Report No.: TP201908004

Material Safety Data Sheet

Product Name: Lithium ion Battery Pack

Applicant: Zhejiang Top Power Technology Co., Ltd.

Address: No.9 Wanghu Road, Economic Development Zone, Yongkang City, Zhejiang , China

Prepared and Signed By Zhejiang Top Power Technology Co., Ltd

Date: Aug.30,2019

Material Safety Data Sheet

Section 1- Chemical Product and Company Identification

Product Name Lithium ion Battery Pack

Type TPBT5640 56V 4.0AH 224WH

Manufacture Zhejiang Top Power Technology Co., Ltd.

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Section 2 –Hazards Identification

The equipment is not hazardous when used according to the instructions of the manufacturer. In case of extreme abuse, then there is a risk of machine damage and leave internal components . In case of damaging battery pack internal cell, which would cause release hazardous material. Do not expose to rain or disassemble the machine.

Symptom of Exposure

Skin contact No effect under routine handling and use

Skin absorption No effect under routine handling and use

Eye contact No effect under routine handling and use

Inhalation No effect under routine handling and use

Section3 –Composition information

Table 1 Product composition

Component name	**Weight %**	**CAS NUMBER**
Tin	2+/-2%	7440-31-5
Ni	3+/-2%	NOT Assigned
Engineering plastics	5+/-2%	NOT Assigned
Copper	2+/-1%	7440-50-8
Electronic parts	8+/-1%	Not Assigned
Cell	70-80%	See table 2

Table 2 Lithium battery composition

Composition	Weight %	CAS number
Nickel cobalt manganite	42+/-3%	Not assigned
Acetylene Black	1.5+/-0.5%	1333-86-4
CMC	0.5+/-0.3%	Not assigned
Polyvinylidene Fluoride (PVDF)	1.0+/-0.5%	Not assigned

Graphite	20+/-3%	7782 -42-5
Lithium Hexafluorophosphate	15+/-3%	21324-40-3
Aluminium	6+ /-2%	7429-90-5
Copper	14+/-2%	7440 -50-8

Section 4 –First Aid Measures

Skin contact, Skin absorption, Eye contact, Inhalation: Not a health hazard.

Normal use the product and no disassemble the product: Not a health hazard.

In the case of swallowed disassembled small components such as screw, obtain medical treatment immediately.

In the event of a part broken for the product, do not operate the machine, send to service center to get it repaired.

In the event of a battery cell broken internally, no use the product and escape from electrolyte.

Inhalation: Leave area immediately and seek medical attention.

Eye contact: Rinse eyes with water for 15minutes and seek medical attention.

Skin contact: Wash area thoroughly with soap and water and seek medical attention.

Ingestion: Drink ,milk/water and induce vomiting; seek medical attention

Section 5 –Fire Fighting Measures

The equipment used flame resistant material for motor/PCBA and cell contact

material, normal use won't be over heat and cause a fire itself.

Lithium ion battery internal contains flammable liquid electrolyte that may vent, ignite and produce sparks when subject to over 150oC temperature, burning cells can ignite other batteries and also some plastic parts and corrugated paper.

Combustion products include but not limited to carbon monoxide, carbon dioxide, lithium oxide, lithium oxides and hydrogen fluoride.

EXTINGUSHING MEDIA

Use extinguishing media suitable for the materials are burning and surrounding situation. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings, keep containers cool by spraying with water. Eliminate all ignition sources if safe to do so. When extinguishing fire, be sure to wear personal protective equipments.

Section 6 –Accidental Release Measures

On land

If serious, Place material into suitable containers and call local fire/police department. others refer to section 4 and 5 for measures.

In water

If possible, remove from water and call local fire/police department if serious.

Others Refer to section 4 and 5 for measures.

Section 7 –Handling and Storage

Handling

No special handling requirement for this product. Avoid violent impact and do not expose to rain. Operate the machine refer to instruction manual.

Storage

Dry and cool place. Away from children

Section 8 –Exposure Controls, Personal Protection

Engineering controls

Equipment is designed according to CE and CSA safety requirement. Hazard is not expected when the product is used for intended use. Do not expose to rain.

Exposure Limits: No data available

Personal protective equipment

Respiratory protection: Not necessary under normal use. Wear SCBA if handling an open and leaking battery product.

Hand protection: Wear gloves when operate the product.

Eye Protection: Wear safety glasses when operate the machine

Skin and body protection: Wear protective clothing and boots if operating the Machine

Section 9 – Physical and Chemical Properties

Physical appearance 20oC	Solid
Odor	Odorless
Odor threshold	No data available
PH	No data available
Melting point	No data available

Boiling point/range	No data available
Flash point	No data available
Explosion limits	No data available
Ignition temperature	No data available
Vapour pressure	No data available
Vapour density	No data available
Density	No data available
Solubility	No data available

Section 10 – Stability and Reactivity

Stability	Stable under normal conditions
Reactivity	None
Conditions to avoid and corrosives	Do not expose to rain and over 80 ℃ heat, open flame
Incompatible materials	Water
Hazardous decomposition products	None during normal operating, if battery broken or expose to fire, toxic fumes include but not limited to carbon monoxide, carbon dioxide, lithium oxide, lithium oxides and hydrogen fluoride.

Section 11 –Toxicological Information

The product is not hazardous for intended use. No available data for the product itself. The information for the battery cell In case of fire or leakage combustion and decomposition products may cause irritation and toxicity to skin, eye and respiratory systems.

Acute toxicity No available data for this article. Risk of irritation occurs only if the battery cell itself is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur.

Other Toxicity data

Corrosivity	No data available
Sensitization	No data available
Neurological Effects	No data available
Genetic Effects	No data available
Productive Effects	No data available
Development Effects	No data available
Target Organ Effects	No data available
Carcinogenicity	No data available

Section 12 –Ecological Information

Some material inside battery sealed cell are bioaccumulative. Under normal conditions, these materials are sealed inside steel cylinder and has no harm to people and surrounding environments.

Ecotoxicity	No data available
Persistence degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available

Section 13 –Disposal Considerations

The product is well designed for material reuse and recycle. Correct use and disposal method won't be harm to environment.

Waste Disposal Method: Don't dump into any sewers, on the ground or water.

Recycle it from recycle company.

Dispose product according to all federal, state and local regulations.

Section 14 –Transport Information

Our products (Lithium ion battery packed with the equipment) are designed to comply with CE/CSA and all applicable shipping regulations depend on region and transportation mode.

Worldwide-Air transportation:

ICAO / IATA-DGR “packing instruction 965 section II, lithium ion batteries (limited to a maximum of 30% SOC) “ or “ packing instruction 966 section II” or “packing instruction 967 section II”

Worldwide-Ocean transportation:

IMO-IMDG Code (special provision 188)

The battery cell and battery pack have passed the UN Manual of Tests and Criteria parts III subsection 38.3.

Section 15 –Regulatory Information

Pls refer to SECTION 14 for regulatory information. Further information for battery cell is UL1642, UN38.3 compliance.

Section 16 –Additional Information

MSDS creation date：Aug.30,2019

This MSDS was prepared sincerely on the basis of the information we could obtained, however, it should only be used as a guide and any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Considering safety and reliability, pls inspect the product refer to instruction manual after purchasing priori to use.