

Production of MSDS proving UN Manual of Tests and Criteria, Part III, sub- section 38.3 is met. The International Air Transport Association (IATA) Dangerous Goods Regulations (DGR) 65<sup>th</sup> Edition, 2024, comply to Section II/Section IB of PI965, or Section II of PI966-PI967 can be transported.

<p><b>MATERIAL SAFETY DATA SHEET</b></p>	<p><b>24 Hour Emergency Contact</b> <b>+86-755-21005221</b></p> <p>NOTE: National Response Center emergency number to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.</p> <p>IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of Honcell Lithium-ion Polymer Batteries. It is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard.</p>

## Section 1: Chemical Product and Company Identification

Product Name: Lithium-ion Polymer Battery

Battery Type: Rechargeable, Secondary

DOT Description: Lithium-ion Polymer; Secondary Battery; Rechargeable

Model Number: HCG471444HNZC-2S1P

Ratings: 7.4V, 300mAh, 2.22Wh

Weight: 13g

Appearance: Rectangular solid object with silver package and lead wires or Nickel tabs

Manufacturer: Shenzhen Honcell Energy Co., Ltd.

Brand: HONCELL, short as HCG.

Address: 612, Bldg. A, Weidonglong Industrial Zone,  
Meilong Ave. 194#, Longhua New District,  
Shenzhen, Guangdong Province, 518109, China.

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Emergency Contact: +86-755-21005221

Email: [info@honcell.com](mailto:info@honcell.com)

Website: [www.honcell.com](http://www.honcell.com)

## Section 2: Hazards Identification

Classification	No dangerous with normal use. Do NOT dismantle, open or shred the battery. The hazards indicted are for a ruptured battery. Exposure to the ingredients contained within or their
Appearance, Color, and Odor	Solid object with No odor, no color.
Invasion Route	<ul style="list-style-type: none"> <li>✧ ACUTE: see Section 8 for exposure controls if this battery has been ruptured, the electrolyte solution contained within the battery would be corrosive and can cause burns.</li> </ul>
	<ul style="list-style-type: none"> <li>✧ Skin Contact: the leakage of electrolyte may cause sore and stimulation on the skin.</li> </ul>
	<ul style="list-style-type: none"> <li>✧ Eye Contact: the steam of electrolyte may stimulate eyes, especially substance that may cause inflammation of the eyes is contained.</li> </ul>
	<ul style="list-style-type: none"> <li>✧ Inhalation: inhalation of materials from a sealed battery is not an expected route of exposure. Vapors and mists from a ruptured battery may cause respiratory irritation.</li> </ul>
	<ul style="list-style-type: none"> <li>✧ Ingestion: swallowing is NOT anticipated due to the battery size. The ingestion of the electrolyte causes tissue damage to throat</li> </ul>
Health Hazards	For the battery or cell, chemical materials are stored in a sealed metal or metal laminated plastic case, which designed to withstand temperature and pressure encountered during normal use. As a result, during normal use, the is NO physical danger of ignition, explosion or leakage of hazardous materials. However, if exposed to a fire, added mechanical shocks or decomposed, these improper handlings will cause the leakage of electrolyte. Moreover, if heated strongly by the surrounding fire, acrid gas may be emitted.
Environment Hazards	Electrolyte leakage or battery container rupture may lead to the leakage of inner component into the environment
Burn & Burst Danger	Do NOT dispose of battery in fire, which causes fire and or explosion. Do NOT short circuit the battery, which generates heat and causes fire.

### Section 3: Composition and Information on Ingredient

Components	Molecular Formula	CAS No.	Concentration
Lithium Cobalt Oxide	LiCoO <sub>2</sub>	12190-79-3	≈36%
Graphite	C <sub>24</sub> X <sub>12</sub>	7782-42-5	≈19%
Aluminum Foil	Al	7429-90-5	≈20%
Organic Electrolyte, consisting of LiPF <sub>6</sub> and organic Carbonate	LiPF <sub>6</sub>	N.A	≈10%
Copper	Cu	7440-50-8	≈10%
Other	N/A	N/A	≈5%

Note: CAS number is the Chemical Abstract Service Registry Number  
N. A= Not Apply.

### Section 4: First-aid Measures

In the event of accidental battery material contact due to a damaged or ruptured battery cell please follow these emergency guidelines

Skin Touch	Removed all contaminated clothing and flush extraneous matter with soap and plenty of water immediately for at least 15 minutes before seeking for a medical attention.
Eyes Touch	In case of eyes contacts with electrolyte, rinse immediately with plenty of water. Have the victims remove the contact lenses if he is wearing a glass before rinsing. Do NOT let the victims rub his eyes, then seek for a medical attention.

Inhalation	Move to a well-ventilated and fresh air area. Give oxygen or artificial respiration if deeply needed, then seek for a medical attention
Ingestion	Swallowing is NOT anticipated in normal condition. If accidentally eat the product by mistake, dilute by giving plenty of water and seeking for a medical attention immediately. Assure that mucus does not obstruct the airway. Do NOT give anything by mouth to an unconscious person

### Section 5: Fire-fighting Measures

In the event of a fire caused by an accidental or mis-operating of the battery, please follow these emergency guidelines

Dangerous Characteristic	Toxic gases (HF, PF6) will be formed if cells or battery are involved in a fire. Cells or battery may flame or leak potentially hazardous organic vapors if exposed to excessive heat, fire or over-voltage conditions. Damaged or opened cells or batteries may result in rapid heat and the release of flammable vapors. Vapors may be heavier than air and may travel along the ground or be moved by ventilation to an ignition source and flash back.
Hazardous Combustion Products	Irritant gas may be emitted if burned or exposed to fire
Firefighting Procedures	The staff must be equipped with filter mask or isolated breathing apparatus. The staff must wear the clothes and gloves which can defend the fire and the toxic gas. When the battery burns with other combustibles simultaneously, use the fire extinguisher to stop the fire immediately.
Extinguish Media	Dry Chemical, Water, Sandy Soil, Carbon Dioxide or Appropriate Foam.

**Section 6: Accidental Release Measures**

Personal Precautions	Attention! Corrosive Material. Avoid contact with skin, eyes, or clothing. Ensure adequate ventilation. Use the chemical resistant rubber gloves and Non-flammable absorbent materials for cleaning ups. Mix with inert materials such as dry sand and vermiculite and transfer to sealed container for disposal. Evacuate the personnel to safe areas.
Environmental Precautions	Refer to protective measures listed in section 7 and 8. Prevent further leakage or spillage if safe to do so. Should NOT be released into the environment. Do NOT allow to entre into soil, subsoil. Prevent product from entering drains.
Methods for Containment	Prevent further leakage or spillage if safe to do so.
Other Information	Refer to protective measures listed in section 7 and 8.

**Section 7: Handling and Storage**

Batteries should never be opened, destroyed or incinerated as doing so may lead to leakage, rupture, or fire and the materials contained inside may be released.

Handling	<ul style="list-style-type: none"> <li>✓ Keep away from ignition sources, heat and flames</li> <li>✓ Batteries must be packed in inner packages in a manner as to effectively prevent short circuit and prevent movement which could lead to short circuit</li> <li>✓ Avoid mechanical or electrical shock or abuse. More than a momentary short circuit will generally reduce the battery service life</li> <li>✓ Avoid reversing battery polarity connection when assembling</li> <li>✓ In case of a battery unintentionally be crushed, rubber gloves must be used to handle all battery components</li> <li>✓ Avoid contact with eyes, skin and clothing</li> <li>✓ Avoid inhalation</li> <li>✓ No smoking permitted at worktable</li> </ul>
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Storage	Store the batteries in a cool and well-ventilated area away from heat source, open flames, corrosive chemicals, food and drink. Since short circuit can cause fire and generate heat, burn, leakage and rupture. Keep batteries in original packing until use and do not jumble them.
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### Section 8: Exposure Controls and Personal Protection

No controls are required for handling batteries that have not been damaged.

Maximum Admissible Concentration	No information is available
Monitoring Methods	Use ventilation or other monitoring devices to control the temperature
Engineering Control	Use ventilation or other monitoring devices to control the temperature.
Respiratory Protection	NOT necessary under normal use. Use the self-contained respiratory equipment in case of handling a leaking or ruptured battery
Eyes and Face Protection	NOT necessary under normal use. Wear safety goggles in case of handling a leaking or ruptured battery.
Skin and Body Protection	NOT necessary under normal use. Use rubber apron and protective clothes in case of handling a leaking or ruptured battery.
Hands Protection	NOT necessary under normal use. Use rubber gloves in case of handling a leaking or ruptured battery.

Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protective equipment. Do not eat, drink or smoke when using this product. Take off the contaminated clothing and wash before reuse. Contaminated working clothing should NOT be allowed out of the workplace. Regular cleaning of equipment, working area and clothing is recommended. Do wash hands before breaks after handling the product. For environmental protection, remove and wash all contaminated protective equipment before reuse.
Other Protections	None

## Section 9: Physical and Chemical Properties

Physical State	Solid
Color	Silver
Odor	No information is available
pH Value	Not available
Boiling Point / Range	Not available
Melting / Freezing Point	Not available
Flash Point	Not available
Evaporation Rate	Not available
Upper Flammable (explosive) Limits	Not available
Vapor Pressure	Not available
Vapor Density	Not available
Specific Gravity	Not available
Water Solubility	Immiscible in water
Solubility in Other Solvents	Not available
Partition Coefficient (n-octanol / water)	Not available



Autoignition Temperature	Not available
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Dynamic Viscosity	Not available
Explosive Properties	Not available
Oxidizing Properties	Not available
Ignition Temperature	No information is available
Any Additional Information	None

### Section 10: Stability and Reactivity

Stability	Stable under recommended storage condition and normal operating temperature and pressure
Reactivity	No information is available
Possibility of Hazardous Reactions	None under normal operating
Hazardous Polymerization	No information is available
Conditions to Avoid	<p>Avoid exposing to air or moisture over prolonged periods</p> <p>Avoid exposing to heat and open flame</p> <p>Avoid mechanical and electrical abuse</p> <p>Avoid reversing the polarity</p> <p>Avoid short circuits</p> <p>Avoid short circuits caused by improper packing or movements</p> <p>Avoid puncture, disassembling, deforming, crushing or mutilating</p>

Incompatible Materials	Acids, bases, oxidizing agent
Hazardous Decomposition Products	Irritant gas maybe emitted if burned or exposed to fire

### Section 11: Toxicological Information

Acute Toxicity	No information is available
Sub-acute and Chronic Toxicity	Lithium-ion batteries do NOT contain toxic materials
Irritation	Irritation only occurs if the batteries to be abused or misused and it may cause irritation to skin, eyes, respiratory tract
Sensitization	No information is available
Mutagenicity	No information is available
Carcinogenicity	No information is available
Others	None

## Section 12: Ecological Information

Eco-toxicity	Lithium-ion batteries do not present any environment hazards when properly used and disposed
Biodegradable	No information is available
Non-biodegradable	No information is available
Bioconcentration or Biological Accumulation	No information is available
Other Harmful Effects	None

## Section 13: Disposable Consideration

Nature of Waste	No information is available
Disposable Methods of Wastes	Lithium-ion polymer batteries are best disposed of as a non-hazardous waste when fully or mostly discharged. Contact a licensed professional waste disposal service to dispose of large quantities materials. It shall be processed in accordance with applicable regulations which vary from country to country. In more countries the discard of used batteries is forbidden, and the end-users are invited to dispose them properly. Lithium-ion battery should have their terminals insulated and be preferably wrapped in plastic bags prior to disposal
Contaminated Packaging	Dispose of contents / containers in accordance with local regulations
Attention Abandoned	Incineration should never be performed by users

**Section 14: Transport Information**

Note	The amount of Lithium contained in these batteries is below the limits set by the Department of Transportation (DOT) in Section 49CFR173.185 and IATA. This report applies to transportation by air, by sea and or by land. The rechargeable Lithium-ion batteries can pass the test section 38.3 of recommendations on the Transport of Dangerous Goods, Manual of Test and Criterial. The transportation of Lithium cells and batteries is regulated by the International Civil Aviation Organization (ICAO), International Air Transportation Association (IATA), International Maritime Dangerous Goods Code. Package according to the packing instruction (PI) 965-966-967 of IATA DGR 63 <sup>rd</sup> Edition for transportation
UN Number	3480 OR 3481
Class	N/A
Packing Group	Section II/Section IA of PI965, or Section II of PI966-PI967
Proper Shipping Name	Lithium-ion Polymer Batteries
Packaging Mark	Each package must be labeled with a Lithium-ion battery label
Packaging Method	No information is available
Transport Method	By air, by sea, by land
Transport Attentions	Check whether the package of the containers is integrate and tight-closed or not before transport. No divulgence, no collapse, no precipitation or no damages during transportation. Do NOT put the goods together with corrosive chemicals. Stopovers should be away from fire and heat sources.

**Section 15: Regulatory Information**

Regulatory Information	<ul style="list-style-type: none"> <li>✓ ISO11014-2009 Safety Data Sheet for chemical products-content and order of sections</li> <li>✓ BG/T16483-2008 Safety Data Sheet for chemical products-content and order of sections</li> <li>✓ The International Maritime Dangerous Goods (IMDG) Code</li> <li>✓ International Air Transport Association (IATA) Dangerous Goods Regulations (DGR),65<sup>th</sup> Edition, 2024</li> <li>✓ The International Civil Aviation Organization (ICAO)</li> <li>✓ The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)</li> <li>✓ The Regulations Concerning the International Transport of Dangerous Goods by Rail (RID)</li> <li>✓ U.S. Department of Transportation (DOT)</li> <li>✓ Globally Harmonized System of Classification and Labeling of Chemicals (GHS)</li> </ul>
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**Section 16: Other Information**

The above information is based on the data of which we are aware and is believed to be correct hereof. However, Honcell Energy makes no warranty expressed or implied. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and made available after the data hereof may suggest modifications of the information, we do NOT assume any responsibilities for the result of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for this particular purpose. For more information, you can refer to Honcell “Handling Precautions and Guidelines for Lithium-ion Polymer Rechargeable Batteries” included in each of our specification sheet or contact us directly.