



中国认可  
检验  
INSPECTION  
CNAS IB0071



NO.2622090233

# SAFETY DATASHEET

**Product Name:** Cobalt lithium manganese nickel  
oxide

**Effective Date:** 2022-10-10

**Compiler:** Chen Yushuang

**Checker:** Liu Lintin

**Approver:** Dongxuesheng



Shanghai Institute of Chemical Industry Testing Co., Ltd.



# 声 明

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# Zhejiang Times Li-ion Material Co., Ltd.

## SAFETY DATA SHEET

### Cobalt lithium manganese nickel oxide

#### SECTION1 PRODUCT AND COMPANY IDENTIFICATION

Product name: Cobalt lithium manganese nickel oxide  
Company: Zhejiang Times Li-ion Material Co., Ltd.  
Address: No.33 Nianxin Road, Quzhou City, Zhejiang Province, 324000, P.R.China  
Email: cwl@huayou.com  
Fax: /  
Emergency Phone: 86-17682307370  
Recommend use of the chemical and restrictions on use: For industry.

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#### SECTION2 HAZARDS IDENTIFICATION

GHS Classification:

Physical Hazards:  
Not Classified

Health Hazards:  
Skin sensitization Category 1  
Carcinogenicity Category 1A

Environmental Hazards:  
Classification not possible

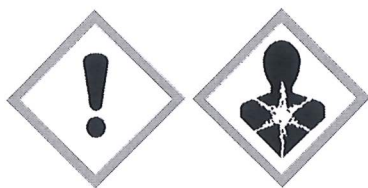
The product lacks data or information for classification, and may have potentially unknown hazards to human health and the environment.

The hazards not mentioned are not applicable or no data available.

Label Elements:

Pictogram:



**Signal Word:**

Danger

**Hazard Statements:**

H317 May cause an allergic skin reaction.

H350 May cause cancer.

**Prevention Precautionary Statements:**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

P203 Obtain, read and follow all safety instructions before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

**Response Precautionary Statements:**

P302+P352 IF ON SKIN: Wash with plenty of water

P333+P317 If skin irritation or rash occurs: Get medical help.

P362+P364 Take off contaminated clothing and wash it before reuse.

P318 IF exposed or concerned, get medical advice.

**Storage Precautionary Statements:**

P405 Store locked up.

**Disposal Precautionary Statements:**

P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

**Other Hazards:**

No data available.

**SECTION3 INFORMATION ON INGREDIENTS**

Product name: Cobalt lithium manganese nickel oxide

Ingredient	Concentration	CAS No.	EC No.
Substances:			
Cobalt lithium manganese nickel oxide	100%	182442-95-1	695-690-9

**SECTION4 FIRST-AID MEASURES****Skin Exposure:**

In case of skin contact, flush with copious amounts of water. If skin irritation or rash occurs, Call a physician.

**Eye Exposure:**

In case of contacting with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. If irritation persists, Call a physician.

**Inhalation Exposure:**

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician.





**Oral Exposure:**

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

**Most Important Symptoms/Effects, Acute and Delayed:**

No data available.

**Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary:**

No data available.

**SECTION5 FIRE FIGHTING MEASURES**

**Suitable Extinguishing Media:**

Suitable: Dry chemical, Water spray, Carbon dioxide or appropriate foam.

**Specific Hazards Arising from the Chemical:**

Take care as it may decompose upon combustion or in high temperatures to generate nickel oxides, manganese oxides, cobalt oxides, lithium oxides.

**Special Protective Action for Fire-fighters:**

Firefighters should wear self-contained breathing apparatus and protective clothing to prevent to contact with skin and eyes. Fire-extinguishing work is done from the windward. Isolate the accident area. Entry to noninvolved personnel should be controlled.

**SECTION6 ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment and Emergency Procedures:**

Use personal protective equipment. Remove all sources of ignition. Avoid breathing dust. Keep people away from and upwind of leakage or spillage. Ensure adequate ventilation. Entry to noninvolved personnel should be controlled around the leakage area by roping off.

**Environmental Precautions:**

Prevent further leakage or spillage if safe to do so. Avoid entering drains.

**Methods and Materials for Containment and Cleaning up:**

Sweep up with spade and transfer to a dry, clean, lidded container for disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

**SECTION7 HANDLING AND STORAGE**

**Precautions for Safe Handling:**

Operators should be trained and strictly abide by operating procedures. Wear appropriate protective clothing and gloves. Avoid inhalation. Avoid contacting with eyes, skin and clothing. Prevent generation of dust. Handling is performed in a well ventilated place. Keep away from ignition sources, heat and flame. Handling and unloading should be light, to prevent packaging broken, damp and cause losses. Working place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

**Conditions for Safe Storage, Including any Incompatibilities:**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Keep away from ignition sources, heat and flame. Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

**SECTION8 EXPOSURE CONTROL/PPE**

**Control Parameters:**





GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace - Part 1: Chemical Hazardous Agents:

Manganese and inorganic compounds, as  $\text{MnO}_2$  PC-TWA  $0.15\text{mg}/\text{m}^3$

Cobalt and compounds, as Co: PC-TWA  $0.05\text{mg}/\text{m}^3$ ; PC-STEL  $0.1\text{mg}/\text{m}^3$  Remarks: G2B; Sensitization

Nickel metal and insoluble compounds PC-TWA  $1\text{mg}/\text{m}^3$  Remarks: G1(Nickel compounds), Sensitization  
ACGIH: Not set up.

#### Appropriate Engineering Controls:

Mechanical exhaust required. Safety shower and eye bath.

#### Individual Protection Measures:

##### Eye/Face Protection:

Wear chemical safety glasses.

##### Skin Protection:

Hand Protection: Wear compatible protective gloves.

Body Protection: Wear appropriate protective clothing.

##### Respiratory Protection:

Wear government approved respirator.

##### Thermal Hazards:

No data available.

##### Other Protect:

No smoking, drinking and eating at working site. Wash thoroughly after handling.

### SECTION9 PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Black powder
Odor:	Weak odor
pH Value:	10.4-10.5 (50g/L Suspension)
Solubility:	Slightly soluble in water
Melting	$>350^\circ\text{C}$
Point/Freezing	
Point:	
Boiling Point,	Not applicable
Initial Boiling	
Point and Boiling	
Range:	
Flash Point	Not applicable
(Closed Cup):	
Density/Relative	No data available
Density:	
Kinematic	Not applicable
Viscosity:	
Lower/Upper	No data available
Explosion	
Limit/Flammabili	
ty Limit:	
Vapour Pressure:	No data available
Relative Vapor	No data available
Density:	
Partition	No data available
Coefficient	
N-Octanol/Water(	
Log Value):	



Autoignition No data available  
 Temperature:  
 Decomposition No data available  
 Temperature:  
 Particle No data available  
 Characteristics:

Flammability The substance is not classified in Division 4.1 Flammable Solids.  
 (Solid, Gas):

## SECTION10 STABILITY AND REACTIVITY

### Reactivity:

No data available.

### Chemical Stability:

Stable under normal temperatures and pressures.

### Possibility of Hazardous Reactions:

No data available.

### Conditions to Avoid:

No data available.

### Incompatible Materials:

No data available.

### Hazardous Decomposition Products:

Nickel oxides, manganese oxides, cobalt oxides, lithium oxides.

## SECTION11 TOXICOLOGICAL INFORMATION

### Acute Toxicity:

No data available.

### Skin Corrosion/Irritation:

No data available.

### Serious Eye Damage/Irritation:

No data available.

### Respiratory Sensitization:

No data available.

### Skin Sensitization:

May cause an allergic skin reaction.

### Germ Cell Mutagenicity:

No data available.

### Carcinogenicity:

Nickel Compounds: IARC: Group 1

This product may cause cancer.

### Reproductive Toxicity:

No data available.

### Specific Target Organ Toxicity -Single Exposure:

No data available.

### Specific Target Organ Toxicity -Repeated Exposure:

No data available.

### Aspiration Hazard:

No data available.

## SECTION12 ECOLOGICAL INFORMATION

### Toxicity:

No data available.



**Persistence and Degradability:**

No data available.

**Bioaccumulative Potential:**

No data available.

**Mobility in Soil:**

No data available.

**Other Adverse Effects:**

No data available.

**SECTION13 DISPOSAL CONSIDERATION****Disposal Methods:**

Recycle as far as possible. If unable to recycle, it is recommended to use incineration method for disposal under supervision. This product should not be disposed of by discharge into sewers. Return empty containers to the manufacturer or dispose of them in accordance with national and local regulations. Follow the relevant provisions of national and local regulations before disposal. It is recommended to be disposed of by a qualified chemical waste treatment department.

**SECTION14 TRANSPORT INFORMATION**

RID/ADR (2021 Edition): The product is not subject to RID/ADR.

IATA DGR (63<sup>rd</sup> Edition): The product is not subject to IATA DGR.

IMO IMDG CODE (2020 Edition): The product is not subject to IMO IMDG Code.

Environmental Hazards: Unknown.

Special Precautions for User: No data available.

Transport in Bulk: Not applicable according to Annex II of MARPOL 73/78 and the IBC Code.

**SECTION15 REGULATORY INFORMATION****Montreal Protocol:**

Not listed.

**Stockholm Convention:**

Not listed.

**Rotterdam Convention:**

Not listed.

**EINECS/ELINCS:**

This product is not listed.





**TSCA:**

This product is listed.

**IECSC:**

This product is listed.

**SECTION16 OTHER INFORMATION**

**Preparation Date:**

2022-10-10

**Preparation Department:**

Shanghai Research Institute of Chemical Industry Testing Co., Ltd.

Tel (Fax): +86-21-52815377/31765555

**Revision:**

0

**Reference Standard:**

GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), 9<sup>th</sup> revised edition

**Abbreviation and Acronyms:**

CAS: Chemical Abstracts Service EC: European Commission ACGIH: American Conference of Governmental Industrial Hygienists PC-TWA: Permissible concentration-time weighted average PC-STEL: Permissible concentration-short term exposure limit C2B: Possibly carcinogenic to humans Sensitization: The substance may have allergenic effects G1: Carcinogenic to humans IARC: International Agency for Research on Cancer ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road RID: Regulations concerning the International Carriage of Dangerous Goods by Rail IMO IMDG CODE: International Maritime Organization International Maritime Dangerous Goods Code IATA DGR: International Air Transport Association Dangerous Goods Regulations MARPOL: International Convention for the Prevention of Pollution from Ships IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances TSCA: Toxic Substances Control Act IECSC: Inventory of Existing Chemical Substances in China

**Other Information:**

This SDS is compiled based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation. The users should take the relevant legal responsibilities for the consequences of use.

