

Material Safety Data Sheet

Section1- COMPANY IDENTIFICATION

Manufacture/Supplier: Hangzhou LIAO Technology CO., LTD

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Section2-COMPOSITION/ INFORMATION ON THE COMPONENTS

Product Mode : Cylindrical battery

Product Type : LiFePO4 battery pack 36V3.4Ah

| Chemical Name | Percent of Content | CAS No. | OSHA (PEL) | ACGIH (TLV) |
|--|--------------------|-------------------------|----------------------------------|--------------------------------|
| LITHIUM IRON PHOSPHATE (LiFePO ₄) | ≤45% | 15365-14-7 | N/A | 0.02mg/m ³ as Co |
| Graphite | 25%~35% | 7782-42-5 | 15mg/m ³ (as dust) | 3.5mg/m ³ |
| Poly Vnylidene Fluoride (PVDF) | <2% | 24937-79-9 | N/A | N/A |
| Acetylene Black | 0.5%~3% | 1333-86-4 | N/A | N/A |
| Electrolyte | 10%~18% | 623-53-0/21324-4 0-3 | N/A | N/A |
| Al Foil | 3%~7% | 7429-90-5 | N/A | N/A |
| Cu Foil | 8%~10% | 7440-50-8 | N/A | N/A |
| Nickel | 0.5%~2% | 7440-02-0 | N/A | N/A |

Section3-HAZARD IDENTIFICATION

Main Hazard : Flammable under High temperature.

Effects of (over) exposure : Irritation of skin, eyes and respiratory tract.

Symptoms of (over) exposure

Inhalation : Coughing, headache, dizziness, unconsciousness.

Skin : As a result of absorption through the intact skin, the substance may cause dry skin, redness.

Eyes : Pain, redness.

Ingestion : Sore throat, stomach-ache, headache, dizziness, dullness.

Section4-FIRST-AID MEASURES

Inhalation: Move to fresh air, rest half upright position, loosen clothing. Seek for medical advice after significant exposure.

Skin: Polymer Li-ion battery should not have liquid from electrolyte flowing, but in case the electrolyte comes into contact with the skin, wash off immediately with plenty of soap and water. Take all contaminated clothing off immediately.

Ingestion: Seek for medical advice as soon as possible. Do not induce vomiting because of risk of aspiration.

Section5-FIRE-FIGHTING MEASURES

Extinguishing measures

Suitable: Dry chemical, Powder, CO2 foam, sand, water (only large amounts).

Not to be used: Not applicable

Hazardous thermal decomposition and combustion products

In case of fire toxic fumes might be formed.

Protective equipment: Wear full protective clothing and self-contained breathing apparatus.

Section6-ACCIDENTAL RELEASE MEASURES

Personal precautions : Put on adequate protective equipment. Do not breathing vapor.

Environmental precautions :Keep away from drains, surface-water, ground-water and soil.

Clean procedures : Collect as much as possible in a clean container for disposal. Disposal according to local regulations.

Section7-HANDLING AND STORAGE

Handling : Use the battery properly according to the product specification. Do not disassemble or short-circuit the battery.

Storage : Store away from sources of heat or ignition. Over high temperature will make the cell inflate; melt the separator, causing short circuit.

Storage area should be : cool, dry, well ventilated, out of direct sunlight, away from metal or sharp edge, such as keys, pins, or wires.

Suitable storage materials are: Plastic or insulated holder.

Section8-EXPOSURE CONTROLS/ PERSONAL PROTECTION

Respiratory protection : Suitable respiratory equipment.

Hand protection : Protective gloves

Eye protection : Safety goggles

Skin protection : Suitable protective clothing

Section9-Physical and Chemical Properties

Nominal Voltage :36V

Rated Capacity :3.4Ah

Appearance and Odor : cylindrical cells.

Water Solubility : Insoluble

Flash Point : 52° F (25° C) ((DMC)

Section10-STABILITY AND REACTIVITY INFORMATION

Stability : Stable under normal conditions.
Conditions to Avoid : High temperatures. High humidity.
Materials to Avoid : Metallic objects.

Section11-TOXICOLOGICAL INFORMATION

Inhalation,skin contact and eye contact are possible when the battery is opened.Exposure to internal contents ,the corrosive fumes will be very irritation to skin ,eyes and mucous membranes.Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

Section12-ECOLOGICAL INFORMATION

When properly used or disposed the battery does not present environmental hazard.When disposed,keep away from water ,rain and snow.

Section13-DISPOSAL INFORMATION

Methods of disposal : Li-ion battery contains no toxic metals, only naturally occurring trace elements. It is advisable to consult with local authorities as disposal regulations may vary dependent on location.Incinerating and disposing of the cell in fire are strictly prohibited, because it may cause rupture.
Danger(s) : Fully charged battery may cause fire or explosion when disposed improperly. Fully discharged the battery before disposal .

Section14-TRANSPORT INFORMATION

Special precautions : Not applicable
UN number : 3480
Packaging group
ADR/RID : Not applicable
Marine pollutant : No
Shipping : LiFePO4 battery pack

Based on a United Nations recommendation, the regulation for lithium/lithium ion cells and batteries has been revised in the International Air Transport Association (IATA) dangerous goods regulations (DGR Rev. 53).

Packaging and transportation are formally regulated according to the amount of lithium contained in lithium ion batteries. Transportation of lithium ion batteries must conform to this regulation.

Please conform to other regulations besides IATA, such as the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO), and other local regulations at the point of actual transportation.

Separate Lithium-ion batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles and wet by rain.

Section15-ADDITIONAL INFORMATION

Although data in this Material Data Sheet are based on information of this moment and are believed reliable, we cannot assume any responsibility for the use thereof, nor do we accept any liability for loss or damages directly or indirectly caused by our product. The user is held to check the safety, quality and all other properties of this product prior to use.