Battery

Safety Data Sheet

According to Regulation (EU) 2015/830 (REACH Annex II)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product form	: Article (Battery)
Trade name	: LFP Series battery module
Product model	: MGLFP240280, MGLFP242280, MGLFP120210

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant identified uses

Main use category	: No information available

1.2.2 Uses advised against

Restrictions on use	: No information available

1.3 Details of the supplier of the safety sheet

Supplier	: MG Energy Systems B.V.
Address	: Foeke Sjoerdswei 3
Zip code	: NL-8914 BH
Phone	: +31 (0) 58 750 89 47
E-mail	: info@mgenergysystems.eu

1.4 Emergency telephone number

Phone	: +31 (0) 58 750 89 47

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Classification according to the Regulation (EC) No. 1272/2008 [CLP]

Not classified.

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2 Label elements

Labelling according to the Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

Hazard pictograms	: None
Signal words	: None
Hazard statements	: Not applicable
Precautionary statements	: Not applicable
EU specific hazard statements	: None

2.3 Other Hazards

The chemicals are contained in a sealed can. Risk of exposure only occurs if battery is mechanically, thermally or electrically abused. Contact of electrolyte and extruded lithium with skin and eyes should be avoided.
Short-circuiting a lithium battery can cause thermal and chemical burns upon contact with the skin. May be a reproductive hazard.

SECTION 3: Composition/information on ingredients

2.1 Substances

Not applicable

2.2 Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Phosphoric acid, iron(2+) lithium salt (1:1:1)	CAS-No. 15365-14-7 EC-No. 476-700-9	38	Not classified
Phosphate(1-), hexafluoro-, lithium	CAS-No. 21324-40-3 EC-No. 244-334-7	19	Not classified
Graphite	CAS-No. 7782-42-5 EC-No. 231-955-3	19	Not classified
Aluminium	CAS-No. 7429-90-5 EC-No. 231-072-3 EC Index-No. 013-002-00-1	12	Flam. Sol. 1, H228 Water-react. 2, H261
Copper	CAS-No. EC-No.	9	Not classified
Polyethylene	CAS-No. EC-No.	3	Not classified

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation

Move victim to fresh air and remove source of contamination from area. Seek medical attention.

Skin contact

Flush affected area with lukewarm water at least 30 minutes. If irritation or pain persists, seek medical attention.

Eye contact

Flush affected eye with lukewarm water for at least 30 minutes. Seek medical attention.

Ingestion

Rinse mouth out with water. Seek medical attention

4.2 Most important symptoms and effects, both acute and delayed

No additional information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Spray the battery with water or submerge the battery completely in water if safe and possible.

5.2 Special hazards arising from the substance or mixture
Hazardous decomposition products in case of fire:
- Toxic and flammable gasses may be released.
- Explosion risk when gas releases in confined spaces.

5.3 Advice for firefighters
Remove ignition sources. Keep other equipment, buildings or spaces in neighbouring area cool with spray water to avoid any propagation of fire.

Protection : Wear full protective gear, including self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
6.1.1 For non-emergency personnel
Evacuate personnel from the area. Remove ignition sources. Provide ventilation to clear out hazardous gases. Leave the area and allow the batteries to cool down and vapours to dissipate. Avoid skin and eye contact or inhalation of vapours.

6.1.2 For emergency responders
Always take action using protective equipment. For further information refer to section 8.

6.2 Environmental precautions
Avoid release in environment.

6.3 Methods and material for containment and cleaning up
Use a clean shovel to collect all waste, cover it in vermiculite and place in an approved waste container with appropriate labels. Dispose according to local regulations.

6.4 Reference to other sections
For further information refer to section 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
7.1.1 Safe handling
Do not open, destroy or incinerate batteries because the battery may explode, break or vent.
Do not short-circuit, overcharge or forced discharge.
Do not throw into fire.

7.1.2 Hygiene measures
Do not to eat, drink and smoke when handling the product.

7.2 Conditions for safe storage, including any incompatibilities
Insulate positive and negative terminals to avoid short circuit. Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subjected to little temperature changes. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

7.3 Specific end use(s)
Always check local regulations on storage of batteries.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls:
Make sure the work area is safe.
In general use appropriate tools.
Use electrical insulated tools when working on battery installations.

Hand protection:
Not necessary under conditions of normal use. In case of battery rupture or leakage, wear rubber apron and Viton rubber gloves.
Us electrically insulated gloves when working on non-low voltage installations.

Eye protection:
Not necessary under conditions of normal use. In case of battery rupture or leakage, use safety glasses.

Skin and body protection:
Not necessary under conditions of normal use. In case of battery rupture or leakage, wear suitable protective clothing.

Respiration protection:
Not necessary under conditions of normal use. In case of battery venting or rupture, use a self-contained full face respiratory mask.

Environmental exposure controls: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State:	Solid	**Odour Type:**	Odorless
Appearance:	Cuboid	**Odour Threshold:**	Not Applicable
pH:	Not Applicable	**Evaporative Rate: (n-Butyl Acetate = 1)**	Not Applicable
Relative Density:	Not Applicable	**Auto Ignition Temperature (°C):**	Not Applicable
Boiling Point:	Not Applicable	**Flammability Limits (%):**	Not Applicable
Melting Point:	Not Applicable	**Vapour Pressure: (mm Hg @ 20 °C)**	Not Applicable
Viscosity:	Not Applicable	**Vapour Density: (Air = 1)**	Not Applicable
Oxidizing Properties:	Not Applicable	**Solubility in Water:**	Insoluble
Flash Point and Method (°C)	Not Applicable	**Water/ Oil distribution coefficient:**	Not Applicable

9.2 Other information
No additional information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
This product is non-reactive under normal conditions of use, transport and storage.

10.2 Chemical stability
This product is non-reactive under normal conditions of use, transport and storage.

10.3 Possibility of hazardous reactions
No hazardous reaction known under normal conditions of use, transport and storage.

10.4 Conditions to avoid
Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge. Short circuit. Expose over a long period to humid conditions.

10.5 Incompatible materials
If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons.

10.6 Hazardous decomposition products
Toxic Fumes, and may form peroxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Below the toxicological effects under normal conditions of use, transport and storage.

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1 Toxicity
The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

12.2 Persistence and degradability
No additional information available.

12.3 Bio accumulative potential
No additional information available.

12.4 Mobility in soil
No additional information available.

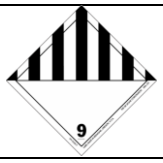
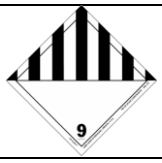
12.5 Results of PBT and vPvB assessment
No additional information available.

12.6 Other adverse effects
No additional information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of in accordance with appropriate local regulations including licensed collector's sorting and packaging instructions.

SECTION 14: Transport information

ADR	IMDG	IATA	ADN	RID
14.1 UN number				
UN3480				
14.2 UN proper shipping name				
LITHIUM ION BATTERIES	LITHIUM ION BATTERIES	Lithium ion batteries	LITHIUM ION BATTERIES	LITHIUM ION BATTERIES
Transport document description				
UN3480 LITHIUM ION BATTERIES, 9A, (E)	UN3480 LITHIUM ION BATTERIES, 9	UN3480 Lithium ion batteries, 9	UN3480 LITHIUM ION BATTERIES, 9A	UN3480 LITHIUM ION BATTERIES, 9A
14.3 Transport hazard class(es)				
9A	9	9	9A	9A
				
14.4 Packing group				
II	II	II	II	II
14.5 Environmental hazards				
None	None	None	None	None

14.6 Special precautions for user
The transport of rechargeable lithium-ion batteries is regulated, refer to: IATA, IMDG, AND, ADR, RID.
Limitations of transport by exceeding the Wh-ratings could be applicable.
Packaging instructions differ for the type of transport.
Inform for specific instructions for the transport of lithium ion batteries at local authorized shipping companies.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
15.1.1 EU Regulations
Contains no substance on the REACH candidate list.
Symbol : This product is not classified as dangerous according to EU Directive.
Risk Phrases : None
Safety Phrases : S2: Keep out of the reach of children.

15.1.2 U.S. Regulations

TSCA Status: All ingredients in the product are listed on the TSCA inventory.

SARA Title III:
Sec. 302/304: None
Sec. 311/312: None
Sec. 313: None
CERCLA RQ: None

California Prop 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

1.5.1.3 Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification: Not Controlled

New Substance Notification Regulations: All ingredients in the product are listed, as required, on Canada's Domestic Substance List.

NPRI Substances (National Pollutant Release Inventory): This product does not contain any NPRI chemicals.

15.2 Chemical safety assessment
No chemical safety assessment has been carried out.

SECTION 16: Other information

This information has been compiled from sources considered to be dependable and is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty (either expressed or implied) or guarantee is made to the accuracy, reliability or completeness of the information contained herein.

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