

Safety Data Sheet

Product names:

B20L48V100, B20L51V100

SECTION 1 - GENERAL INFORMATION

Name of sample	Secondary Lithium Battery
Supplier Name	BEIJING HUA XIN LIU HE INVESTMENT (AUSTRALIA) PTY LTD
Address	5/30 Adams Dr Welshpool WA6106
Telephone	(07) 3123 6148
Emergency (24 Hours)	410 177 533
Email	support@zeusappollosolar.com.au

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Composition	Chemical Formula	Weight(%)	CAS Number
Lithium Iron Phosphate	LiFePO ₄	49	15365-14-7
Graphite	C ₂₄ X ₁₂	24	7782-42-5
Aluminium	Al	6	7429-90-5
Copper	Cu	13	7440-50-8
Lithium Hexafluorophosphate	LiPF ₆	3	21324-40-3
Polypropylene	(C ₃ H ₆) _n	5	9003-07-0

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SECTION 3 - HAZARD IDENTIFICATION

Signs and Symptoms of Exposure	1. Acute Hazards	Do not open battery. Avoid contact with internal components. Internal components include electrolyte. Electrolyte is corrosive and skin contact may cause skin irritation. Electrolyte causes severe irritation and burns of eyes, nose and throat. Ingestion can cause severe burns and vomiting. A shorted lithium battery can cause thermal and chemical burns upon contact with the skin.	
	2. Sub-chronic and Chronic Health Effects	Electrolyte - Repeated contact with electrolyte causes irritation and skin burns. Repeated exposure to mist may cause erosion of teeth, chronic eye irritation and/or chronic inflammation of the nose, throat and lungs.	
Medical Conditions Generally Aggravated by Exposure	Contact with internal components if the battery is broken or opened, Persons with the following medical conditions must take precautions: pulmonary edema, bronchitis, emphysema, dental erosion and tracheobronchitis.		
Routes of Entry	Inhalation - YES Ingestion - YES	Eye Contact- YES	

SECTION 4 - FIRST AID MEASURES

Eye	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.		
Skin	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.		
Inhalation	Remove from exposure and move to fresh air immediately. Use oxygen if available.		
Ingestion	Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician.		

SECTION 5 - FIREFIGHTING MEASURES

<p>Extinguishing media: dry chemical, CO₂, water spray or regular foam.</p> <p>Large Fires: Water spray fog or regular foam.</p> <p>Unusual Fire and Explosion Hazards: Cell may vent when subjected to excessive heat-exposing battery contents.</p>
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SECTION 6 - ACCIDENTAL RELEASE MEASURES

<p>In case of battery rupture, isolate spill or leak area for at least 25 meters (75 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed areas before entering.</p> <p>Personal precautions: Acid resistant aprons, boots and protective clothing. ANSI approved safety glasses with side shields/face shield recommended.</p>
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SECTION 7 - HANDLING AND STORAGE

Handling	Do not crush or pierce. Do not short circuit the positive and negative battery terminals. Do not connect the positive and negative battery terminals with conductive material. Do not soak battery in water and seawater. Do not expose to strong oxidizers.
Storage	Avoid direct sunlight, high temperature, and high humidity. Store in a cool (optimum temperature +25 ±5°C) and ventilated area. Keep adequate clearance between walls and batteries. Do not mix batteries of different types and brands. Store batteries on non-conductive or plastic trays. In case of long-term storage, do not store upside down, charge the batteries to 40-60% at first, and check open circuit voltage monthly. Charge the batteries immediately if the voltage is under 2.7V/cell. The average self-discharge rate is about 3%/month. Charge the batteries at least once per half year.
Other Precautions	The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

1	Keep out of reach from children.
2	Avoid contact with skin when the battery leak or rupture.
3	Skin protection: Not necessary under normal use. Use rubber apron and protective working in case of handling of a ruptured battery.
4	Eye protection: Not necessary under normal use. Wear safety goggles or glasses with side shields if handling a leaking or ruptured battery.
5	Respiratory protection: Not necessary under normal use. In case of battery rupture, use self-contained full-face respiratory equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Cuboid
Odor	If leaking, smells of medical ether.
Odor Threshold	N/A
PH	N/A
Melting Point/freezing point	N/A
Initial boiling point and Boiling range	N/A
Flash Point	N/A
Evaporation rate	N/A
Flammability (solid, gas)	N/A
Upper/lower flammability or explosive limits	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Relative density	N/A

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Solubility (water)	N/A
Solubility (other)	N/A
N-octanol/water partition coefficient	N/A
Auto-ignition temperature	N/A
Decomposition temperature	N/A

SECTION 10 - STABILITY AND REACTIVITY

Stability: Product is stable under conditions described in Section 7.
Conditions to avoid: Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge. Short circuit. Expose over a long period to humid conditions.
Materials to avoid: Oxidizing agents, alkalis, water.
Hazardous Decomposition Products: Toxic Fumes, and may form peroxides.
Hazardous Polymerization: N/A.
If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons.

SECTION 11 - TOXICOLOGICAL INFORMATION

Signs & symptoms: None, unless battery ruptures.
In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin.
Inhalation: Lung irritant.
Skin contact: Skin irritant
Eye contact: Eye irritant
Ingestion: Poisoning if swallowed
Medical conditions generally aggravated by exposure: In the event of exposure to internal contents, moderate to server irritation, burning and dryness of the skin may occur, Target organs nerves, liver and kidneys.

SECTION 12 - ECOLOGICAL INFORMATION

Mammalian effects: None known at present.
Eco-toxicity: None known at present.
Bioaccumulation potential: Slowly Bio-degradable.
Environmental fate: None known environmental hazards at present.
No pollution under normal conditions of use. Recycling recommended when end of life is reached.

SECTION 13 - DISPOSAL CONSIDERATIONS

Do not incinerate, or subject cells to temperature in excess of 70°C, such abuse can result in loss of seal leakage, and/or cell explosion. Dispose of in accordance with appropriate local regulations.

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SECTION 14 – TRANSPORT INFORMATION

<p>Label for conveyance: The Class 9—Lithium Battery hazard label, the shipping mark.</p> <p>UN Number: UN3480</p> <p>Packing Group: Group II</p> <p>EmS No: F-A, S-I</p> <p>Marine pollutant: No</p> <p>Proper Shipping name: Lithium-ion batteries (including Lithium-ion polymer batteries)</p> <p>Hazard Classification: The goods shall be complied with the requirements IMDG CODE (Amdt. 40-20) 2020 Edition, including the passing of the UN38.3 test.</p> <p>Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises: No further information.</p>

SECTION 15 – REGULATORY INFORMATION

<p>Law information</p> <p>《Dangerous Goods Regulations》</p> <p>《Recommendations on the Transport of Dangerous Goods Model Regulations》</p> <p>《International Maritime Dangerous Goods》</p> <p>《Technical Instructions for the Safe Transport of Dangerous Goods》</p> <p>《Classification and code of dangerous goods》</p> <p>《Occupational Safety and Health Act》 (OSHA)</p> <p>《Toxic Substance Control Act》 (TSCA)</p> <p>《Consumer Product Safety Act》 (CPSA)</p> <p>《The Oil Pollution Act》 (OPA)</p> <p>《Superfund Amendments and Reauthorization Act Title III (302/311/312/313)》 (SARA)</p> <p>《Resource Conservation and Recovery Act》 (RCRA)</p> <p>《Safety Drinking Water Act》 (CWA)</p> <p>《Code of Federal Regulations》 (CFR)</p> <p>In accordance with all Federal, State and local laws.</p>

SECTION 16 – OTHER INFORMATION

Sample photos



The information contained in this safety data sheet is based on the present state of knowledge and current legislation. This safety data sheet provides guidance on health, safety and environmental specifications of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. we make no warranty of merchantability or any other warranty, expressed or implied, and assumes no liability resulting from the information. Users should make their own investigations to determine the suitability of the information for their particular purposes.