Battery Care

Videos

Folder

Recommended Batteries

Power Banks (Suits, Larger wearables)

- Anker - US
- INIU - US

Boas:

- smaller INIU - US
- lower cost/higher risk (has not been tested) - US

Safety Videos:

Lithium Ion Battery Safety

⚠️ A Quick Note on Battery Safety

It's important to understand that lithium-based batteries can be volatile and carry certain risks if not handled properly. While I'm happy to share what I've learned, I'm not a certified expert — this guide is meant as a starting point only. Please do your own research and stay up to date, as best practices continue to evolve. Use this as a basic resource to help you get oriented, but always prioritize safety and consult trusted sources when in doubt.

⚡ Voltage Compatibility Matters

Always ensure that your **power supply voltage matches the requirements of both your controller and LED strip**. Using the wrong voltage can permanently damage your gear or create a serious safety risk.

🔌 **Only use 5V batteries for 5V LEDs and controllers - my products currently only use 5V.**
🔌 **Only use 12V batteries for 12V LEDs and controllers**
🚫 **Never mix voltages** — for example, connecting a 12V battery to a 5V controller could fry the components or cause overheating.

When in doubt, **refer to your controller's manual or spec sheet** to confirm what voltage it supports. If you're using a step-down converter or voltage regulator, make sure it's rated appropriately for the power draw of your LEDs.

Recommended Batteries:

Anker - If you're using anything with a USB-A cable, make sure your power bank has USB-A "OUT" as some power banks now only have USB-C "OUT".

If your product requires 18650 batteries, please use these. You will need to use an unprotected button-top cell from a reliable source. Protected cells are typically longer and will not fit properly in the battery housing.

🔋 Battery Safety Disclaimer

Important: You are fully responsible for the care, maintenance, and safety of your own batteries. While I provide links to trusted sources for recommended batteries, all lithium-ion batteries are inherently volatile and require proper handling.

- Use only the recommended battery type and voltage. (Refer to your controller manual for specific battery compatibility.) For example, only use 5V batteries for 5V LEDs and controllers. Never mix 12V with items that require 5V.
- Never leave batteries charging unattended.
- Do not use damaged batteries or overcharge them.
- Use only genuine 18650 lithium-ion cells and compatible chargers.
- Always store and transport batteries in a fire-safe container.
- Avoid overcharging, discharging below safe voltage, or using damaged cells.
- Never charge batteries unattended.
- Store and transport batteries in a proper fire-safe container (e.g., purpose-made charging bag or metal box).
- Always remove the battery when item is not in use (for removable batteries only).
- Use only the recommended battery type and voltage. (Refer to your controller manual for specific battery compatibility.)
- Charge batteries in a safe location, never unattended.

- Do not allow batteries to fully discharge regularly—this can reduce battery lifespan.
- If the battery becomes hot, swollen, or damaged, stop using it immediately and dispose of it safely.

Recommended Safety Measures (especially for performers or events):

- Keep a **bucket of sand** nearby during rehearsals or performances.
- It is also strongly advised to have a **Class D fire extinguisher** or a **fire extinguisher rated for lithium-ion battery fires** on-site.
- Include a request in your performer rider to have sand or a **fire extinguisher rated for lithium-ion battery fires** on-site.
- Place sand or granulate near your charging station, and/or near the stage/wherever you will be using said batteries.
- Keep batteries in a certified fire-safe bag or case when staged or transported.

What should I do if a battery fails (catches fire)?

The most important thing you can do is **get yourself and others to safety**. Battery fires can escalate quickly, and the safest course of action is to **leave it to the professionals**.

There *are* fire extinguishers rated for lithium battery fires, but unless you are trained and equipped to handle one, **do not try to fight the fire yourself**. Your priority should be distance and calling emergency services immediately.

Signs of battery failure:

- Smoke
- Flames
- Swelling, heat, or hissing sounds (these may precede combustion)

If a fire occurs:

- 🔥 *Only if it's safe to do so,* remove the battery pack
- 👚 If the battery is in a wearable: remove the wearable and distance yourself from it. If you have a sand bucket nearby, drop the battery in
- 🎪 If the battery is in a prop: **do not try to remove it** — drop the prop and move away
- 📞 Call emergency services ASAP

- ❗ Any time spent trying to handle the fire is time taken from trained professionals who know how to contain it properly

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Additional resources:

If you've received training in battery fire management and feel confident engaging, I've included some links below. Please understand there's conflicting advice out there — especially around extinguisher types — so proceed only if you're knowledgeable and accept the risks.

While Class D extinguishers are designed for metal fires (including lithium), most consumer-grade extinguishers do **not** handle lithium-ion battery fires effectively. Instead, look for **lithium-ion-rated extinguishers**, such as those using **clean agent suppression (like Halotron or FE-36)** or **AFFF (aqueous film-forming foam)**.

Fire Extinguisher Types:

- **Class D fire extinguishers** (for combustible metals) **do NOT cover lithium-ion battery fires**—these are chemical and may reignite if treated with traditional Class D powders Amazonpe.mcwane.com+8fullcirclelithium.com+8The Home Depot+8NFPA+5Wikipedia+5herbertwilliams.com+5.

- Look for **lithium-ion-rated extinguishers**, such as those using **Aqueous Vermiculite Dispersion (AVD)** or **water-based lithium fire agents** like the **FCL-X™ system**, which meet standards such as **UL ULC** and the **Dutch NTA 8133 standard** Cruising Solutions+4Newswire+4fullcirclelithium.com+4.

Examples available in Canada:

- **AVD Fire Extinguishers** (water-based, lithium-ion rated) sold by Canadian suppliers ICC Compliance Center Inc - USA+12herbertwilliams.com+12firefightingincanada.com+12.

- **FCL-X™ lithium-ion fire extinguisher**, certified under NTA 8133 and recognized by UL in Canada and the US fullcirclelithium.com+3Newswire+3sustainablebiz.ca+3.

Optional Additional Safety Products:

- **Extover® fire extinguishing granulate**: a Class D and lithium-safe suppressing agent made from recycled glass, suitable for buffering or absorbing thermal energy around batteries Amerex Fire Systems+8ICC Compliance Center Inc - USA+8pe.mcwane.com+8.

- **CellBlockEX mineral media**: a fire-blocking granular material effective in preventing propagation of lithium battery fires CellBlock FCS+1Newswire+1.