

SAFETY DATA SHEET

Lithium ion Battery Module HV2600

Maitian Energy Co., Ltd.

SDS

- According to GHS (Eighth Revised Edition)

Section 1 Product and Company Identification

> Product Identifier

Product Name Lithium ion Battery Module HV2600

Synonyms -

> Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses Please consult manufacturer.

Uses Advised Against Please consult manufacturer.

> Details of the Supplier of the Safety Data Sheet

Applicant Name Maitian Energy Co., Ltd.

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Applicant Telephone +86-510-68092998

Applicant Fax —

Applicant E-mail liqin@fox-ess.com

Supplier Name Maitian Energy Co., Ltd.Wuxi Branch

Supplier Address No.11 Lijiang Road, Xinwu District, Wuxi City, Jiangsu Province, China

Supplier Post Code 214028

Supplier Telephone +86-510-68092998

Supplier Fax —

Supplier E-mail liqin@fox-ess.com

> Emergency Phone Number

Emergency Phone Number +86-510-68092998

Section 2 Hazards Identification

Hazard class and label elements of the product according to GHS (the eighth revised edition):

> GHS Hazard Class

This product meets the definition of an article. Under the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), "Articles" as defined in the Hazard Communication Standard (29 CFR 1910.1200) of the Occupational Safety and Health Administration of the United States of America, or by similar definition, are outside the scope of the system. [Rev.8 (2019) Part 1.3.2.1.1]

> GHS Label Elements

Pictogram	Not applicable
Signal Word	Not applicable
> Hazard Statements	Not applicable
> Precautionary Statements	
Prevention	Do not open or disassemble. Do not expose to high temperatures or open fire. Do not mix with batteries of varying sizes, chemistries or types. Avoid using external impact battery.
Response	Not applicable
Storage	Store under roof in cool, dry, well-ventilated areas.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 Composition/Information on Ingredients

Component	Concentration (weight percent, %)	CAS No.	EC No.
Aluminum Foil	3.5	7429-90-5	231-072-3
Copper Foil	7.8	7440-50-8	231-159-6
Lithium Iron Phosphate	34.1	15365-14-7	-
Carbon (proprietary)	16.7	7782-42-5	231-955-3
Separator (proprietary)	3	9003-07-0	-
Electrolyte (proprietary)	20.3	-	-
Aluminum Alloy	14.6	7429-90-5	231-072-3

Section 4 First Aid Measures

> Description of First Aid Measures

General Advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
Skin Contact	Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Inhalation	Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Protecting of First-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

> Most Important Symptoms and Effects, both Acute and Delayed

- 1 Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

> Indication of Any Immediate Medical Attention and Special Treatment Needed

- 1 Treat symptomatically.
- 2 Symptoms may be delayed.

Section 5 Fire Fighting Measures**> Extinguishing Media**

Suitable Extinguishing Media Dry chemical, carbon dioxide or alcohol-resistant foam.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter or spread fire.

> Specific Hazards Arising from the Substance or Mixture

- 1 Containers may explode when heated.
- 2 Fire exposed containers may vent contents through pressure relief valves.
- 3 May expansion or decompose explosively when heated or involved in fire.

> Advice for Firefighters

- 1 As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
- 2 Fight fire from a safe distance, with adequate cover.
- 3 Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6 Accidental Release Measure**> Personal Precautions, Protective Equipment and Emergency Procedures**

- 1 Ensure adequate ventilation. Remove all sources of ignition.
- 2 Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
- 3 Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

> Environmental Precautions

- 1 Prevent further leakage or spillage if safe to do so.
- 2 Discharge into the environment must be avoided.

> Methods and Materials for Containment and Cleaning Up

- 1 Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
- 2 Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
- 3 Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

Section 7 Handling and Storage**> Precautions for Handling**

- 1 Handling is performed in a well ventilated place.
- 2 Wear suitable protective equipment.
- 3 Avoid contact with skin and eyes.
- 4 Keep away from heat/sparks/open flames/ hot surfaces.
- 5 Take precautionary measures against static discharges.

> Precautions for Storage

- 1 Keep containers tightly closed.
- 2 Keep containers in a dry, cool and well-ventilated place.
- 3 Keep away from heat/sparks/open flames/ hot surfaces.
- 4 Store away from incompatible materials and foodstuff containers.

Section 8 Exposure Controls/Personal Protection

> Control Parameters

Occupational Exposure Limit Values

Component	Country/Region	Limit Value - Eight Hours		Limit Value - Short Term	
		ppm	mg/m ³	ppm	mg/m ³
Aluminum Alloy 7429-90-5	USA - OSHA	-	15	-	-
	South Korea	-	10	-	-
	Ireland	-	1	-	-
	Germany (DFG)	-	4	-	-
	Denmark	-	5	-	10
	Australia	-	10	-	-
Copper Foil 7440-50-8	The Netherlands	-	0.1	-	-
	Poland	-	0.2	-	-
	Latvia	-	0.5	-	1
	Germany (DFG)	-	0.01	-	0.02
Carbon (proprietary) 7782-42-5	USA - OSHA	-	15	-	-
	South Korea	-	2	-	-
	Ireland	-	10	-	-
	Germany (DFG)	-	4	-	-
	Denmark	-	2.5	-	5
	Australia	-	3 (4)	-	-
Aluminum Alloy 7429-90-5	USA - OSHA	-	15	-	-
	South Korea	-	10	-	-
	Ireland	-	1	-	-
	Germany (DFG)	-	4	-	-
	Denmark	-	5	-	10
	Australia	-	10	-	-

Biological Limit Values

No information available

Monitoring Methods

- 1 EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
- 2 GBZ/T 160 Determination of toxic substances in workplace air(Series effective standard)and GBZ/T 300 Determination of toxic substances in workplace air(Series standard).

> Engineering Controls

- 1 Ensure adequate ventilation, especially in confined areas.
- 2 Ensure that eyewash stations and safety showers are close to the workstation location.
- 3 Use explosion-proof electrical/ventilating/lighting/equipment.
- 4 Set up emergency exit and necessary risk-elimination area.

> Personal Protection Equipment

Eye Protection	Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US).
Hand Protection	Wear protective gloves (such as butyl rubber) , passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard.
Respiratory protection	If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.
Skin and Body Protection	Wear fire/flame resistant/retardant clothing and antistatic boots.

Section 9 Physical and Chemical Properties

Appearance: Lithium-ion batteries, individually packaged, 51.2V 50Ah 2560Wh	Odor: No information available
Odor Threshold: No information available	pH: No information available
Melting Point/Freezing Point (°C): No information available	Initial Boiling Point and Boiling Range (°C): No information available
Flash Point (°C)(Closed Cup): Not applicable	Evaporation Rate: Not applicable
Flammability: No information available	Upper/lower explosive limits[%(v/v)]: Upper limit: No information available; Lower limit: No information available
Vapor Pressure (KPa): Not applicable	Relative Vapour Density(Air = 1): Not applicable
Relative Density(Water=1): No information available	Solubility: No information available
n-Octanol/Water Partition Coefficient: No information available	Auto-Ignition Temperature(°C): No information available
Decomposition Temperature (°C): No information available	Kinematic Viscosity (mm²/s): Not applicable
Particle characteristics: No information available	

Section 10 Stability and Reactivity

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical Stability	Stable under proper operation and storage conditions.
Possibility of Hazardous Reactions	Ultrafine powder will self-ignite in the air at room temperature. Reacts severely with halogens, interhalogens or other strong oxidants, or causes a fire. Mixtures with metallic acetylene, when heated, cause a fire or incandescence.
Conditions to Avoid	Incompatible materials, heat, flame and spark.
Incompatible Materials	Oxidants, halogen, interhalogen and mercury. Halogen, interhalogen, strong

oxidant, water and acids. Metal acetylide, halogen, interhalogen, halogen oxides, nitric acid, nitrous oxide, nitrates, nitrites, halogen oxyacid salts, chromates, permanganates, inorganic peroxides, metal oxides and peroxyformic acid.

**Hazardous
Decomposition
products**

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11 Toxicological Information

> **Acute Toxicity**

No information available

> **Skin Corrosion/Irritation**

No information available

> **Serious Eye Damage/Irritation**

No information available

> **Skin Sensitization**

No information available

> **Respiratory Sensitization**

No information available

> **Germ Cell Mutagenicity**

No information available

> **Carcinogenicity**

ID	CAS No.	Component	IARC	NTP
1	7429-90-5	Aluminum Foil	Not Listed	Not Listed
2	7440-50-8	Copper Foil	Not Listed	Not Listed
3	15365-14-7	Lithium Iron Phosphate	Not Listed	Not Listed
4	7782-42-5	Carbon (proprietary)	Not Listed	Not Listed
5	9003-07-0	Separator (proprietary)	Category 3	Not Listed
6	-	Electrolyte (proprietary)	Not Listed	Not Listed
7	7429-90-5	Aluminum Alloy	Not Listed	Not Listed

> **Reproductive Toxicity**

No information available

> **Reproductive Toxicity (Additional)**

No information available

> STOT-Single Exposure

No information available

> STOT-Repeated Exposure

No information available

> Aspiration Hazard

No information available

Section 12 Ecological Information**> Acute Aquatic Toxicity**

Component	CAS No.	Fish	Crustaceans	Algae
Copper Foil	7440-50-8	LC ₅₀ : 0.665mg/L (96h)(Fish)	EC ₅₀ : 0.02mg/L (48h)	ErC ₅₀ : 7.9mg/L (96h)
Aluminum Foil	7429-90-5	LC ₅₀ : 1.55mg/L (96h)(Fish)	No information available	No information available

> Chronic Aquatic Toxicity

Component	CAS No.	Fish	Crustaceans	Algae
Aluminum Alloy	7429-90-5	NOEC: 1.55mg/L(Fish)	No information available	No information available

> Others**Persistence and Degradability**

No information available

Bioaccumulative Potential

No information available

Mobility in Soil

No information available

Results of PBT and vPvB Assessment

Aluminum Foil does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

Copper Foil does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

Lithium Iron Phosphate does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

Carbon (proprietary) does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

Separator (proprietary) does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

Aluminum Alloy does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

Section 13 Disposal Considerations**Waste Chemicals**

Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.

**Contaminated
Packaging
Disposal
Recommendations**

Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Refer to section 13.1 and 13.2.

Section 14 Transport Information**Transporting Label****Marine pollutant**

None

UN Number

3480

UN Proper Shipping Name

LITHIUM ION BATTERIES(including lithium ion polymer batteries)

Transport Hazard Class

9

Transport Subsidiary Hazard Class

NONE

Packing Group

Packagings shall conform to the packing group II performance level

Section 15 Regulatory Information**> International Chemical Inventory**

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS	ENCS
Aluminum Foil	✓	✓	✓	✓	✓	✓	✓	✓	✗
Copper Foil	✓	✓	✓	✓	✓	✓	✓	✓	✗
Lithium Iron Phosphate	✗	✓	✗	✗	✗	✗	✓	✗	✗
Carbon (proprietary)	✓	✓	✓	✓	✓	✓	✓	✓	✗
Separator (proprietary)	✗	✓	✓	✓	✓	✓	✓	✓	✓
Electrolyte (proprietary)	✗	✗	✗	✗	✗	✗	✗	✗	✗
Aluminum Alloy	✓	✓	✓	✓	✓	✓	✓	✓	✗

【EINECS】 European Inventory of Existing Commercial Chemical Substances.

【TSCA】 United States Toxic Substances Control Act Inventory.

【DSL】 Canadian Domestic Substances List.

【IECSC】 China Inventory of Existing Chemical Substances.

【NZIoC】 New Zealand Inventory of Chemicals.

【PICCS】 Philippines Inventory of Chemicals and Chemical Substances.

【KECI】 Existing and Evaluated Chemical Substances.

【AICS】 Australia Inventory of Chemical Substances.

【ENCS】 Existing And New Chemical Substances.

Note

"✓" Indicates that the substance included in the regulations

"✗" That no data or included in the regulations

Section 16 Additional Information

Creation Date	2020/05/29
Revision Date	2020/05/29
Reason for Revision	-

> Disclaimer

This Safety Data Sheet (SDS) was prepared according to UN GHS (the 8th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user' s reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.