

MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT AND MANUFACTURER INFORMATION

PRODUCT COMPANY: SHENZHEN SUNHE ENRGY CO.,LTD

Established on July. 18, 2012, SunHe SOURCE ENERGY BATTERY TECHNOLOGY CO., LIMITED was jointly conceived by a number of internationally renowned battery experts along with various multinational Taiwanese companies. Its main purpose is to design and produce high performance rechargeable batteries.

PRODUCT NAME: Lithium ion Polymer Rechargeable Battery.

Model: SH351322

Nominal Voltage: 3.7V

Typical Capacity: 90mAh

Power Rating: 0.333Wh

Designated for recharge: Yes

MANUFACTURE DATE: May. 2019

HAZARD RATINGS*

Rating Key

	<u>NPCA/HMIS</u>	<u>NFPA 704</u>	
Health:	0	0	0=minimal
Flammability:	0	0	1=slight
Reactivity:	0	0	2=moderate
			3=serious
			4=severe

NFPA = National Fire Protection Association

NPCA/HMIS = National Paint & Coatings Association/ Hazardous Materials Identification System

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SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Composition	Chemical Formula	CAS No.	Weight (%) (About)
Lithium Cobalt Oxide	LiCoO ₂	12190-79-3	10-35%
Carbon	C	7782-42-5	10-25%
Electrolyte	LiPF ₆	21324-40-3	5~15%
Aluminum	AL	7429-90-5	2-10%
Copper	Cu	7440-50-8	2~10%
Nickel	Ni	7440-02-0	0.5-5%
lead	Pb	7439-92-1	Not Detected
cadmium	Cd	7440-43-9	Not Detected
mercury	Hg	7439-97-6	Not Detected

SECTION 3 – HAZARDS IDENTIFICATION / EMERGENCY OVERVIEW

Nonflammable Solid

Inhalation: Product is not respirable.

Ingestion: Product cannot be ingested.

Skin Contact: No adverse effects expected

Eye Contact: No adverse effects expected .Product will not directly contact the eyes.

Carcinogenic: IARC- No, NTP - No, OSHA - No

PS: IARC = International Agency for Research on Cancer

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Administration

Specific hazards:

Corrosive gas may be emitted during fire.

Special protective equipment for firefighters:

Respiratory protection: Respiratory equipment of a gas cylinder style or protection-against-dust mask

Hand protection: Protective gloves

Eye protection: Goggle or protective glasses designed to protect against liquid splashes

Skin and body protection: Protective clothes.

Production of MSDS proving UN Manual of Tests and criteria, Part 3, sub-section 38.9 is met.

SECTION 4 – FIRST AID MEASURES

Inhalation: Make the victim blow his/her nose, gargle. Seek medical attention if necessary.

Ingestion: No first aid needed.

Skin Contact: Remove contaminated clothes and shoes immediately. Immediately wash extraneous matter or contact region with soap and plenty of water.

Eye Contact: Do not rub eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention.

SECTION 5 – FIRST FIGHTING MEASURES

Nonflammable Solid: This product will not burn.

Extinguishing Media: Plenty of water, carbon dioxide gas, nitrogen gas, chemical powder fire extinguishing medium and fire foam.

Special Fire - fighting Procedures or Equipment:

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.

Hazardous Combustion Products: None

Unusual Fire /Explosion Hazards: None

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Pick up and place in appropriate container

SECTION 7 – HANDLING AND STORAGE

Handling: Accidental short circuit for a few seconds will not seriously affect the battery. However, this battery is capable of delivering very high short circuit currents. Prolonged short circuits will cause high temperature that can cause skin burns. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, and metal covered tables or metal belts used for assembly of batteries into devices. If soldering or welding to the battery is required, use of tab lead on the batteries is recommended. Do not open the battery. The negative electrode material may be inflammable. Should an individual cell from a battery become disassembled, spontaneous combustion of the negative electrode is possible. There can be a delay between exposure to air and spontaneous combustion.

Storage: Store in a cool, well ventilated area. Elevated temperature can result in reduced battery cycle life.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory protection: Respirator with air cylinder, dust mask

Hand protection: Protective gloves

Eye protection: Goggle or protective glasses designed to protect against liquid splashes

Skin and body protection: Working clothes with long sleeve and long trousers

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance/State: Solid

Odor: None

State	Solid
pH	N/A
Vapor Pressure	N/A
Boiling Point	N/A
Specific Gravity	N/A
Density	N/A

SECTION 10 – STABILITY AND REACTIVITY

Stability: None is during normal operation. Avoid exposure to heat, open and corrosives.

Reactivity : None

SECTION 11 – TOXICOLOGICAL

This product does not elicit toxicological properties during handling and use.

SECTION 12 – ECOLOGICAL

This product is not expected to cause toxicity to the environment. Components of this material are not biomagnified or bio-concentrated in the environment.

SECTION 13 – DISPOSAL CONSIDERATIONS

Deserted batteries couldn't be treated as ordinary trash. Be put to garbage box which recycle batteries after being placed into plastic bags or be dealt as special

trash. Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. The package and plastic box which contain batteries could be treated as ordinary trash. Best way is recycling

SECTION 14 – TRANSPORTATION

According to the classification of lithium cells and batteries of UN Nos.3480. Lithium cells and batteries meet with all the requirement of the UN manual of test criteria, part III, subsection 38.3. Those products from SunHe battery had passed the test. For a lithium ion cell, the Watt-hour rating is not more than 20Wh, For the lithium ion battery, the Watt-hour is not more than 100Wh. Packing is comply with part section II of PI 965、966、967 of IATA DGR 60th Edition 2019. So, it is not recognized as "DANGEROUS GOOD" and match the requirements of transportation of lithium cells and batteries.

SECTION 15 – REGULATORY

This regulatory information included here should not necessarily be considered all inclusive. None of the ingredients in this products are subjected to the reporting requirements of the CERCLA, the Clean Air Act and the Clean Water Act(US).This product is not formulated with, nor do the manufacturing or formulation process utilize any Class I or II Ozone depleting substance.

SECTION 16 – OTHER INFORMATION

The recommendation and information contained in this MSDS have been compiled from sources believed to represent the most current information available when the MSDS was prepared .However, the manufacturer/ distributor of this product provides any warranty, guaranty representation as to the correctness or sufficiency of this information. If this product is to be used in large amount and /or an unusual manner, the user is obliged to determine what safety measures are appropriate, including the applicable and relevant workplace and environmental regulations pertaining to handling, use and disposal.

Abbreviations used in this MSDS

CERCLA = Comprehensive Environmental Response Compensation and Liability Act

CFR = Code of Federal Regulations