

# Wisepill Technologies Battery Safety Guidelines V2.3

Updated 2 April 2024. This supersedes previous guidelines.

Only high-quality batteries are used by Wisepill Technologies, and we take exceptional care to ensure the safety of our products and clients.

The Wisepill pill dispensers and pillboxes make use of Lithium-Ion battery technology.

Please note the following important information:

- **HOWELL BATTERIES** – From 2019 Wisepill standardized on **Howell Energy Batteries**. The manufacturer has confirmed that their batteries can be safely used for **more than 10 years** (the battery capacity will reduce over time, but the battery will remain safe to use).
- **UNIROSS BATTERIES** - A limited number of UNIROSS batteries were distributed which are now older than 4 years. This battery type has been discontinued. The UNIROSS batteries should therefore no longer be used.
- **EEMB BATTERIES** – A small number of EEMB batteries were distributed which are now older than 4 years. This battery type has been discontinued. The EEMB batteries should therefore no longer be used.

## Important Safety Advice

- If batteries show any signs of swelling (puffing up) they should be disposed of safely.
- If batteries show any signs of damage or punctures, they should be disposed of safely.
- Never charge, discharge, use, or store a damaged or puffy Lithium Polymer battery.

## Battery Charging

- Wisepill batteries must only be charged with USB chargers which are designed to charge cellphone batteries.
- A battery can be safely stored at full charge.

## Handling and Storage

- It is recommended that staff disconnect batteries in devices if they will not be used for more than 1 month.
- It is best to store batteries in their original containers in a cool place.
- Keep Lithium Polymer battery packs well out of reach of children.
- Do not put battery packs in pockets or bags where they can short circuit.
- Do not store or transport batteries where they can come into contact with sharp or metallic objects.
- Do not store your Lithium Polymer pack in extreme temperatures below 0C or above 50C.
- Always store your Lithium Polymer pack in a safe and non-flammable container away from flammable objects.
- Do not immerse the battery in water or allow the battery to get wet.
- Do not dispose of in fire or heat.
- A Lithium Polymer fire is a chemical fire. Always keep a Class D fire extinguisher near your battery charging/discharging and storage area.

## Using the Multi-charger

- For charging batteries outside of the pillbox, only use the Wisepill-approved multi-chargers.
- If the multi charger has a rotary dial for setting the charging current on each charging port. We recommend that this is not set higher than 0.5 Amp.
- Always charge Lithium Polymer batteries on surfaces that will not catch on fire such as cement, steel, ceramic, or stone. Wooden tables and carpeted floors are not recommended charging surfaces.
- Do not charge batteries near flammable products or liquids.
- Never leave a charging Lithium Polymer battery pack unattended.
- If you notice your battery pack is swelling, stop the charging process immediately, put the battery in a safe container, and observe it for 15 minutes.

## Swollen Batteries

According to the battery manufacturer, Howell Energy, there are a few reasons why swelling can occur in previously normal Lithium Polymer batteries:

- **Over charging.** The Howell battery contains an internal circuit that prevents over-charging, so swelling should not occur.
- **Over discharging.** The Howell battery contains an internal circuit to prevent discharging below 3V. But, if a battery is left in a device after a patient has completed their treatment or if it is stored at a very low voltage, the battery may continue to discharge at a slow rate, and over a prolonged period, it may be compromised. Charging a battery that has been discharged below 3V can lead to swelling.
- **Exposure to a high temperature.** It is best to store batteries in their original containers in a cool place. Do not store the Lithium Polymer pack in extreme temperatures below 0C or above 50C.