



Report No.ATSM221218581

# Material Safety Data Sheet

## TJEP #115500

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# Material Safety Data Sheet

1. Identification of the product and supplier	
Name of goods	Rechargeable li-ion battery
Type/Mode	ISR18650-1500 3.7V, 1500mAh, 5.55Wh
Commissioned by	Jiangsu Highstar Battery Manufacturing Co.,Ltd
Commissioner address	No.306 Heping Road(s), Qidong City, Jiangsu, China
Factory	Jiangsu Highstar Battery Manufacturing Co.,Ltd
Factory's address	No.306 Heping Road(s), Qidong City, Jiangsu, China
Inspection according to	EEC Directive 93/112/EC UN "Recommendations on the TRANSPORT OF DANGEROUS GOODS"
Emergency telephone call	Giftinformationszentren der Bundesrepublik Deutschland Berlin: 030/19240, Bonn: 0228/19240, Erfurt: 0361/730 730, Freiburg: 0761/19240, Göttingen: 0551/19 240, Hamburg: 0684 1/19240, Mainz: 06131/19240, München: 089/19240
Receiving date: 2022-12-12	Issue date:2023-01-04

Tested by:



Reviewed by:



Approved by:



<b>2. Composition/Information on Ingredient</b>		
Hazardous Ingredients (Chemical Name)	Concentration or concentration ranges (%)	CAS Number
Cobalt lithium manganese nickel oxide	33	182442-95-1
Graphite	17	7782-42-5
Iron	16	7439-89-6
Copper (Cu)	11	7440-50-8
Dimethyl carbonate	6	616-38-6
Aluminum	6	7429-90-5
Polyethylene	3	9002-88-4
Ethylene carbonate	3	96-49-1
Lithium hexafluorophosphate(1-)	3	21324-40-3
Carbonate, methyl ethyl	1	623-53-0
Nickel	1	7440-02-0

<b>3. Hazards Identification</b>	
Explosive risk	This article does not belong to the explosion dangerous goods
Flammable risk	This article does not belong to the flammable material
Oxidation risk	This article does not belong to the oxidation of dangerous goods
Toxic risk	This article does not belong to the toxic dangerous goods
Radioactive risk	This article does not belong to the radiation of dangerous goods
Mordant risk	This article does not belong to the corrosion of dangerous goods
other risk	5.55Wh This article is Rechargeable li-ion battery, Watt hour rate 5.55Wh

## 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.

## 5. Fire-fighting measures

**Flash Point:** N/A.

**Auto-Ignition Temperature:** N/A.

**Extinguishing Media:** Water, CO<sub>2</sub>.

### 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, to use up the metal lithium inside the battery, and to bury the discharged battery in soil.

## 7. Handling and storage

The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.

Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire.

Do not crush or puncture the battery, or immerse in liquids.

### Precautions to be taken in handling and storing

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

### 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.

## 8. Exposure controls/personal protection

### Respiratory Protection

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory Protection is not necessary under conditions of normal use.

### Ventilation

Not necessary under conditions of normal use.

### Other Protective Clothing or Equipment

Not necessary under conditions of normal use.

### Personal Protection is recommended for venting battery

Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

## 9. Physical and chemical properties

**Appearance:** Cuboid shape

**Ref. No.:** /

**Odour:** If leaking, smells of medical ether.

**pH:** Not applicable as supplied.

**Flash Point:** Not applicable unless individual components exposed.

**Flammability:** Not applicable unless individual components exposed.

**Relative density:** Not applicable unless individual components exposed.

**Solubility (water):** Not applicable unless individual components exposed.

**Solubility (other):** Not applicable unless individual components exposed.

## 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:** Oxidising 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 alkalies, halogenated hydrocarbons.

## 11. Toxicological information

**Signs & symptoms:** None, unless battery ruptures.

In the event of exposure to internal contents, vapour 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.

## 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.

## 13. Disposal consideration

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.

## 14. Transport information

**Label for conveyance:** Lithium Battery Label.

**UN Number:** UN3480 or UN3481

**Packing Group:** N/A

**EmS No:** F-A, S-I

**Marine pollutant:** No

**Proper Shipping name:** 1) Lithium ion batteries; 2) Lithium ion batteries packed with equipment; 3) Lithium ion batteries contained in equipment. (including Lithium ion polymer batteries)

**Hazard Classification:** The goods shall be complied with the requirements of Section II (or Section IB) of Packing Instructions 965~967 of 64th DGR Manual of IATA (2023 edition), including the passing of the UN38.3 test. And also complies with the Special Provision 188 and 230 of IMDG CODE (Amdt 40-20) 2020 Edition.

## 15. Regulation information

### Law information

《Dangerous Goods Regulations》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《International Maritime Dangerous Goods》

《Technical Instructions for the Safe Transport of Dangerous Goods》

《Classification and code of dangerous goods》

《Occupational Safety and Health Act》 (OSHA)

《Toxic Substance Control Act》 (TSCA)

《Consumer Product Safety Act》 (CPSA)

《Federal Environmental Pollution Control Act》 (FEPCA)

《The Oil Pollution Act》 (OPA)

《Superfund Amendments and Reauthorization Act TitleIII (302/311/312/313)》 (SARA)

《Resource Conservation and Recovery Act》 (RCRA)

《Safety Drinking Water Act》 (CWA)

《California Proposition 65》

《Code of Federal Regulations》 (CFR)

In accordance with all Federal, State and local laws.

## 16. Other information

This information is not effective to all the batteries manufactured by Jiangsu Highstar Battery Manufacturing Co.,Ltd. This information comes from reliable sources, but no warranty is made to the completeness and accuracy of information contained. ATS Electronic Technology Co., Ltd. doesn't assume responsibility for any damage or loss because of misuse of batteries. User's should grasp the correct use method and be responsible for the use of batteries.