MATERIAL SAFETY DATA SHEET
Lithium Iron Phosphate Battery Series

Section 1 – Product Identification/ Manufacturer and Supplier's Information

IDENTITY
Product Category : Lithium Ion Rechargeable Battery Series
Model Name : 5A010-300042401
Nominal Voltage : 24V
Nominal Capacity : 10Ah
Chemical System : Lithium Iron Phosphate / Carbon
Design for Recharge : ■ Yes. □ No.

Manufacturer's Name : PHET
Supplier's Name : Pihsiang Energy Technology Co., Ltd.
Supplier's Address : NO.7 Gongyeh 5 Road Hsinchu Industry Park, Huko Taiwan R.O.C
Information Telephone : 886-3-5688585 Ext 1218
Emergency Telephone : 886-3-5686202
Date Prepared : January 6, 2016

Section 2 – Composition/Information on Ingredients

Material or Ingredients

Battery Cell: IFR13N0/IFR018650

Component	Material	CAS#
Cathode	Lithium Iron Phosphate LiFePO4	15365-14-7
Anode	Carbon	7782-42-5
Electrolyte	ETHYLENE CARBONATE PROPYLENE CARBONATE	96-49-1 108-32-7

Electricity Conductive Materials:

Constituents	Weight %	CAS#
Ni	>98	7440-02-0

Insulating Tape:

Material	Ingredient	CAS#
Insulating Tape	Cellulose($C_8H_{10}O_5$) Sb_2O_3	9004-34-6 1309-64-4
3M Electrical Tape	Polyester Film (50~75%) Flame Retardant Adhesive (25~50%)	None None

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Section 3 – Hazards Identification

Important Note : The cell should not be opened or burned, since the above ingredients contained within, or their discharge or combustion products, could be harmful under some circumstance if exposed.

Others : Lithium Ion content is 353 Watt-hour; Active metals such Lithium metal is also not added. Heavy metals such as Mercury, Cadmium, Lead and Chromium are not added in the cell.

Section 4 – First – Aid Measures

Under normal conditions of use, these chemicals are contained in sealed can; therefore, risk of exposure occurs if the cell is mechanically abused.

Inhalation : Contents of an opened battery can cause respiratory irritation.
Provide fresh air and call a doctor.

Skin Contact : Contents of an opened battery can cause skin irritation.
Wash the skin with soap and water.

Eye Contact : Contents of an opened battery can cause eye irritation.
Immediately flush eyes thoroughly

Section 5 – Fire Fighting Measures

Lithium Ion Batteries are non-hazardous, non-flammable and non-explosion products.
In case of fire, it is permissible to use any class of extinguishing medium or water on these cells or their packing material. Cool exterior of cells if exposed to fire to prevent rupture.

Section 6 – Accidental Release Measures

- Place in appropriate container;
- Wash spill site with soap solution;
- Flush spill area with copious amount of water.

Section 7 – Handling and Storage

Storage : Store in a cool, well-ventilated area. Elevated temperatures can result in shortened cell life. Since short circuit can cause burn hazard and leak or explode hazard, do not cells jumbled in bulk containers.

Handling : Do not short.
Do not mix different condition or lot cells together in the battery pack.
Do not directly heat, solder or throw into fire.
Such unsuitable use can cause leakage, explosion or fire.

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Charging : This cell is designed for recharging.
Charging condition shall be in accordance with manufacturer's recommendation.

Section 8 – Exposure Controls/Personal Protection

Respiratory Protection : Not necessary under normal use.
Ventilation : Not necessary under normal use.
Eye Protection : Not necessary under normal use.
Protective Gloves : Not necessary under normal use.

Section 9 – Physical and Chemical Properties

APPEARANCE	Black Prismatic
ODOR	Odorless
SOLUBILITY	Data not yet available
SPECIFIC GRAVITY	Data not yet available

Section 10 – Stability and Reactivity

Stability	Stable under normal conditions of use and storage.
Hazardous Decomposition Products	Thermal decomposition of electrolyte will produce toxic fume, vapor or dust.
Incompatibilities	Avoid contact with strong bases, acids, combustible organic materials.
Conditions to Avoid	Prolonged overcharge; sources of ignition.

Section 11 – Toxicological Information

Potential Health Effects：

Skin	Direct contact with electrolyte may cause severe irritation, burns and ulceration.
Eyes	Direct contact with electrolyte may cause severe irritation, burns, cornea damage, or blindness.
Acute Health Hazards	Repeated or prolonged contact may cause skin irritation, damage to cornea, and upper respiratory irritation.
Additional Information	No health effects are expected related to normal use of this product as sold.

Section 12 – Ecological Information

Since a battery cell and the internal materials remain in the environment, do not bury or throw out into the environment.

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Section 13 – Disposal Considerations

Disposal : Dispose in accordance with applicable federal, state and/or local regulations.

Section 14 – Transport Information

Transport: PHET lithium ion batteries are not subject to the requirements of U.S. Department of Transportation (DOT) Hazardous Material Regulations because such of our batteries meet the exceptions under 173.185(b). The only acceptation to this is our batteries that contains less 0.5 grams of lithium per cell and is not subject to the regulations because it meets the requirements of 173.185(c). (Lo., passes the UN T1 to T8)

Based on the International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA) stipulation:

1. The lithium ion batteries meet the requirements of Special Provision PI965 Section 1 as described.
2. The applicable packing instruction must be assigned to Class 9 and consigned as UN 3480 (Lithium ion batteries).
3. All applicable requirements contained in the IATA Dangerous Goods Regulations relation to these commodities must be complied with, including the training requirements; a “Shipper’s Declaration for Dangerous Goods” must be issued, and packages must bear the Class 9 hazard label.
4. The shipper to take additional precautions when preparing batteries for transport.
5. The batteries must have successfully passed the UN test requirements.
6. Packaged batteries or cells must be separated in a way to prevent short circuits and damage to terminals. They must be packed in a strong outer packaging or be contained in equipment.

CAUTION: FIRE OR EXPLOSION IF INCORRECTLY INSTALLED, SHORTED, DISASSEMBLED, HEATED OR DISPOSED IN FIRE.

Section 15 – Regulatory Information

See SECTION 14

Section 16 – Other information

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURROPT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. PIHSIANG ENERGY TECHNOLOGY CO., LTD. SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTIONG FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT.