithium battery cannot be embedded with more lithium ions. And the lithium ions precipitate with lithium metal on the surface of the negative electrode, causing the phenomenon of dendrite lithium. When the dendrite lithium grows to a certain extent, it will pierce the diaphragm, causing a short circuit inside the battery. And also the dendrite lithium will damage the isolation film. Eventually, an internal short circuit will also occur, causing a safety accident.

Therefore, when we use lithium batteries in our daily lives, we should try our best to avoid short circuits or overcharges. However, for most current digital products, the internal charging circuit will be equipped with corresponding protection IC to avoid overcharging of lithium batteries. When the protection circuit detects that the lithium battery has reached full power, it will automatically cut off the charging circuit.

Compared with short-circuiting and overcharging, piercing lithium batteries is also a very unwise approach. If the lithium battery is pierced by any hard object, the lithium ions inside it will directly react chemically with the oxygen in the air, and it will also burn violently.

For lithium batteries themselves or other electronic products that contain lithium batteries inside, we usually see eye-catching trash can signs. If lithium batteries are discarded at will, they will not only cause environmental pollution, but also be more prone to fire and other situations during garbage disposal.

High temperature or fire burning can also cause the explosion and combustion of lithium batteries. Especially in the hot summer or long-term exposure to the sun in the car, the ambient temperature of the lithium battery will be higher than its normal storage temperature.

Although lithium batteries explode and burn for a relatively long time when they are directly roasted by fire, there will still be a sudden increase in their internal pressure, which is what we often call swelling.

When our mobile phone batteries or other lithium-ion batteries is swelling, the power supply should be cut off immediately and stopped to prevent further internal pressure from increasing, and replace the batteries with new ones.

When the charging voltage to be greater than 5V which is caused by that the protection circuit or the detection cabinet are out of control, the electrolyte will decompose. Violent reactions occur inside the battery. The

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battery will explode because of the increasing pressure.

2.Over-current explosion(Rarely Occurs)The protection circuit or the detection cabinet are out of control, causing the charging current to be too large, causing the lithium ions to be too late to be embedded, and the lithium metal is formed on the surface of the electrode sheet, penetrating the diaphragm, and the positive and negative electrodes are directly shorted, causing an explosion (rarely occurs).

If the protection circuit or the detection cabinet are out of control, lithium ions will be too late to embedded in cathode. And the lithium ions will form lithium on the surface of the electrode sheet. Then the metal will pierce the diaphragm. Short circuit occurs, explode.

When ultrasonic welding the plastic shell, the ultrasonic energy is transferred to the battery cell due to equipment reasons. The ultrasonic energy is very large. The internal diaphragm of the battery melts, and the positive and negative electrodes are directly shorted, resulting in an explosion.

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