


# Design Report of Safety Data Sheet

正本/ORIGINAL

|   |   |
|---|---|
| Report No.:   | HGBZ2309R7Y2  |
| Inspection date:  | 2023/09/08  |
| Issue date:   | 2023/09/08  |
| Version:  | V2.0.0.1  |
| *Product Name:  | Lithium ion Battery Module CM2900   |
| *Applicant:   | FOXESS CO., LTD.  |
| Supplier:   | FOXESS CO., LTD.  |
| Importer  | FOXESS AUSTRALIA PTY LTD  |
| *Composition of the product:  | Lithium Iron Phosphate(CAS: 15365-14-7); Graphite(CAS: 7782-42-5); Aluminium(CAS: 7429-90-5); Copper(CAS: 7440-50-8); Dimethyl carbonate(CAS: 616-38-6); Details on the next page |
| Warranty of Design:   | Australian WHS (Work Health and Safety Regulations) and ADG (Australian Code for the Transport of Dangerous Goods by Road & Rail)   |
| *Information materials:   | HGBZ2309R7Y《Application》、P106719《Declaration of consistency of components of the sample submitted for inspection》、P106719《UN 38.3》、P106719-Product Picture                        |
| Design Result of SDS please see next page.  |   |
| Designer:   | 江帆  |
| Auditor:  | 叶江波   |
| Approver:   | 戎霄  |
| 常州合規思遠產品安全技術服務有限公司<br>Changzhou Hegui Siyuan Products Safety Technology Service Co., Ltd. |   |

Notes: This SDS is valid before the implementation of the tenth revised edition GHS.

Contd. of Prev. page: Complete sample component information.

|                                     |  |  |
|-------------------------------------|--|--|
| Report No.:                         | HGBZ2309R7YD   | <br>防伪码: DUD2 |
| Inspection date:                    | 2023/09/08   |  |
| Issue date:                         | 2023/09/08   |  |
| Version:                            | V2.0.0.1   |  |
| <b>*Composition of the product:</b> | Lithium Iron Phosphate(CAS: 15365-14-7); Graphite(CAS: 7782-42-5); Aluminium(CAS: 7429-90-5); Copper(CAS: 7440-50-8); Dimethyl carbonate(CAS: 616-38-6); Ethyl methyl carbonate(CAS: 623-53-0); Ethylene carbonate(CAS: 96-49-1); Polyethylene(CAS: 9002-88-4); Carbon(CAS: 7440-44-0); Polymerized Styrene Butadiene Rubber(CAS: 9003-55-8); Poly(1,1-difluoroethylene)(CAS: 24937-79-9); Carboxymethylcellulose Sodium(CAS: 9004-32-4) |  |

名称: 常州合规思远产品安全技术服务有限公司(简称: 合规化学)

Name: Changzhou HeguiSiyuan Products Safety Technology Service Co., Ltd. (CRchemical)

地址: 江苏省常州市新北区太湖东路9号4幢1205室

Add: 4-1205, Creative Industries Park, No.9, East Taihu Road, Xinbei District, Changzhou, 213022, Jiangsu P.R.China.

网址|Web: www.hgmsds.com

咨询电话|Tel: +86-519-8515 0306

监督电话|Tel: +86-519-8515 0309

邮箱|E-mail: msds@hgmsds.com

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## Safety Data Sheet

# Lithium ion Battery Module CM2900

Version : V2.0.0.1

Report No. : HGBZ2309R7Y2

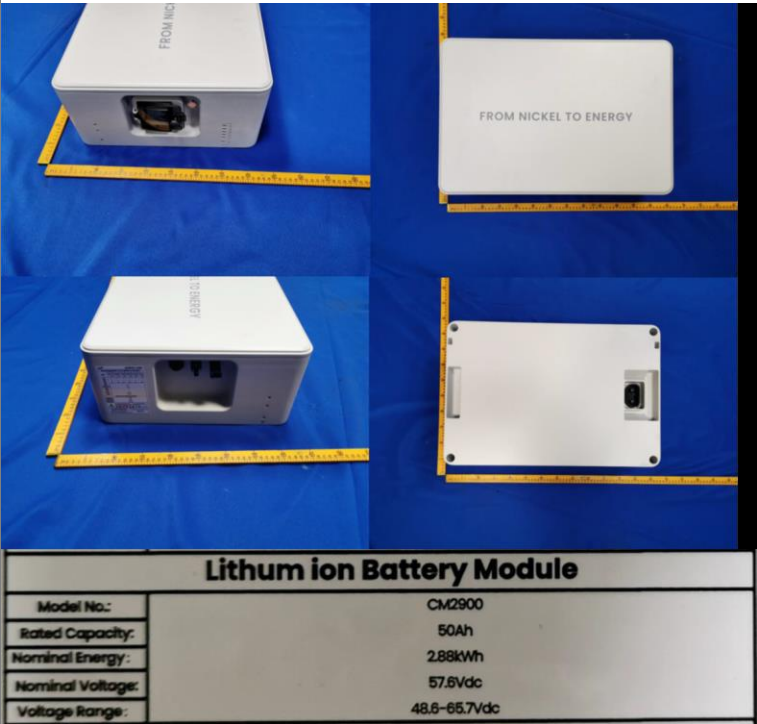
Creation Date : 2023/09/08

Revision Date : 2023/09/08

\*According to WHS and ADG requirements

## 1 Identification

### Product identifier

| Product Name               | Lithium ion Battery Module CM2900  |                            |  |            |        |                 |      |                 |         |                  |         |                |              |
|----------------------------|--|----------------------------|--|------------|--------|-----------------|------|-----------------|---------|------------------|---------|----------------|--------------|
| Product Model              | CM2900   |                            |  |            |        |                 |      |                 |         |                  |         |                |              |
| CAS No.                    | Not applicable   |                            |  |            |        |                 |      |                 |         |                  |         |                |              |
| EC No.                     | Not applicable   |                            |  |            |        |                 |      |                 |         |                  |         |                |              |
| Molecular Formula          | Not applicable   |                            |  |            |        |                 |      |                 |         |                  |         |                |              |
| Product Picture            |  <table><tr><th colspan="2">Lithium ion Battery Module</th></tr><tr><td>Model No.:</td><td>CM2900</td></tr><tr><td>Rated Capacity:</td><td>50Ah</td></tr><tr><td>Nominal Energy:</td><td>2.88kWh</td></tr><tr><td>Nominal Voltage:</td><td>57.5Vdc</td></tr><tr><td>Voltage Range:</td><td>48.6-65.7Vdc</td></tr></table> | Lithium ion Battery Module |  | Model No.: | CM2900 | Rated Capacity: | 50Ah | Nominal Energy: | 2.88kWh | Nominal Voltage: | 57.5Vdc | Voltage Range: | 48.6-65.7Vdc |
| Lithium ion Battery Module |  |                            |  |            |        |                 |      |                 |         |                  |         |                |              |
| Model No.:                 | CM2900   |                            |  |            |        |                 |      |                 |         |                  |         |                |              |
| Rated Capacity:            | 50Ah   |                            |  |            |        |                 |      |                 |         |                  |         |                |              |
| Nominal Energy:            | 2.88kWh  |                            |  |            |        |                 |      |                 |         |                  |         |                |              |
| Nominal Voltage:           | 57.5Vdc  |                            |  |            |        |                 |      |                 |         |                  |         |                |              |
| Voltage Range:             | 48.6-65.7Vdc   |                            |  |            |        |                 |      |                 |         |                  |         |                |              |

### Recommended use of the product and restrictions on use

|                          |   |
|--------------------------|---|
| Relevant identified uses | The CM2900 is the battery module in the ECS2900-Hx Battery System, x=2/3/4/5/6/7. |
| Uses advised against     | No special instructions.  |

### Details of the supplier

|                     |  |
|---------------------|--|
| Applicant Name      | FOXESS CO., LTD.   |
| Applicant Address   | No.939, Jinhai Third Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang, China |
| Applicant Post Code | 325025   |
| Applicant Telephone | 0510-68092998  |
| Applicant Fax       | —  |

|                           |  |
|---------------------------|--|
| <b>Applicant E-mail</b>   | foxrd@fox-ess.com  |
| <b>Supplier Name</b>      | FOXESS CO., LTD.   |
| <b>Supplier Address</b>   | No.939, Jinhai Third Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang, China |
| <b>Supplier Post Code</b> | 325025   |
| <b>Supplier Telephone</b> | 0510-68092998  |
| <b>Supplier Fax</b>       | —  |
| <b>Supplier E-mail</b>    | foxrd@fox-ess.com  |
| <b>Importer Name</b>      | FOXESS AUSTRALIA PTY LTD   |
| <b>Importer Address</b>   | Unit 2, 38-40 PROSPECT STREET, BOX HILL, VIC   |
| <b>Importer Post Code</b> | 3128   |
| <b>Importer Telephone</b> | +61 411 834 749  |
| <b>Importer Fax</b>       | —  |
| <b>Importer E-mail</b>    | david@fox-ess.com  |

### Emergency phone number

|                               |                                 |
|-------------------------------|---------------------------------|
| <b>Emergency phone number</b> | +61 411 834 749 ; 0510-68092998 |
|-------------------------------|---------------------------------|

## 2 Hazard(s) identification

### Hazard classification according to WHS

The product meets the definition of "article". In the Globally Harmonized Chemical Classification and Labeling System (GHS), the "articles" defined by the US Occupational Safety and Health Administration "Hazard Communication Standard" (29 CFR 1910.1200) or similar definitions do not fall within the scope of this system. According to WHS, not classified as a hazardous chemical.

### Label elements

|                          |                |
|--------------------------|----------------|
| <b>Hazard pictograms</b> | Not applicable |
| <b>Signal words</b>      | Not applicable |

### Hazard statements

|                              |                |
|------------------------------|----------------|
| <b>Hazard Statement Code</b> | Not applicable |
|------------------------------|----------------|

### Precautionary statements

#### ◆ Prevention

|                   |                |
|-------------------|----------------|
| <b>Prevention</b> | Not applicable |
|-------------------|----------------|

#### ◆ Response

|                 |                |
|-----------------|----------------|
| <b>Response</b> | Not applicable |
|-----------------|----------------|

#### ◆ Storage

|                |                |
|----------------|----------------|
| <b>Storage</b> | Not applicable |
|----------------|----------------|

#### ◆ Disposal

|                 |                |
|-----------------|----------------|
| <b>Disposal</b> | Not applicable |
|-----------------|----------------|

### Hazard description

#### ◆ Physical and chemical hazards

|  |  |
|--|--|
|  | When the outer enclosure and safety circuits have been compromised or have been significantly damaged, it is likely to contain substantial electrical charge and |
|--|--|

can cause injury or death if mishandled. Mechanical damage can lead to danger. Battery products exposed to high temperature conditions, may produce heat out of control, causing fire.

#### ◆ Health hazards

|                     |   |
|---------------------|---|
| <b>Inhaled</b>      | According to the material form, it is not the normal way of contacting.             |
| <b>Ingestion</b>    | Accidental ingestion of the product may be harmful to the health of the individual. |
| <b>Skin Contact</b> | No harm in general situation.   |
| <b>Eye</b>          | This product may cause temporary discomfort following direct contact with the eye.  |

#### ◆ Environmental hazards

Please refer to 12th chapter of SDS.

### 3 Composition/information on ingredients

#### Substance/mixture

Mixture

| Component                            | CAS No.    | EC No.    | Concentration (Volume or weight percent, %) |
|--------------------------------------|------------|-----------|---|
| Lithium Iron Phosphate               | 15365-14-7 | 604-917-2 | Commercial secrets                          |
| Graphite                             | 7782-42-5  | 231-955-3 | Commercial secrets                          |
| Aluminium                            | 7429-90-5  | 231-072-3 | Commercial secrets                          |
| Copper                               | 7440-50-8  | 231-159-6 | Commercial secrets                          |
| Dimethyl carbonate                   | 616-38-6   | 210-478-4 | Commercial secrets                          |
| Ethyl methyl carbonate               | 623-53-0   | 613-014-2 | Commercial secrets                          |
| Ethylene carbonate                   | 96-49-1    | 202-510-0 | Commercial secrets                          |
| Polyethylene                         | 9002-88-4  | 618-339-3 | Commercial secrets                          |
| Carbon                               | 7440-44-0  | 231-153-3 | Commercial secrets                          |
| Polymerized Styrene Butadiene Rubber | 9003-55-8  | 618-370-2 | Commercial secrets                          |
| Poly(1,1-difluoroethylene)           | 24937-79-9 | 607-458-6 | Commercial secrets                          |
| Carboxymethylcellulose Sodium        | 9004-32-4  | 618-378-6 | Commercial secrets                          |

### 4 First-aid measures

#### Description of first aid measures

|                                   |  |
|-----------------------------------|--|
| <b>General advice</b>             | Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.  |
| <b>Eye contact</b>                | Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.                                   |
| <b>Skin contact</b>               | No harm in general situation. First aid is not needed.   |
| <b>Ingestion</b>                  | Never give anything by mouth to an unconscious person. Call a physician immediately.   |
| <b>Inhalation</b>                 | Move victim into fresh air. If breathing is difficult, give oxygen and consult a physician immediately.  |
| <b>Protecting of first-aiders</b> | Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination. |

**| Most important symptoms/effects, acute and delayed**

|   |                        |
|---|------------------------|
| 1 | Please see section 11. |
|---|------------------------|

**| Indication of any immediate medical attention and special treatment needed**

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

**5 Fire-fighting measures****| Extinguishing media**

|                                       |   |
|---------------------------------------|---|
| <b>Suitable extinguishing media</b>   | Please use lithium battery fire extinguisher. |
| <b>Unsuitable extinguishing media</b> | No information available.                     |

**| Specific hazards arising from the substance or mixture**

|   |   |
|---|---|
| 1 | Development of hazardous combustion gases or vapor possible in the event of fire. |
| 2 | May expansion or decompose explosively when heated or involved in fire.           |

**| Special protective equipment and precautions for fire-fighters**

|   |  |
|---|--|
| 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.                          |

**6 Accidental release measures****| Personal precautions, protective equipment and emergency procedures**

|   |   |
|---|---|
| 1 | Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges. |
| 2 | Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.                                   |
| 3 | Use personal protective equipment,do not breathe dust/fume.   |

**| 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 | Cut off the source of the leak as much as possible.   |
| 2 | Keep leaks in a ventilated place.   |
| 3 | Isolation of contaminated areas and restrictions on access.   |
| 4 | It is recommended that emergency personnel wear dust masks.   |
| 5 | Collect the spill with a clean shovel and place it in a clean, dry, loosely closed container and move the container away from the leak. |
| 6 | Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.                      |

**7 Handling and storage****| Precautions for safe 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. |

### Conditions for safe storage, including any incompatibilities

|   |  |
|---|--|
| 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. |

## 8 Exposure controls/personal protection

### Control parameters

| Component | Country/Region  | Limit value - Eight hours |                   | Limit value - Short term |                   |
|-----------|-----------------|---------------------------|-------------------|--------------------------|-------------------|
|           |                 | ppm                       | mg/m <sup>3</sup> | ppm                      | mg/m <sup>3</sup> |
| Graphite  | USA - OSHA      | -                         | 15                | -                        | -                 |
|           | South Korea     | -                         | 2                 | -                        | -                 |
|           | Ireland         | -                         | 10                | -                        | -                 |
|           | Germany (DFG)   | -                         | 4                 | -                        | -                 |
|           | Denmark         | -                         | 2.5               | -                        | 5                 |
|           | Australia       | -                         | 3 (4)             | -                        | -                 |
|           | USA-ACGIH       | -                         | 2                 | -                        | -                 |
| Aluminium | USA - OSHA      | -                         | 15                | -                        | -                 |
|           | South Korea     | -                         | 10                | -                        | -                 |
|           | Ireland         | -                         | 1                 | -                        | -                 |
|           | Germany (DFG)   | -                         | 4                 | -                        | -                 |
|           | Denmark         | -                         | 5                 | -                        | 10                |
|           | Australia       | -                         | 10                | -                        | -                 |
|           | USA-ACGIH       | -                         | 1                 | -                        | -                 |
| Copper    | The Netherlands | -                         | 0.1               | -                        | -                 |
|           | Poland          | -                         | 0.2               | -                        | -                 |
|           | Latvia          | -                         | 0.5               | -                        | 1                 |
|           | Germany (DFG)   | -                         | 0.01              | -                        | 0.02              |

#### ◆ Biological limit values

|                                |                         |
|--------------------------------|-------------------------|
| <b>Biological limit values</b> | No relevant regulations |
|--------------------------------|-------------------------|

#### ◆ 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 300 series standard Determination of toxic substances in workplace air.   |



## 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 | Set up emergency exit and necessary risk-elimination area.                             |
| 4 | Handle in accordance with good industrial hygiene and safety practice.                 |

## Personal protection equipment

| General requirement      |   |
|--------------------------|---|
| Eye protection           | In general situation, eye protection is not needed. In the production process, when contacting with vapour or dust, tightly fitting safety goggles.                                       |
| Hand protection          | In general situation, hand protection is not needed.  |
| Respiratory protection   | In general situation, respiratory protection is not needed. If exposure limits are exceeded or if irritation or other symptoms are experienced, wear dust proof mask or gas defence mask. |
| Skin and body protection | In general situation, skin and body protection are not needed.  |

## 9 Physical and chemical properties and safety characteristics

### Physical and chemical properties

|   |   |
|---|---|
| Physical state                              | Solid (see picture for details)   |
| Colour                                      | White   |
| Odor  | No special odor   |
| 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(Closed cup, °C)                 | Not applicable  |
| Evaporation rate                            | Not applicable  |
| Flammability                                | Not flammable   |
| Upper/lower explosive limits[%(v/v)]        | Upper limit : No information available ; Lower limit : No information available |
| Vapor pressure                              | Not applicable  |
| Relative vapour density(Air = 1)            | Not applicable  |
| Relative density(Water=1)                   | No information available  |
| Solubility                                  | Insoluble in water  |
| n-octanol/water partition coefficient       | No information available  |
| Auto-ignition temperature(°C)               | No information available  |
| Decomposition temperature(°C)               | No information available  |
| Kinematic viscosity                         | Not applicable  |
| Particle characteristics                    | No information available  |

## 10 Stability and reactivity

**Stability and reactivity**

|   |  |
|---|--|
| <b>Reactivity</b>                         | Contact with incompatible substances can cause decomposition or other chemical reactions.            |
| <b>Chemical stability</b>                 | Stable under proper operation and storage conditions.  |
| <b>Possibility of hazardous reactions</b> | No information available.  |
| <b>Conditions to avoid</b>                | Incompatible materials, heat, flame and spark.   |
| <b>Incompatible materials</b>             | Oxidants, halogen, interhalogen and mercury.   |
| <b>Hazardous decomposition products</b>   | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

**11 Toxicological information****Acute toxicity**

| Component                            | LD <sub>50</sub> (oral) | LD <sub>50</sub> (dermal) | LC <sub>50</sub> (inhalation,4h) |
|--------------------------------------|-------------------------|---------------------------|----------------------------------|
| <b>Carboxymethylcellulose Sodium</b> | 27000mg/kg(Rat)         | > 2000mg/kg(Rabbit)       | > 5.8mg/L(Rat)                   |
| <b>Dimethyl carbonate</b>            | 13000mg/kg(Rat)         | > 5000mg/kg(Rabbit)       | No information available         |
| <b>Ethylene carbonate</b>            | 10000mg/kg(Rat)         | > 3000mg/kg(Rabbit)       | No information available         |

**Carcinogenicity**

| Component                                   | List of carcinogens by the IARC Monographs | Report on Carcinogens by NTP |
|---|--|------------------------------|
| <b>Lithium Iron Phosphate</b>               | Not Listed                                 | Not Listed                   |
| <b>Graphite</b>                             | Not Listed                                 | Not Listed                   |
| <b>Aluminium</b>                            | Not Listed                                 | Not Listed                   |
| <b>Copper</b>                               | Not Listed                                 | Not Listed                   |
| <b>Dimethyl carbonate</b>                   | Not Listed                                 | Not Listed                   |
| <b>Ethyl methyl carbonate</b>               | Not Listed                                 | Not Listed                   |
| <b>Ethylene carbonate</b>                   | Not Listed                                 | Not Listed                   |
| <b>Polyethylene</b>                         | Category 3                                 | Not Listed                   |
| <b>Carbon</b>                               | Not Listed                                 | Not Listed                   |
| <b>Polymerized Styrene Butadiene Rubber</b> | Category 3                                 | Not Listed                   |
| <b>Poly(1,1-difluoroethylene)</b>           | Not Listed                                 | Not Listed                   |
| <b>Carboxymethylcellulose Sodium</b>        | Not Listed                                 | Not Listed                   |

**Others**

| Lithium ion Battery Module CM2900    |  |
|--------------------------------------|--|
| <b>Skin corrosion/irritation</b>     | Based on available data, the classification criteria are not met |
| <b>Serious eye damage/irritation</b> | Based on available data, the classification criteria are not met |
| <b>Skin sensitization</b>            | Based on available data, the classification criteria are not met |
| <b>Respiratory sensitization</b>     | Based on available data, the classification criteria are not met |

|                               |  |
|-------------------------------|--|
| <b>Reproductive toxicity</b>  | Based on available data, the classification criteria are not met |
| <b>STOT-single exposure</b>   | Based on available data, the classification criteria are not met |
| <b>STOT-repeated exposure</b> | Based on available data, the classification criteria are not met |
| <b>Aspiration hazard</b>      | Based on available data, the classification criteria are not met |
| <b>Germ cell mutagenicity</b> | Based on available data, the classification criteria are not met |

## 12 Ecological information

### Acute aquatic toxicity

| Component                            | Fish   | Crustaceans  | Algae   |
|--------------------------------------|--|--|---|
| <b>Carboxymethylcellulose Sodium</b> | No information available                             | EC <sub>50</sub> : 87.3mg/L (48h)(Daphnia magna)         | No information available                              |
| <b>Aluminium</b>                     | LC <sub>50</sub> : 1.55mg/L (96h)(Fish)              | No information available                                 | No information available                              |
| <b>Dimethyl carbonate</b>            | LC <sub>50</sub> : ≥ 100mg/L (96h)(Fresh water fish) | EC <sub>50</sub> : > 100mg/L (48h)(Daphnia magna)        | No information available                              |
| <b>Ethyl methyl carbonate</b>        | LC <sub>50</sub> : > 100mg/L (96h)(Fresh water fish) | EC <sub>50</sub> : > 100mg/L (48h)(Daphnia magna)        | No information available                              |
| <b>Lithium Iron Phosphate</b>        | LC <sub>50</sub> : > 28mg/L (96h)(Fresh water fish)  | EC <sub>50</sub> : > 28mg/L (48h)(Aquatic invertebrates) | No information available                              |
| <b>Ethylene carbonate</b>            | LC <sub>50</sub> : > 100mg/L (96h)(Fish)             | EC <sub>50</sub> : > 100mg/L (48h)(Ceriodaphnia dubia)   | No information available                              |
| <b>Graphite</b>                      | LC <sub>50</sub> : 100mg/L (96h)(Fresh water fish)   | No information available                                 | No information available                              |
| <b>Copper</b>                        | LC <sub>50</sub> : 0.665mg/L (96h)(Fish)             | EC <sub>50</sub> : 0.02mg/L (48h)(Daphnia magna)         | ErC <sub>50</sub> : 7.9mg/L (96h)(Chlorella vulgaris) |

### Chronic aquatic toxicity

|                                 |                          |
|---------------------------------|--------------------------|
| <b>Chronic aquatic toxicity</b> | No information available |
|---------------------------------|--------------------------|

### Persistence and degradability

| Component                     | Persistence (water/soil) | Persistence (air) |
|-------------------------------|--------------------------|-------------------|
| <b>Graphite</b>               | Low                      | Low               |
| <b>Ethyl methyl carbonate</b> | High                     | High              |
| <b>Ethylene carbonate</b>     | High                     | High              |
| <b>Polyethylene</b>           | Low                      | Low               |

### Bioaccumulative potential

| Component                     | Bioaccumulative potential | Comments        |
|-------------------------------|---------------------------|-----------------|
| <b>Graphite</b>               | Low                       | Log Kow=0.5294  |
| <b>Ethyl methyl carbonate</b> | Low                       | Log Kow=0.7247  |
| <b>Ethylene carbonate</b>     | Low                       | Log Kow=-0.3388 |
| <b>Polyethylene</b>           | Low                       | Log Kow=1.2658  |

### Mobility in soil

| Component              | Mobility in soil | Soil Organic Carbon-Water Partitioning Coefficient (Koc) |
|------------------------|------------------|--|
| Graphite               | Low              | 23.74  |
| Ethyl methyl carbonate | Low              | 15.22  |
| Ethylene carbonate     | Low              | 9.168  |
| Polyethylene           | Low              | 14.3   |

## Results of PBT and vPvB assessment

| Component                               | Results of PBT and vPvB assessment [according to (EC) No 1907/2006] |
|---|---|
| Lithium Iron Phosphate                  | No information available  |
| Graphite                                | Not applicable  |
| Aluminium                               | Not applicable  |
| Copper                                  | Not applicable  |
| Dimethyl carbonate                      | Not PBT/vPvB  |
| Ethyl methyl carbonate                  | Not PBT/vPvB  |
| Ethylene carbonate                      | Not PBT/vPvB  |
| Polyethylene                            | No information available  |
| Carbon                                  | No information available  |
| Polymerized Styrene<br>Butadiene Rubber | No information available  |
| Poly(1,1-difluoroethylene)              | No information available  |
| Carboxymethylcellulose<br>Sodium        | No information available  |


## 13 Disposal considerations

### 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   | Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible. |
| Disposal recommendations | Refer to section waste chemicals and contaminated packaging.   |

## 14 Transport information

### Label

|                    |   |
|--------------------|---|
| Transporting Label |  |
|--------------------|---|

### Sea transport (IMDG-Code / GGVSee)

|                         |   |
|-------------------------|---|
| 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 |
| Marine pollutant ( Yes or no )    | No   |

#### Air transport (ICAO-IATA / DGR)

|                                   |  |
|-----------------------------------|--|
| 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 |

#### Land transport (ADG-Code)

|                                   |  |
|-----------------------------------|--|
| 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 |

### 15 Regulatory information

#### International chemical inventory

| Component                            | EC inventory | TSCA | DSL | IECSC | NZIoC | PICCS | KECI | AIICS | ENCS |
|--------------------------------------|--------------|------|-----|-------|-------|-------|------|-------|------|
| Lithium Iron Phosphate               | ×            | ✓    | ✓   | ✓     | ×     | ×     | ✓    | ×     | ✓    |
| Graphite                             | ✓            | ✓    | ✓   | ✓     | ✓     | ✓     | ✓    | ✓     | ×    |
| Aluminium                            | ✓            | ✓    | ✓   | ✓     | ✓     | ✓     | ✓    | ✓     | ✓    |
| Copper                               | ✓            | ✓    | ×   | ✓     | ✓     | ✓     | ✓    | ✓     | ✓    |
| Dimethyl carbonate                   | ✓            | ✓    | ✓   | ✓     | ✓     | ✓     | ✓    | ✓     | ✓    |
| Ethyl methyl carbonate               | ×            | ✓    | ×   | ✓     | ×     | ✓     | ✓    | ×     | ✓    |
| Ethylene carbonate                   | ✓            | ✓    | ✓   | ✓     | ✓     | ✓     | ✓    | ✓     | ✓    |
| Polyethylene                         | ×            | ✓    | ✓   | ✓     | ✓     | ✓     | ✓    | ✓     | ✓    |
| Carbon                               | ✓            | ✓    | ✓   | ✓     | ✓     | ✓     | ✓    | ✓     | ✓    |
| Polymerized Styrene Butadiene Rubber | ×            | ✓    | ✓   | ✓     | ✓     | ✓     | ✓    | ✓     | ✓    |
| Poly(1,1-difluoroethylene)           | ×            | ✓    | ✓   | ✓     | ✓     | ✓     | ✓    | ✓     | ✓    |
| Carboxymethylcellulose Sodium        | ×            | ✓    | ×   | ✓     | ✓     | ✓     | ✓    | ✓     | ✓    |

[EC inventory] 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]  | Korea Existing Chemicals Inventory                    |
| [AIICS] | Australian. Inventory of Industrial Chemical (AIICS)  |
| [ENCS]  | Japan Inventory of Existing & New Chemical Substances |

**Note:**

|     |   |
|-----|---|
| “√” | Indicates that the substance included in the regulations. |
| “x” | No data or not included in the regulations.               |

## 16 Other information

### Information on revision

|                     |            |
|---------------------|------------|
| Creation Date       | 2023/09/08 |
| Revision Date       | 2023/09/08 |
| Reason for revision | -          |

### Reference

- [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: <https://www.echemportal.org/echemportal/substancesearch/index.action>.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
- [7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
- [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

### Abbreviations and acronyms

|                  |                                      |           |   |
|------------------|--------------------------------------|-----------|---|
| CAS              | Chemical Abstracts Service           | UN        | The United Nations  |
| PC-STEL          | Short term exposure limit            | OECD      | Organization for Economic Co-operation and Development    |
| PC-TWA           | Time Weighted Average                | IMDG-CODE | International Maritime Dangerous Goods CODE               |
| MAC              | Maximum Allowable Concentration      | IARC      | International Agency for Research on Cancer               |
| DNEL             | Derived No Effect Level              | ICAO      | International Civil Aviation Organization                 |
| PNEC             | Predicted No Effect Concentration    | IATA      | International Air Transportation Association              |
| NOEC             | No Observed Effect Concentration     | ACGIH     | American Conference of Governmental Industrial Hygienists |
| LC <sub>50</sub> | Lethal Concentration 50%             | NFPA      | National Fire Protection Association                      |
| LD <sub>50</sub> | Lethal Dose 50%                      | NTP       | National Toxicology Program                               |
| EC <sub>50</sub> | Effective Concentration 50%          | PBT       | Persistent, Bioaccumulative, Toxic                        |
| EC <sub>x</sub>  | Effective Concentration X%           | vPvB      | very Persistent, very Bioaccumulative                     |
| P <sub>OW</sub>  | Partition coefficient Octanol: Water | CMR       | Carcinogens, mutagens or substances toxic to reproduction |
| BCF              | Bioconcentration factor              | RPE       | Respiratory Protective Equipment                          |
| ED               | Endocrine disruptor                  |           |   |

### Disclaimer

This Safety Data Sheet (SDS) was prepared according to WHS. 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.