

Material Safety Data Sheet

OSHA HazCom standard 29 CFR1910.1200(g) and GHS Rev03

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: Lithium-ion cell

Product Identification: BPRS-3.7LP-L100W70.5H5.2-4250

Item	Value	Remark
Wh-capacity	15.54Wh	

ALPHA ENERGY TECHNOLOGIES

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2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Chemical Formula	CAS No.	In % by Weight
Lithium Cobalt Dioxide	LiCoO ₂	12190-79-3	36
Graphite	C	7782-42-5	17
Electrolyte (Lithium Hexafluorophosphate)	LiPF ₆	21324-40-3	15
Copper	Cu	7440-50-8	15
Aluminum	Al	7429-90-3	10

3. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29CFR 1910.1200). This product is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

GHS Label elements, including precautionary statements
Emergency Overview

Signal word: Danger

Hazard Statements

Causes skin irritation

Causes serious eye irritation

May cause an allergic skin reaction

May cause cancer



This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold.

Intended use of the product should not result in exposure to the chemical substance

This is a battery. In case of rupture: the above hazards exist.

Appearance Silver

Physical State Solid

Odor Odorless

Precautionary Statements Prevention	<p>Obtain special instructions before use</p> <p>Do not handle until all safety precautions have been read and understood</p> <p>Use personal protective equipment as required</p> <p>Wash face, hands and any exposed skin thoroughly after handling</p> <p>Contaminated work clothing should not be allowed out of the workplace</p> <p>Wear protective gloves</p> <p>Do not breathe dust/fume/gas/mist/vapors/spray</p> <p>Do not eat, drink or smoke when using this product</p>
Precautionary Statements Response	<p>IF exposed or concerned: Get medical advice/attention</p> <p>Specific treatment (see supplemental first aid instructions on this label)</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing</p> <p>If eye irritation persists: Get medical advice/attention</p> <p>IF ON SKIN: Wash with plenty of soap and water</p> <p>Take off contaminated clothing and wash before reuse</p> <p>If skin irritation or rash occurs: Get medical advice/attention</p>
Precautionary Statements Storage	<p>Store locked up</p>

Precautionary Statements Disposal	Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)	Not applicable
Unknown Toxicity	
Other Information	May be harmful if swallowed Very toxic to aquatic life with long lasting effects Repeated or prolonged skin contact may cause allergic reactions with susceptible Persons
Interactions with Other Chemicals	No information available.

4. FIRST-AID MEASURES

Ingestion: Do not induce vomiting or give food or drink. Seek medical attention immediately.

Inhalation: Provide fresh air and seek medical attention.

Eyes contact: Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

Skin contact: Remove contaminated clothing and thoroughly wash with soap and plenty of water. If irritation persists, seek medical attention.

5. FIRE-FIGHTING MEASURE

Flash Point: N/A

Auto-Ignition Temperature: N/A

Extinguishing Media: Water, CO₂

Special Fire-Fighting Procedures: Self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: Cell may vent when subjected to excessive heat-exposing battery contents.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, lithium oxide fumes.

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case Material is Released or Spilled

If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can.

The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

Waste Disposal method

It is recommended to discharge the battery to the end, handing in the abandoned batteries to related department unified, dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental protection agency and/or federal EPA.

7. HANDLING AND STORAGE

Storage: Do not place the cell or battery near heating equipment, nor expose to direct sunlight for long periods. Elevated temperatures can result in shortened battery life and degrade performance.

Store in cool place (temperature: -20-45C, humidity: 45-75%).

Mechanical Containment: If potting or sealing the cell or battery in an airtight or watertight container is required, consult your Alpha Energy representative for precautionary suggestions. Do not obstruct safety release vents on cells. Encapsulation of batteries will not allow cell venting and can cause high pressure rupture

Handling: Never throw out cells in a fire or expose to high temperatures. Do not soak cells in water and seawater. Do not expose to strong oxidizers. Do not give a strong mechanical shock or throw down. Never disassemble, modify or deform. Do not connect the positive terminal to the negative terminal with electrically conductive material. Incompatible products: Conductive materials, water, seawater, strong oxidizers and strong acids Packing material (recommended, not suitable): Insulative and tear proof materials are recommended. The contents of a leaking cell, when exposed to water, may result in a fire and/or explosion. Crushed or damaged cells and batteries may result in a fire.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Investigate engineering techniques to reduce exposures use with adequate ventilation and recommended personal protective equipment.

Eye/Face protection: Use good industrial practice to avoid eye contact. Processing of this product releases vapors or fumes which may cause eye irritation. Where eye contact may be likely wear chemical goggles and have eye flushing equipment available.

Skin protection: Minimize skin contamination by following good industrial hygiene practices. Wearing protective glove is recommended. Wash hands and contaminated skin thoroughly after handling.

Respiratory protection: Avoid breathing dust and processing vapors. When adequate ventilation is not available, wear a NIOSH/MSHA respirator approved for protection against inorganic dusts.

Special clothing: Robber gloves.

9. PHYSICAL and CHEMICAL PROPERTIES

Nominal Voltage: 3.7V

Nominal Capacity: 4200mAh

Appearance characters: Metallic color, cylindrical, odorless, solid battery.

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Heating, mechanical abuse and electrical

Hazardous Decomposition Products: N/A

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalies, halogenated hydrocarbons.

11. 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 irritating to skin, eyes and mucous membranes. Over exposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

12. ECOLOGICAL INFORMATION

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

13. DISPOSAL CONSIDERATIONS

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

If battery are still fully charged or only partially discharged, they can be considered a reactive hazardous waste because of significant amount of not reaction or unconsumed lithium remaining in the spent battery. The battery must be neutralized through an approved secondary treatment facility prior to disposal as a hazardous waste. Recycling of battery can be done in authorized facility, through licensed waste carrier.

14. TRANSPORT INFORMATION

According to the SECTION II of Packing Instruction 965-967 IATA DGR 56th Edition for transportation or the special provision 188 of IMDG.

The rechargeable Lithium-Ion battery pack as stated in Appendix are made in compliance to the requirements stated in the latest edition of the IATA Dangerous Goods Regulations Packing Instruction 965 section II such that they can be transported as a Class9 dangerous goods. However, if those lithium-ion battery packs are pack with or contained in an equipment, then it is the responsibility of the shipper to ensure that the consignment are packed in compliance to the latest edition of the IATA Dangerous Goods Regulations section II of either Packing Instruction 966 or 967 in order for that consignment to be declared as RESTRICTED

With regard to transport, the following regulations are cited and considered:

- The International Civil Aviation Organization (ICAO) Technical Instructions
- The International Air Transport Association (IATA) Dangerous Goods Regulations (56th Edition, 2015)
- The International Maritime Dangerous Goods (IMDG) Code,
- US Hazardous Materials Regulations 49 CFR (Code of Federal Regulations) Sections 173-185 Lithium batteries and cells,
- The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries, 4th revised edition (UN3480)

Date: 2015-07-15

Our products are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to all the applicable international and national governmental regulations, not limited to the above mentioned. We further certify that the enclosed products have been tested and fulfilled the requirements and conditions in accordance with UN Recommendations (T1-T8) on the Transport of Dangerous Goods Model Regulations and the Manual of Testes and Criteria that can be treated as "Class9 Dangerous Goods".

Transport Fashion: By air, by sea.

Packaging Information: Carton.

Lithium ion cells or batteries manufactured, packaged and shipped by Alpha Energy/Better Power Battery CO., LTD meet the requirements specified above. Any Lithium-ion cells or batteries subsequently repackaged or reshipped are required to meet all of the requirements specified above.

15. REGULATORY INFORMATION

Law Information

Dangerous Goods Regulation

Recommendations on the Transport of Dangerous Goods Model Regulations

International Maritime Dangerous Goods

Classification and Code of Dangerous Goods

OSHA Hazard Communication Standard Status

Toxic Substances Control Act (TSCA) Status

In accordance with all Federal, State and Local Laws.

16. OTHER INFORMATION

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

For more information, please contact :

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