

Li-Po Material Safety Data Sheet

SECTION I - IDENTIFICATION

Product Name: Lithium Polymer battery

Chemical Systems: LiCoO₂/C

Designed for Recharge: Yes

Commercial brand: FULLWAT

Supplier:

UKAI, S.A.

Ribera de Elorrieta 7C

ES-48015 Bilbao

Bizkaia, Spain

Telephone Number for Information: +34-944745252

SECTION II - COMPOSITION

| INGREDIENT | CAS number | % Weight |
|------------------------|------------|----------|
| Cobalt lithium dioxide | 12190-79-3 | 31.6% |
| Aluminium | 7429-90-5 | 28.8% |
| Graphite | 7782-42-5 | 17.1% |
| Organic electrolyte | N/A | 13.2% |
| Cooper | 7440-50-8 | 6.5% |
| Polypropylene | 9003-07-0 | 2.8% |

Weight of metallic lithium per cell: 0g. There is no metallic lithium in the lithium polymer battery.

SECTION III - HAZARDOUS INGREDIENTS

IMPORTANT NOTE:

The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

SECTION IV – FIRST AID MEASURES

Under normal conditions of use, the battery is hermetically sealed and release of ingredients does not occur. If accidental release occurs precautions must be taken to avoid personnel to get in direct contact with electrolyte.

Inhalation:

Contents of an open battery can cause respiratory irritation. Provide fresh air. Rinse mouth and nose with water. Seek medical attention. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Skin Contact:

Contents of an open battery can cause skin irritation and/or chemical burns. Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention. Wash clothing and shoes before reuse.

Eye Contact:

Contents of an open battery can cause severe irritation and chemical burns. Immediately rinse eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

Ingestion:

Swallowing a battery can be harmful. Call your local poison control centre for advice and follow-up.

Contents of an open battery can cause serious chemical burns of mouth, oesophagus, and gastrointestinal tract. If the injured is fully conscious make victim vomit. Seek immediately hospital treatment.

SECTION V – FIRE-FIGHTING MEASURES

If fire or explosion occurs when batteries are on charge, shut off power to charge.

Extinguishing media:

Small fire: Class D-Dry chemical powder, CO₂, water spray or regular foam.

Large fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

Special exposure hazards:

Cells can be overheated by an external source or by internal shorting. Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium iron phosphate batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature (>105°C). when damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare burning effect; may ignite other batteries in close proximity.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Prevent run off from fire control dilution from entering streams or drinking water supply.

When the battery burns with other combustibles simultaneously, take fire extinguishing method which corresponds to the combustibles. Extinguish a fire from the windward as much as possible.

Special protective equipment

Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal precautions:

As an immediate precautionary measure, isolate spill or leak area for at least 25m in all directions. Keep unauthorized personnel away. Stay upwind, uphill and/or upstream. Ventilate closed spaces before entering.

Protective equipment:

Batteries that have released their ingredients should be handled with rubber gloves. Avoid direct contact with electrolyte. Wear protective clothing.

Emergency procedures:

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Beware risk of slipping. Absorb with earth, sand or other non-combustible material. Leaking batteries and contaminated absorbent material should be placed in metal containers. Dispose off according to the local law and rules

Environmental precautions:

Do not allow material to be released to the environment. Avoid leached substances to get into the earth, canalization or waters.

SECTION VII - HANDLING AND STORAGE

General Information:

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Handling:

Avoid short circuiting the battery. Avoid mechanical damage of the battery. Do not open or disassemble. Batteries may explode or cause burns if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity. Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in well ventilated area, avoid straight sunlight.

Storage:

Store in a cool and dry area, but prevent condensation on cell or battery terminals. High temperature may damage the performance of the battery, cause leaking or rusting. Protect from physical damage and short circuits. To avoid risk of fire or explosion, keep sparks and other sources of ignition away from the battery. Do not allow metal objects to simultaneously contact both positive and negative terminal of batteries. Do not stack battery directly on another battery. Do not store batteries on electrically conductive surfaces.

SECTION VIII – EXPOSURE CONTROL/PERSONAL PROTECTION

Personal protection is not necessary under normal conditions (charge and discharge) because release of ingredients does not occur.

If handling an open or leaking battery, wear safety glasses with side shields and use neoprene or natural rubber gloves

SECTION IX - PHYSICAL / CHEMICAL CHARACTERISTICS

Not applicable if battery is closed.

Appearance is cylindrical cell, hermetically sealed and fitted with an external plastic sleeve.

SECTION X - REACTIVITY DATA

Lithium batteries are stable in storage.

In case of storage in a charged state, batteries progressively lose their energy, generating eventually a progressive temperature increase according the thermal insulation efficiency of the packaging.

In case of exposure to temperature over 85°C, a risk of release of electrolyte mist or liquid is created. A higher temperature (160°C) the plastics used can melt or decompose (Polyamide gasket, rubber valve, PVC sleeve,...).

In case of mechanical deterioration of the batteries, active materials contained can be dispersed.

SECTION XI - TOXICOLOGICAL INFORMATION

The lithium batteries as a product are not presenting toxicological hazards. In case of product destruction or opening, the following substances can be released:

| Name | Acute toxicity | |
|------------------------|----------------|-------------------|
| | Cas No. | LC50/LD50 |
| Cobalt lithium dioxide | 12190-79-3 | No data available |
| Aluminium | 7429-90-5 | No data available |
| Graphite | 7782-42-5 | No data available |
| Organic electrolyte | N/A | No data available |
| Cooper | 7440-50-8 | No data available |
| Polypropylene | 9003-07-0 | No data available |

SECTION XII - ECOLOGICAL INFORMATION

The lithium batteries are not presenting ecotoxicological hazards. In case of product destruction or opening, the substances described in section XI can come in contact with the environment.

If not recycled, it must be disposed of in accordance with all state and local regulations.

SECTION XIII - DISPOSAL INFORMATION

The generation of waste should be avoided or minimized wherever possible. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Disposal should be in accordance with applicable regional, national and local laws and regulations.

In the European Union, manufacturing, handling and disposal of batteries are regulated on the basis of the Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC. Lithium cells must be recycled. Importers and users inside EU must find detailed information on disposal of batteries in their specific countries.

USA: Lithium polymer batteries are recyclable through the Rechargeable Battery Recycling Corporation's (RPBC) Battery Recycling Program. Please go to the RPRC website at www.rbrbc.org for additional information.

Importers and users outside EU should consider the local law and rules.

SECTION XIV – TRANSPORTATION INFORMATION

| UN numbers | Proper Shipping Name/Description |
|------------|--|
| UN 3480 | Lithium Ion Batteries |
| UN 3481 | Lithium Ion Batteries Contained in Equipment |
| UN 3481 | Lithium Ion Batteries Packed with Equipment |

Fullwat lithium batteries and its shipping package complies with the requirement of UN Manual of Test and Criteria, Part III, subsection 38.3, so it is permitted to transport.

Labels for package: Class 9

Fullwat lithium batteries do not exceed the values of 20Wh per cell or 100Wh per battery, they must be shipped by air in accordance with International Air Transport Association (IATA) pursuant to PI965 Section IB or PI966 Section II or PI967 Section II.

Lithium ion cells and batteries (UN3480) of PI965 Section IB offered for air transport must be at a state of charge not exceeding 30% of their rated capacities. Rated capacity of lithium cell or battery is the capacity of a cell or battery specified by the manufacturer.

They can be shipped by sea in accordance with International Maritime Dangerous Goods Code (IMDG) pursuant to Special Provisions 188.

Shipping Notice: Batteries must be separated from each other to prevent short-circuits and to prevent movement that could lead to short-circuits. Products must also be packed in strong packaging that can withstand the rigors normal to transportation. These products are labelled in accordance to requirements for cargo shipments of lithium batteries and cells.

SECTION XV –REGULATORY INFORMATION

IATA Dangerous Goods Regulations 65th Edition. Effective 1 January 2024.

ICAO Technical Instructions for the safe transport of dangerous goods by air 2023-2024

IMDG IMDG Code - 2022 Edition: International Maritime Organization (IMO)

UN Model Regulations on the Transport of Goods Ref. ST/SG/AC.10/1 - Rev. 21 - 2019.

UN Manual of Test and Criteria Part III Sub section 38.3.

Lithium batteries are submitted to the European Union Regulation (EU) 2023/1542 for recycling.

These batteries are no "substances" or "preparations" according to REACH 2006/1907/EC regulation. Instead they have to be regarded as "articles", no substances are intended to be released during handling.

SECTION XVI –OTHER INFORMATION

The data in this Material Safety Data Sheet relates only to the specific material designated herein.

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication. However no guarantee is made to its accuracy. They are no contractual assurances of product attributes. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.