



# Material Safety Data Sheet

## For Li Polymer Rechargeable Cell of LIWINON

### 1. Chemical Product And Company Identification

#### Product Identification

LIWINON Lithium-Ion Cell

LIWINON Li Polymer Lithium-Ion Cell

Model Number	Voltage (Nominal),Vdc	Capacity(Nominal), mAh	Energy(Nominal),Wh
496074	3.8	3020	11.5

#### Manufacturer

Dongguan Liwinon Energy Technology Co., Ltd

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### 2. Composition /Information On Ingredients:

Hazardous Ingredients	%	CAS Number
Aluminum Foil	2-10	7429-90-5
Ithium Cobalt Oxide (proprietary)	30-60	12190-79-3
Polyvinylidene Fluoride (PVDF)	<5	24937-79-9
Styrene Butadiene Rubber(SBR)	<5	9003-55-8
Copper Foil	2-10	7440-50-8
Carbon (proprietary)	5-20	7440-44-0
Electrolyte (proprietary)	10-20	21324-40-3
Aluminum flim、 Aluminum tab、 Nickel tab and inert materials	Remainder	N/A

### 3. Hazardous Identification

#### Emergency Overview

May explode in a fire, which could release hydrogen fluoride gas and smoke.

Use extinguishing media suitable for materials burning in fire

### Primary Routes Of Entry

Skin contact, Skin absorption, Eye contact, Inhalation, and Ingestion: NO

Skin contact	No
Skin absorption	No
Eye contact	No
Inhalation	No
Ingestion	No

### Signs And Symptoms Of Exposure

Skin contact	No effect under routine handling and use
Skin absorption	No effect under routine handling and use
Eye contact	No effect under routine handling and use
Inhalation	No effect under routine handling and use
Ingestion	No effect under routine handling and use
Reported as Carcinogen	Not applicable

## 4. Fire Fighting Measures

### General Hazard

Cell is not flammable but internal organic material will burn if the cell is incinerated.

Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

### Extinguishing Media

Use extinguishing media suitable for the materials that are burning.

### Special Firefighting Instructions

If possible, remove cell(s) from fire fighting area. If heated above 130 °C, cell(s) may Swell /explode /vent.

### Firefighting Equipment

Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

## 5. Accidental Release Measures

### On Land

Place material into suitable containers and call local fire/police department.

### In Water

If possible, remove from water and call local fire/police department.



## 6. Handling And Storage

### Handling

No special protective clothing required for handling individual cells.

### Storage

Store in a cool, dry place

## 7. Exposure Controls/Personal Protection

### Engineering Controls

Keep away from heat and open flame. Store in a cool dry place

### Personal Protection

#### Respirator:

Not required during normal operations. SCBA required in the event of a fire

#### Eye/face protection:

Not required beyond safety practices of employer.

#### Gloves:

Not required for handling of cells.

#### Foot protection:

Steel toed shoes recommended for large container handling.

## 8. Physical And Chemical Properties

State	Solid
Odor	N/A
PH	N/A
Vapor density	N/A
Boiling point	N/A
Solubility in water	Insoluble
Specific gravity	N/A
Density	N/A

## 9. Stability And Reactivity

### Reactivity

None during normal operating or handling conditions.

### Incompatibilities

None (during normal operation). Avoid exposure to heat, open flame, and corrosives

### Hazardous Decomposition Products

None (during normal operating conditions). If cells are opened, hydrogen fluoride and carbon monoxide may be released.

### Conditons To Avoid

Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

## 10. Toxicological Information

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

Sensitization	No
Acute toxicity	No
Teratogenicity	No
Reproductive toxicity	No

This product does not contain any kinds of the following substances and halogen-type flame retardants including Chlorine and Bromide type harmful flame retardants which are listed in appendix of TCO documents and relevant international ECO requirements.

Polybromated Biphenyls	(PBB)
Polybromated Biphenyl Ethers	(PBBE)
Polybromated Biphenyl Oxides	(PBBO)
Polybromated Diphenylethers	(PBDE)
Polychlorinated Biphenyl	(PCB)
Polychlorinated Diphenylethers	(PCDE)
Tetrabromophenol A	(TBBPA)
Asbestos, Antimonytrioxide, Dioxine	/

None of the following substances will be exposed, leaked, or emitted during transportation, storage or any operation and any temperature condition:

Chlorinated Fluorohydrocarbon (FCKW)
Acrylonitrile
Styrol
Phenol
Benzol
Mercury of great less than 0.0001 wt% for alkaline battery
Mercury of great less than 0.0005 wt% for other battery
Lithium content of great less than 0.5g/cell, 1.5g/battery
Cadmium, lead, and other harmful heavy metal

This product does not contain mercury, cadmium and lithium-metal.

Mercury content	N/A
Lithium-metal	N/A
Cadmium content	N/A

### Cautions

If the cells are opened through misuse or damage, discard immediately. Internal components of cell are

irritants and sensitizers

### 11. Ecological Information

Some materials within the cell are bio-accumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.

### 12. Disposal Consideration

California Regulated Debris

RCRA Waste Code: Non-regulated

Dispose of according to all federal, state, and local regulations.

### 13. Transport Information

Label for conveyance: Lithium Battery mark, class 9 hazard label, Cargo Aircraft Only Label.

Proper Shipping name: Lithium-ion batteries (Including lithium-ion polymer batteries)

Hazard Classification: The goods shall be complied with the requirements of Section IB of packing Instructions 965 of 58th DGR Manual of IATA (2017 edition) or special provision 188 of IMDG CODE (Amdt. 37-14) 2014 Edition, including the passing of the UN38.3 test.

	Test Item	Test Results	Remark
1	Altitude Simulation	Pass	
2	Thermal Test	Pass	
3	Vibration	Pass	
4	Shock	Pass	
5	External Short Circuit	Pass	
6	Impact	Pass	
7	Overcharge	Pass	For Pack Only
8	Forced Discharge	Pass	For Cell Only

### 14. Emergency And First And Measures

**Inhalation, Eye Contact, and Skin Contact: Not a health hazard.**

#### Ingestion

If swallowed, obtain medical attention immediately.

#### **Caution**

**If exposure to internal materials within cell due to damaged outer casing, the following actions are recommended.**

#### Inhalation

Leave area immediately and seek medical attention.

#### Eye Contact



Rinse eyes with water for 15 minutes and seek medical attention.

**Skin Contact**

Wash area thoroughly with soap and water and seek medical attention.

**Ingestion**

Drink milk/water and induce vomiting; seek medical attention

**15. Law Information**

- 《Dangerous Goods Regulation》
- 《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 Substances Control Act》 (TSCA)
- 《Consumer Product Safety Act》 (CPSA)
- 《Federal Environmental Pollution Control Act》 (FEPCA)
- 《The Oil Pollution Act》 (OPA)
- 《Superfund Amendments and Reauthorization Act Title III (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**

For further information, please contact Dongguan Liwinon Energy Technology Co., Ltd. sales representative.

**Note:**

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