Material Safety Data Sheet

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Prepared by

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1. Identification of the Product/Preparation and of the Company/Undertaking

Product Information

Trade Name:	Gushine Rechargeable Lithium-ion Battery
Model:	Gushine Chemistry Lithium Ion
Chemical System:	Graphite/ Lithium Cobalt Oxide
Use of the Product/Preparation:	Energy application
Company:	Zhuhai Gushine Electronic Technology Ltd.
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2. Composition Information

Portion	Material name	CAS No	Concentration range (wt %)
Positive electrode	Lithium transition metal oxidate ($Li[M]_x[O]_y$ *2)	12190-79-3 12057-17-9 182442-95-1	20~60
Positive electrode's base	Aluminum	7429-90-5	1~10
Negative electrode	Carbon	7782-42-5 7440-44-0	10~30
Negative electrode's base	Copper	7440-50-8	1~15
Electrolyte	Ethyl methyl carbonate Diethyl carbonate Ethylene carbonate	623-53-0 105-58-8 96-49-1	5~25
Outer case	Aluminum	7429-90-5	1~30

3. Hazard Identification

Emergency Overview

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

Use extinguishing media suitable for materials burning in fire.

Primary routes of entry

Skin contact : NO

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

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.

Reported as carcinogen
Not applicable

(a) GHS classification of the substance/mixture and any national or regional information;

(b) GHS label elements, including precautionary statements.(Hazard symbols may be provided as a graphical reproduction of the symbols in black and white or the name o

(c) f the symbols e.g. flame ,skull and crossbones);

(d) Other hazard which do not result in classification (e.g. dust explosion hazard) or are not covered by the GHS.

4. First Aid Measures

Inhalation
Not a health hazard

Eye contact
Not a health hazard.

Skin contact
Not a health hazard.

Ingestion
If swallowed, obtain medical attention immediately.

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 15min.

Skin contact
Wash area thoroughly whit soap and water and seek medical attention.

Ingestion
Drink milk/water and induce vomiting; seek medical attention.

5. Fire Fighting Measures

General Hazard
Cell is not flammable. 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 Fire fighting Instructions
If possible, remove cell(s) from fire fighting area, If heated above 160°C, cell(s) may explode/vent.

Fire fighting Equipment
Use NIOSH/MASHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. Accidental Release Measures

On land
Place material into suitable containers and call local fine/police department.

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

7. Handling and Storage

Handing
No special protective clothing required for handing individual cells.

Storage
Store in a cool, dry place.

8. Exposure Controls/Personal Protection

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

Personal Protection
Respirator
Not required during normal operations. SABA required in the event of a fire

Eye/face protection
Not required safety practices of employer.

Glove

Not required for handling of cells.

Foot protection
Steel toed shoes recommended for large container handling.

9. Physical and Chemical Properties

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

10. Stability and Reactivity

Reactivity
None.

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.

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

11. Toxicological Information

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

Sensitization	Teratogenicity	Reproductive toxicity	Acute toxicity
NO	NO	NO	NO

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

12. 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.

13. Disposal Considerations

California regulated debris
RCRA Waste Code: Non-regulated
Dispose of according to all federal, state, and local regulations.

14. Transport Information

In the case of transportation, confirm no leakage and no overspill from a container. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting on a pack. Please refer to Section 7-HANDLING AND STORAGE also.

UN regulation
·UN number:3480(3481 when the battery is contained in equipment or packed with equipment)
·Proper shipping name:
Lithium ion batteries
·Class:9 *
·Packing group:

Regulation depends on region and transportation mode:

·Worldwide-Air transportation:
ICAO/IATA-DGR[packing instruction 965 section IB or II]
·Worldwide-Ocean transportation:
IMO-IMDG Code [special provision 188]
·Europe-Ground transportation:
ADR [special provision 188]

**Instruction or provision in the box bracket are conditions to make the battery cell exempted from full regulation*

15. Regulatory Information

OSHA Hazard communication standard (29 CFR 1910.1200)
Hazardous V Non-hazardous

16. Other Information

The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.
This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

Reference
Chemical substances information: Japan Advanced Information center of Safety and Health International Chemical Safety Cards (ICSCs):
International Occupational Safety and Health Information Centre (CIS)
1999 TLVs and BEIs: American Conference of Governmental Industrial Hygienists (ACGIH)
Dangerous Goods Regulations –59th Edition Effective 1 January 2018:International Air Transport Association(IATA)
IMDG Code-2017 Edition:International Maritime Organization(IMO)
The United Nations Economic Commission for Europe(UNECE)