

# SAFETY DATA SHEET

**Sample name** : Rechargeable Lithium ion Cell

**Model No.** : 445870

**Consignor** : Hunan Times New Energy Technology Co., Ltd.

**Address** : 7/F, Comprehensive Building, Innovation Pioneer  
Park, High-tech Industrial Development Zone,  
Wuxi Town, Luxi County, Hunan Province, China

## 1. IDENTIFICATION

**Product identifier**

**Product Name** Rechargeable Lithium ion Cell  
Model: 445870  
Nominal Voltage: 3.7V  
Typical Capacity: 2200mAh  
Watt-hour: 8.14Wh

**Other means of identification**

**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended Use** LITHIUM ION BATTERIES  
**Uses advised against** No information available

**Details of the supplier of the safety data sheet**

**Supplier Name** Hunan Times New Energy Technology Co., Ltd.  
**Supplier Address** 7/F, Comprehensive Building, Innovation Pioneer Park, High-tech Industrial Development Zone, Wuxi Town, Luxi County, Hunan Province, China  
**Supplier Phone Number** Phone: +86-13510344310  
**Emergency telephone number** Phone: +86-13510344310

## 2. HAZARDS IDENTIFICATION

This product is defined as an 'article' under the OSHA Hazard Communication standard 1910.1200(c). Articles are exempt from OSHA Safety Data Sheet (SDS) requirements.

This product should not present a health or safety hazard during recommended normal use. Misuse of this product may affect the product performance and / or present a potential health or safety hazard.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Graphite	7782-42-5	23
Cobalt lithium manganese nickel oxide	346417-97-8	40
Aluminium	7429-90-5	6
Copper	7440-50-8	11
Polyethylene	9002-88-4	5
Polypropylene	9003-07-0	3
Phosphate(1-), hexafluoro-, lithium	21324-40-3	1
Ethylene carbonate	96-49-1	5
Methyl ethyl carbonate	623-53-0	6

### 4. FIRST AID MEASURES

#### First aid measures

##### General Advice

First aid is upon rupture of sealed battery.

##### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

##### Skin Contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

##### Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur.

##### Ingestion

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Call a physician.

##### Self-protection of the first aider

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

#### Most important symptoms and effects, both acute and delayed

##### Most Important Symptoms and Effects

Coughing and/or wheezing. Itching.

#### Indication of any immediate medical attention and special treatment needed

##### Notes to Physician

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific Hazards Arising from the Chemical

No information available.

### Hazardous Combustion Products

Carbon oxides.

### Explosion Data

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** No.

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

#### Personal Precautions

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

#### Other Information

Refer to protective measures listed in Sections 7 and 8.

#### Environmental Precautions

#### Environmental Precautions

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

### Methods and material for containment and cleaning up

#### Methods for Containment

Prevent further leakage or spillage if safe to do so.

#### Methods for cleaning up

Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Handling

In case of rupture. Use personal protection equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not breathe dust / fume / gas / mist / vapors / spray.

### Conditions for safe storage, including any incompatibilities

#### Storage

Keep containers tightly closed in a dry, cool and well-ventilated place.

Store locked up.

**Incompatible Products**

Strong acids. Strong oxidizing agents. Strong bases.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Cobalt lithium manganese nickel oxide 346417-97-8	TWA: 0.02 mg/m <sup>3</sup>	--	--
Graphite 7782-42-5	TWA: 2 mg/m <sup>3</sup> respirable fraction all forms except graphite fibers	TWA: 15 mg/m <sup>3</sup> total dust synthetic TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic (vacated) TWA: 2.5 mg/m <sup>3</sup> respirable dust natural (vacated) TWA: 10 mg/m <sup>3</sup> total dust synthetic (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m <sup>3</sup> TWA: 2.5 mg/m <sup>3</sup> respirable dust
Copper 7440-50-8	TWA: 0.2 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> Cu dust and mist	TWA: 0.1 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> dust and mist (vacated) TWA: 0.1 mg/m <sup>3</sup> Cu dust, fume, mist	IDLH: 100 mg/m <sup>3</sup> dust, fume and mist TWA: 1 mg/m <sup>3</sup> dust and mist TWA: 0.1 mg/m <sup>3</sup> fume
Aluminum 7429-90-5	TWA: 1 mg/m <sup>3</sup> respirable fraction	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 5 mg/m <sup>3</sup> Al Aluminum	TWA: 10 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable dust

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value  
 OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately  
 Dangerous to Life or Health

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIOv. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

**Appropriate engineering controls**

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** If splashes are likely to occur: Wear safety glasses with side shields (or goggles). None required for consumer use.

**Skin and Body Protection** Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves.

**Respiratory Protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

<b>Physical</b>	Solid containing liquid, Solid	<b>Odor</b>	None
<b>Appearance</b>	Silvery	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

Property	Values	Remarks	Method
<b>pH</b>	No data available	None known	
<b>Melting / freezing point</b>	No data available	None known	
<b>Boiling point / boiling range</b>	No data available	None known	
<b>Flash Point</b>	No data available	None known	
<b>Evaporation Rate</b>	No data available	None known	
<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limit in Air</b>	No data available	None known	
<b>Upper flammability limit</b>	No data available	None known	
<b>Lower flammability limit</b>	No data available	None known	
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Specific Gravity</b>	No data available	None known	
<b>Water Solubility</b>	Insoluble in water	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient:</b>	No data available	None known	

<b>n-octanol/water</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Explosive properties</b>	No data available	
<b>Oxidizing Properties</b>	No data available	
<b>Other Information</b>		
<b>Softening Point</b>	No data available	
<b>VOC Content (%)</b>	No data available	
<b>Particle Size</b>	No data available	
<b>Particle Size Distribution</b>		

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Hazardous Polymerization

Hazardous polymerization does not occur.

### Conditions to avoid

None known based on information supplied.

### Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases.

### Hazardous Decomposition Products

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture.

#### Inhalation

Specific test data for the substance or mixture is not available.  
May cause irritation of respiratory tract.

#### Eye Contact

Specific test data for the substance or mixture is not available.  
Expected to be an irritant based on components. Irritating to eyes.  
May cause redness, itching, and pain. May cause temporary eye irritation.

#### Skin Contact

Specific test data for the substance or mixture is not available. Expected to

be an irritant based on components. Irritating to skin. Prolonged contact may cause redness and irritation.

**Ingestion**

Specific test data for the substance or mixture is not available.

Ingestion may cause irritation to mucous membranes.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite 7782-42-5	> 10000 mg/kg ( Rat )	-	-

**Information on toxicological effects**

**Symptoms** Erythema (skin redness). May cause redness and tearing of the eyes.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) 12190-79-3	A3	Group 2B		X

**ACGIH (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

**IARC (International Agency for Research on Cancer)**

Group 2B - Possibly Carcinogenic to Humans

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

X - Present

**Reproductive Toxicity**

Contains a known or suspected reproductive toxin.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the OSHA Hazard Communication Standard, this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

**Chronic Toxicity**

Contains a known or suspected carcinogen. Contains a known or suspected reproductive toxin. Possible risk of irreversible effects. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse liver effects.

**Target Organ Effects**

Respiratory system. Eyes. Skin. Reproductive System. Central Vascular System (CVS). Kidney. Liver. Bone marrow. Endocrine system. Lungs. Spleen.

**Aspiration Hazard**

No information available.

**Numerical measures of toxicity Product Information**



The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)**

23,232.00 mg/kg

**ATEmix**

**(dermal)**

16,077.00 mg/kg

(ATE)

**ATEmix (inhalation-dust/mist)**

142.00 mg/l

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Copper 7440-50-8	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50:= 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas)		48h EC50: = 0.03 mg/L

### Persistence and Degradability

No information available.

### Bioaccumulation

No information available.

### Other adverse effects

No information available.

## 13.DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Disposal methods** Should not be released into the environment.

**Contaminated Packaging** Dispose of contents/containers in accordance with local regulations.

**California Hazardous Waste Codes** 141

This product contains one or more substances that are listed with the State of California as a hazardous waste

Chemical Name	California Hazardous Waste
Cobalt lithium manganese nickel oxide	Toxic
Copper	Toxic
Aluminum foil	Ignitable powder
Aluminum	Ignitable powder

## 14. TRANSPORT INFORMATION

### Note:

According to PACKING INSTRUCTION 965 ~ 967 of IATA DGR 60th Edition for transportation, the special provision 188 of IMDG (inc Amdt 39-18). The batteries should be securely packed and protected against short-circuits. Examine whether the package of the containers are integrate and tighten closed before transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles. Don't put the goods together with oxidizer and chief food chemicals. The transport vehicle and ship must be cleaned and sterilized otherwise it is not allowed to assemble articles. During transport, the vehicle should prevent exposure, rain and high temperature. For stopovers, the vehicle should be away from fire and heat sources. When transported by sea, the assemble place should keep away from bedroom and kitchen, and isolated from the engine room, power and fire source. Under the condition of Road Transportation, the driver should drive in accordance with regulated route, don't stop over in the residential area and congested area. Forbid to use wooden, cement for bulk transport.

**UN number**

3480 & 3481

**UN Proper shipping name**

LITHIUM ION BATTERIES (including lithium ion polymer batteries) or; LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)

**Transport hazard class(es)**

9

**Packing group (if applicable)**

II or IB

**Marine pollutant (Yes/No)**

Not regulated

**Transport in bulk (according to**

No information available.

**Annex II of MARPOL 73/78 and  
the IBC Code)****Special precautions**

No information available.

**Transport fashion**

By air, by sea, by railway, by road.

**15. REGULATORY INFORMATION****OSHA hazard communication standard**                     **Hazardous**    V     **Non-hazardous****16. OTHER INFORMATION****Preparation and revision information****Prepared By**

Hunan Times New Energy Technology Co., Ltd.  
7/F, Comprehensive Building, Innovation Pioneer Park, High-tech  
Industrial Development Zone, Wuxi Town, Luxi County, Hunan  
Province, China

**Date of this revision**

04/13/2020

**Abbreviations and acronyms**

TSCA: Toxic Substances Control Act, The American chemical inventory.  
DSL Domestic Substances List  
EINECS: European Inventory of Existing Commercial chemical Substances  
ECL Existing Chemicals List, the Korean chemical inventory.  
IECSC Inventory of existing chemical substances in China.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Sheet Safety Data Sheet**