Safety Data Sheet

Lithium Iron Phosphate Battery

According to Regulation (EU) No 2020/878
According to Regulation (EC) No 1272/2008

Version :	5
Revision date :	18/11/2023

1. PRODUCT AND COMPANY IDENTIFICATION COMPANY IDENTIFICATION

Product identifier:

Product Form:	Article
Product name:	BSLi & BSLi Max Range - Lithium-Iron Phosphate (LiFePO4)
UFI code :	N/A

Relevant identified uses of the substance and uses advised against:

Identified uses:	Motorcycle and power sport starter battery
Uses advised against:	Not available.

Details of the supplier of the safety data sheet:

Supplier:	**BS BATTERY SAS**
Address:	30 Rue Pasteur
	92150 Suresnes
	France
Telephone:	+33 1 83 62 45 55

Emergency telephone Number:

CHEMTREC (US, Canada & Mexico)		0086-1-800-424-9300		
CHEMTREC (International)		0086-1-703-527-3887		
Available outside office hours?	YES		NO	X

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance/mixture:

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

Not classified

2.2 Label elements:

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

No labelling applicable

2.3 Other hazards :

Other hazards which do not result in classification

This product meets the definition of an “article” as defined in Regulation (EC) No. 1907/2006 (REACH), and is therefore out of scope of CLP

This article does not meet the PBT criteria of REACH regulation, annex XIII
This article does not meet the vPvB criteria of REACH regulation, annex XIII
Contains no endocrine disruptor and PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances :

Not applicable

3.2 Mixtures :

IMPORTANT NOTE: The battery cell should not be opened or exposed to heat because exposure to the following ingredients contained within could be harmful under some circumstances.

Component	CAS No.	Weight
Lithium Iron Phosphate	15365-14-7	32.5%
Polyvinylidene Fluoride (PVDF)	24937-79-9	2.60%
Aluminum (Al)	7429-90-5	8.10%
Graphite	7782-42-5	16.45%
Styrene-Butadiene Rubber (SBR)	9003-55-8	0.45%
Carboxymethyl cellulose	9000-11-7	0.35%
Copper (Cu)	7440-50-8	15.60%
Lithium Hexafluorophosphate	21324-40-3	16.45%
Polyethylene	9002-88-4	6.75%
Ethylene-Propylene-Diene Monomer	24937-16-4	0.75%

Weight % listed is based on approximate percent of the average weight of the battery

4. FIRST-AID MEASURES

Spilled internal cell materials

Inhalation:
Make the victim blow his/her nose, gargle. Seek medical attention if necessary.

Skin contact:
Remove contaminated clothes and shoes immediately. Wash extraneous matter or contact region with soap and plenty of water immediately.

Eye contact:
Do not rub one's eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention immediately.

A battery cell and spilled internal cell materials

Ingestion:
Make the victim vomit. When it is impossible or the feeling is not well after vomiting, seek medical attention.

5.FIRE-FIGHTING MEASURE

Suitable extinguishing media: Plenty of water, carbon dioxide gas, nitrogen gas, chemical powder fire extinguishing medium and fire foam

Specific hazards: Corrosive gas may be emitted during fire.

Specific methods of firefighting: When the battery burns with other combustibles simultaneously, take fire extinguishing method which correspond to the combustibles. Extinguish a fire from the windward as much as possible.

Special protective equipment for firefighters:
Respiratory protection: Respiratory equipment of a gas cylinder style or protection-against-dust mask.
Hand protection: Protective gloves
Eye protection: Goggle or protective glasses designed to protect against liquid splashes Skin and body protection: Protective cloth

6. ACCIDENTAL RELEASE MEASURES

Spilled internal cell materials, such as electrolyte leaked from a battery cell, are carefully dealt with according to the followings.

Precautions for human body:
Remove spilled materials with protective equipment (protective glasses and protective gloves). Do not inhale the gas as much as possible. Moreover, avoid touching as much as possible.

Environmental precautions: Do not throw out into the environment.

Method of cleaning up:
The spilled solids are put into a container. The leaked place is wiped off with dry cloth.

Prevention of secondary hazards:
Avoid re-scattering. Do not bring the collected materials close to fire.

7. HANDLING AND STORAGE

Handling Technical measures
Prevention of user exposure: Not necessary under normal use.
Prevention of fire and explosion: Not necessary under normal use.
Precaution for safe handling: Do not damage or remove the external tube.
Specific safe handling advice:
Never throw out cells in a fire or expose to high temperatures. Do not soak cells in water or seawater. Do not expose to strong oxidizers. Do not give a strong mechanical shock or fling. Never disassemble, modify or deform. Do not connect the positive terminal to the negative terminal with electrically conductive material. In the case of charging, use only dedicated charger or charge according to the conditions specified by BS BATTERY.

Storage Technical measures:
Storage conditions (suitable, to be avoid): Avoid direct sunlight, high temperature, high humidity. Store in cool place (temperature: -20 ~ 35 degree C, humidity: 45 ~ 85%).
Incompatible products: Conductive materials, water, seawater, strong oxidizers and strong acids
Packing material (recommended, not suitable): Insulative and tearproof materials are recommended.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:
Not established

Appropriate engineering controls:
Under normal conditions (during discharge) release of ingredients does not occur.
ACGIH: American Conference of Governmental Industrial Hygienists ,Inc. TLV-
TWA: Threshold Limit Value-Time Weighted Average concentration
BEI: Biological Exposure Indices

Personal protective equipment:
Respiratory protection: Respirator with air cylinder, dust mask
Hand protection: Protective gloves
Eye protection: Goggle or protective glasses designed to protect against liquid splashes
Skin and body protection: Working clothes with long sleeve and long trousers

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Physical state:	Solid
Colour:	Not available
Odour:	Not available
Odour threshold:	Not available
pH:	Not available
Melting point/range (℃):	Not available
Boiling point/range (℃):	Not available
Flash point (℃):	Not available
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Non-Flammable
Ignition temperature (℃):	Not available
Upper/lower flammability:	Not available
Explosive limits:	Not available
Vapour pressure (20℃):	10 mm Hg
Vapour density at (20°C):	1
Relative Density:	Not available
Bulk density (kg/m^3):	Not available
Water solubility :	Soluble in water
Water (log Po/w):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity, dynamic (mPa.s):	Not available
Explosive properties:	Not available
Oxidising properties:	Not available
Molecular Formula:	Not applicable

Molecular Weight: Not applicable

9.2 Other information:

No other additional information available

10. STABILITY AND REACTIVITY

Stability: Stable under normal use

Hazardous reactions occurring under specific conditions

Conditions to avoid: Heat above 70°or incinerate. Deform, mutilate, crush, disassemble, overcharge, short circuit, expose over a long period to humid conditions. Do not put it under sunlight and high humidity directly.

Materials to avoid: Conductive materials, water, seawater, strong oxidizers and strong acids.

Hazardous decomposition products: Acrid or harmful gas is emitted during fire.

11. TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

There is no available data on the product itself. The information of the internal cell materials is as follows.

Lithium Iron Phosphate– LiFePO4

Acute toxicity: No applicable data.

Local effects: Unknown.

Sensitization: The nervous system of respiratory organs may be stimulated sensitively.

Chronic toxicity/Long term toxicity: No applicable data.

Skin causticity: Although it is very rare, the rash of the skin and allergic erythema may result.

Aluminum

Local effects: Aluminum itself has no toxicity. When it goes into a wound, dermatitis may be caused.

Chronic toxicity/Long term toxicity: By the long-term inhalation of coarse particulate or fume, it is possible to cause a lung damage (aluminum lungs).

Graphite

Acute toxicity: Unknown.

Local effects: When it goes into one’s eyes, it stimulates one’s eyes; conjunctivitis, thickening of corneal.

epithelium or edematous inflammation palpebra may be caused.

Chronic toxicity/Long term toxicity: Long-term inhalation may become a cause of a lung disease or a tracheal disease.

Carcinogenicity: Graphite is not recognized as a cause of cancer by research organizations and natural toxic substance research organizations of cancer.

Copper

Acute toxicity: 60-100mg sized coarse particulate causes a gastrointestinal disturbance with nausea and inflammation. TDLo, hypodermic - Rabbit 375mg/kg
Local effects: Coarse particulate stimulates a nose and a tracheal. When it goes into one's eyes, the symptom of the reddening and the pain is caused.
Sensitization: Sensitization of the skin may be caused by long-term or repetitive contact.
Reproductive effects: TDLo, oral - Rat 152mg/kg

Organic Electrolyte

Acute toxicity: LD50, oral - Rat 2,000mg/kg or more
Local effects: Unknown.
Skin irritation study: Rabbit – Mild
Eye irritation study: Rabbit - Very severe

11.2 Information on other hazards

Endocrine disrupting properties	The mixture does not contain endocrine disruptor.
Other information	Not applicable

12. ECOLOGICAL INFORMATION

12.1 Toxicity: Not available

12.2 Persistence and degradability:	Not available.
12.3 Bioaccumulative potential:	Not available.
12.4 Mobility in soil:	Persistant.
12.5 Results of PBT & vPvB assessment:	The PBT and vPvB criteria of Annex XIII to the Regulation does not apply to inorganic substances
12.6 Endocrine disrupting properties	The mixture does not contain endocrine disruptor

13. DISPOSAL CONSIDERATIONS

Recommended methods for safe and environmentally preferred disposal:

Product (waste from residues)
Do not throw out a used battery cell. Recycle it through the recycling company.

Contaminated packaging
Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery cell contaminates, dispose as industrial wastes subject to special control.

14. TRANSPORT INFORMATION

SHIPPING BY SEA or BY ROAD (≤100Wh)

14.1 UN Number : UN3480

14.2 UN Proper shipping name : LITHIUM ION BATTERIES

14.3 Transport Hazard class : -

14.4 Packing group : -

14.5 Environmental hazards : No

14.6 ADR, IMDG Transport: SP188

14.7 Maritime transport in bulk according to IMO instruments: Not regulated

SHIPPING BY SEA or BY ROAD (>100Wh)

14.1 UN Number : UN3480

14.2 UN Proper shipping name : LITHIUM ION BATTERIES

14.3 Transport Hazard class : 9

14.4 Packing group : II

14.5 Environmental hazards : No

14.6 IMDG Transport : P903

SHIPPING BY AIR

14.1 UN Number : 3480

14.2 UN Proper shipping name : LITHIUM ION BATTERIES

14.3 Transport Hazard class : 9

14.4 Packing group : II

14.5 Environmental hazards : No

14.6 IATA Transport : PI 965-Section IB (≤100Wh) or PI 965-Section IA (>100Wh)

15. REGULATORY INFORMATION

《Classification, Labeling and Packaging Regulation》
《REACH (EC)1907/2006》
《Dangerous Goods Regulation》
《Recommendations on 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)
《Resource Conservation and Recovery Act》(RCRA)
《Safety Drinking Water Act》(CWA)
《Code of Federal Regulations》(CFR)
In accordance with all Federal, State and local laws

16. OTHER INFORMATION

Indication of changes:

Version 5.0 amended by (EU) 2020/878

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 applications.

Reference:

ECHA Registered substances data

Chemical substances information: Japan Advanced Information center of Safety and Health International Chemical Safety Cards (ICSCs):

International Occupational Safety and Health Information Centre (CIS)

2002 TLVs and BEIs: American Conference of Governmental Industrial Hygienists (ACGIH) New Dangerous Goods Best Practice 008--in the 51st Edition IATA DGR(2010)(with effect from 01 January 2010)

GB/T 16483-2008 Safety data sheet for chemical products Content and order of sections ISO 11014:2009(E) Safety data sheet for chemical products –Content and order of sections IMDG Code – 2008 Edition: International Maritime Organization (IMO)

RTECS(CD-ROM)

MSDS of raw materials prepared by the manufacture First

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Prepared and approved by BS BATTERY