

Minmax Energy Technology Co.,Ltd

Add: WeiHong Building, SanDong Avenue, East, HuaDu, Guangzhou, China
Tel:86 20 86963758 Fax:86 20 8696 3757

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

Product Name: Lithium Metal Cell (Li/SOCl₂ Battery)

Part Number: 01.52.487

Chemistry System: Lithium Thionyl Chloride

Anode: Lithium Metal

Cathode: Liquid, Thionyl Chloride

Configuration: Battery of one cell (ER14250H)

Nominal Voltage: 3.6V

Weight of Battery: approx. 10 gram

Lithium Content: approx. 0.28 gram

Manufacturer: Minmax Energy Technology Co., Ltd.

Address: Weihong Building, Sandong Ave. East, Huadu District, Guangzhou, China

Post Code: 510800

Tel: +8620-86963755

Emergency Telephone: +8620-86963758

Fax: +8620-86963757

E-mail: admin@maxbattery.com

Section 2 – Composition/Information on Ingredient

Material	Formula	CAS#	% wt.
Lithium	Li	7439-93-2	5%
Thionyl Chloride	SOCl ₂	108-32-7	<47%
Carbon	C	1333-86-4	<6%
Aluminum Chloride	AlCl ₃	7446-70-0	5%
Lithium Chloride	LiCl	7447-41-8	2%
PVC		9002-86-2	1%
PTFE		9002-84-0	1%

Section 3 - Hazards Identification

- **Health Hazards (Acute and Chronic)**

These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. Contact of electrolyte and extruded lithium with skin and eyes should be avoided.

- **Sign/Symptoms of Exposure**

A shorted battery can cause thermal and chemical burns upon contact with the skin. May be a reproductive hazard.

Section 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.

Section 5 - Fire Fighting Measures

- **Flash Point**

N/A

- **Extinguishing Media**

Dry chemical, CO₂.

- **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.

Section 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, handing in the abandoned batteries to related department unified, dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental protection agency and/or federal EPA.

Section 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.

Section 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.

- **Protective Gloves**

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.

Section 9 - Physical / Chemical Properties

Appearance characters Wafer solid battery.

Chemical Uses: One-off power supply.

Section 10 - Stability and Reactivity

- **Stability**

Stable

- **Conditions to Avoid**

Heating, mechanical abuse and electrical abuse.

- **Hazardous Decomposition Products**

N/A.

- **Hazardous Polymerization**

N/A.

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalies, halogenated hydrocarbons.

Section 11 - Toxicological Information

Inhalation, skin contact and eye contact are possible when the battery is opened. Exposure to internal contents, the corrosive fumes will be very irritating to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

Section 12 - Ecological Information

When promptly used or disposed the battery does not present environmental hazard.
When disposed, keep away from water, rain and snow.

Section 13 - Disposal Considerations**• APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION**

If batteries are still fully charged or only partially discharged, they can be considered a reactive hazardous waste because of significant amount of not reaction or unconsumed lithium remaining in the spent battery. The battery must be neutralized through an approved secondary treatment facility prior to disposal as a hazardous waste. Recycling of battery can be done in authorized facility, through licensed waste carrier.

Section 14 - Transport Information

- 1) Product Category: Lithium Metal cells (with AII UN Test Approval)
- 2) UN ID No. UN3090

UN 3090: LITHIUM METAL BATTERIES

- 3) Regulation

A. Air Transportation: IATA 55th Edition 2014, Dangerous Goods Regulations

Small Size Battery: Lithium Contents Cells $\leq 0.3g$

→ Package Instruction 968 Section II (Normal Cargo)

Package $\leq 2.5kgN$, Lithium Battery Handling Label, No Class 9 Label & Certification

Medium Size Battery: Lithium Contents $0.3g < Cells \leq 1g$

→ Package Instruction 968 Section IB

Package 2.5kgG, Lithium Battery Handling Label, No Class 9 Label & No DG Certification

Big Size Battery: Lithium Contents Cells $> 1g$

→ Package Instruction 968 Section IA

Package 2.5kgN (passenger cargo), 35kgN (cargo aircraft), UN certified package, Handling Label, Class 9 Label & DG Certification

B. Sea Transportation: IMDG – Code 2002

Small & Medium Size Battery: Lithium Contents Cells $\leq 1g$

→ Special Provision 188

- Lithium Metal cells $< 1g$, batteries $< 2g$ – Not subject to Class 9 (Non-DG)

- Packing Group I

Big Size Battery: Lithium Contents Cells $> 1g$

→ Class 9 / Packing Group II

C. Road or Rail Transportation: ADR / RID 2011
Small & Medium Size Battery:Lithium Contents Cells \leq 1g

→ Special Provision 188

- Lithium Metal cells < 1g, batteries < 2g – Not subject to Class 9 (Non-DG)

- Packing Group I

Big Size Battery:Lithium Contents Cells > 1g

→ Class 9 / Packing Group II

1) Lithium metal cells and batteries are considered as Dangerous Goods with UN3090 and UN3091.

2) Depending on their lithium metal contents, some cells or batteries may be regarded as non-dangerous goods without Class 9 nomination.

Section 15 - Regulatory Information

• 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.

Section 16 - Additional Information

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.