

BATTERY INFORMATION SHEET for Tridonic LiFePO₄ Batteries with a capacity of 1.5 – 9.0 Ah

1. Identification

1.1 Product

Trade name: Lithium-ion rechargeable cells

Application of the substance / the preparation: Consumable

1.2 Supplier

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1.3 Emergency contact

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2. Hazard identification

Explosive risk	This article does not belong to the explosion dangerous goods.
Flammable risk	This article does not belong to the flammable material.
Oxidation risk	This article does not belong to the oxidation of dangerous goods.
Toxic risk	This article does not belong to the toxic dangerous goods.
Radioactive risk	This article does not belong to the radiation of dangerous goods.
Mordant risk	This article does not belong to the corrosion of dangerous goods.
Other risk	The battery which belong to the Lithium ion batteries.

3. Composition / information on ingredients

Chemical name	Concentration	Cas No.	Classification and hazard labeling
Lithium Iron Phosphate (LiFePO ₄)	25 – 35 %	15365-14-7	Eye, skin, respiratory irritant
Carbon, as Graphite	10 – 20 %	7440-44-0	Eye, skin, respiratory irritant
Aluminum	4 – 9 %	7429-90-5	Insert
Copper	8 – 12 %	7440-50-8	Insert
Electrolyte	12 – 22 %	–	Mixture, Flammable, Reactive, Sensitizer, Eye irritant
Ethylene carbonate		96-49-1	Skin and respiratory irritant
Dimethyl carbonate		616-38-6	
Ethyl methyl carbonate		623-53-0	
Lithium hexafluorophosphate		21324-40-3	

4. First-Aid measures

Eye contact:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin contact:

Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.

Inhalation:

Remove from exposure and move to fresh air immediately. Use oxygen if available.

Ingestion:

Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician!

5. Fire-Fighting measures

Flash point:

N/A.

Auto-Ignition temperature:

N/A.

Extinguishing Media:

Water, CO2.

Special Fire-Fighting Procedures:

Self-contained breathing apparatus.

Unusual Fire and Explosion Hazards:

Cell may vent when subjected to excessive heat-exposing battery contents.

Hazardous Combustion Products:

Carbon monoxide, carbon dioxide, lithium oxide fumes.

6. Accidental release measures

Steps to be Taken in case Material is Released or Spilled:

If the battery material is released, remove personnel from area until fumes dissipate.

Provide maximum ventilation to clear out hazardous gases.

Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can.

The preferred response is to leave the area and allow the battery to cool and vapors to dissipate.

Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

Waste Disposal Method:

It is recommended to discharge the battery to the end, to use up the metal lithium inside the battery, and to bury the discharged battery in soil.

7. Handling and storage

The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.

Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire.

Do not crush or puncture the battery, or immerse in liquids.

Precautions to be taken in handling and storing:

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change.

Storage at high temperatures should be avoided.

Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

Other Precautions:

The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures.

Do not short or install with incorrect polarity.

8. Exposure controls / personal protection

Respiratory Protection:

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory protection is not necessary under conditions of normal use.

Ventilation:

Not necessary under conditions of normal use.

Protective Gloves:

Not necessary under conditions of normal use.

Other Protective Clothing or Equipment:

Not necessary under conditions of normal use.

Personal Protection is recommended for venting battery:

Respiratory protection, protective gloves, protective clothing and safety glass with side shields.

9. Physical and chemical properties

Appearance	Cylinder
Odour	If leaking, smells of medical ether.
pH	Not applicable as supplied.
Flash point	Not applicable unless individual components exposed.
Flammability	Not applicable unless individual components exposed.
Relative density	Not applicable unless individual components exposed.
Solubility (water)	Not applicable unless individual components exposed.
Solubility (other)	Not applicable unless individual components exposed.

10. Stability and reactivity

Stability:

Product is stable under conditions described in Section 7.

Conditions to Avoid :

Heat above 70°C, incinerate, deform, mutilate, crush, disassemble, overcharge, short circuit or expose over a long period to humid conditions.

Materials to avoid:

Oxidising agents, alkalis, water.

Hazardous Decomposition Products:

Toxic fumes, and may form peroxides.

Hazardous Polymerization:

N/A.

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalies, halogenated hydrocarbons.

11. Toxicological information

Signs & symptoms:

None, unless battery ruptures.

In the event of exposure to internal contents, vapour fumes may be very irritating to the eyes and skin.

Inhalation:

Lung irritant.

Skin contact:

Skin irritant.

Eye contact:

Eye irritant

Ingestion:

Poisoning if swallowed.

Medical conditions generally aggravated by exposure:

In the event of exposure to internal contents, moderate to severe irritation, burning and dryness of the skin may occur, target organs nerves, liver and kidneys.

12. Ecological information

Mammalian effects:

None known at present.

Eco-toxicity:

None known at present.

Bioaccumulation potential:

Slowly Bio-degradable.

Environmental fate:

None known environmental hazards at present.

13. Disposal considerations

Do not incinerate, or subject cells to temperature in excess of 70 °C.

Such abuse can result in loss of seal leakage, and / or cell explosion.

Dispose of in accordance with appropriate local regulations.

14. Transport information

Label for conveyance:

Lithium Battery Label, Class 9 Label, Cargo Aircraft Only.

UN:

UN3480/UN3481

Packaging Group:

N/A

Marine pollutant:

No

Proper Shipping name:

Lithiumion batteries

Hazard Classification:

The goods shall comply with the requirements of Packing Instruction 965 ~ 967 of 60th DGR Manual of IATA.

Package complies with the special provision 188 of IMDG CODE (Amdt. 38-16), including the passing of the UN38.3 test.

15. Regulatory information

Law information:

- Dangerous Goods Regulations
- Recommendations on the 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 Substance Control Act (TSCA)
- Consumer Product Safety Act (CPSA)
- Federal Environmental Pollution Control Act (FEPCA)
- The Oil Pollution Act (OPA)
- Superfund Amendments and Reauthorization Act Title III [302/311/312/313] (SARA)
- Resource Conservation and Recovery Act (RCRA)
- Safety Drinking Water Act (CWA)
- California Proposition 65
- Code of Federal Regulations (CFR)

In accordance with all Federal, State and local laws.

16. Other information

Users should read this file carefully, and use the batteries in correct method.

Tridonic doesn't assume responsibility for any damage or loss because of misuse of batteries.