

SAFETY DATA SHEET

Sample name: Polymer Lithium Ion Battery

Model No.: FT673672P

Consignor: Performance Designed Products LLC

Address: 9179 Aero Drive, San Diego, CA 92123

1. IDENTIFICATION

Product identifier**Product Name:** Polymer Lithium Ion Battery**Model:** FT673672P**Nominal Voltage:** 3.7V**Typical Capacity:** 2100mAh**Watt-hour:** 7.77Wh**Other means of identification****Synonyms:** None**Relevant identified use of Product and uses advised against:****Recommended Use:** Lithium Batteries**Uses advised against:** Don't disassemble, impact, crush, put into fire or water, don't use above 60 °C!**Details of the Supplier of the safety data sheet:****Name:** Hangzhou Future Power Technology CO., Ltd.**Address:** No.16, Dongwang Road, Dongzhou Street, Fuyang, Hangzhou, Zhejiang, China 311400**Telephone:** 86-571-63371666**E-mail:** battery@fjt.net**Emergency telephone number:** 86-13823324184

2. HAZARDS IDENTIFICATION

Classification:

The watt-hour rate of the product is 7.77 Wh, it belongs to the lithium-ion battery.

This product is defined as an 'article' under the OSHA Hazard Communication standard 1910.1200(c). Articles are exempt from OSHA Safety Data Sheet (SDS) requirements.

This product should not present a health or safety hazard during recommended normal use. Misuse of this product may affect the product performance and / or present a potential health or safety hazard.

Other information:

Caution! Avoid short circuit place in high temperature environment, put into water, or damage the shell.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures**Description:** Chemical power supply based on nonaqueous electrolyte. Composed by positive electrode, negative electrode, diaphragm, electrolyte and shell.**Hazardous ingredients:**

Common Chemical Name	Chemical Formula	Concentration (%)	CAS No.	EC No.
Ethylcellulose	Ethylcellulose	8.05	9004-57-3	618-384-9
Cobalt lithium manganese nickel oxide	LiNixCoyMnzO2	41.51	182442-95-1	N/A
Polypropylene	Polypropylene	4.96	9003-07-0	202-316-6

Aluminium	Al	1.02	7429-90-5	231-072-3
Carbon	C	21.27	7440-44-0	231-153-3
Copper	Cu	8.41	7440-50-8	231-159-6
Nickel	Ni	0.27	7440-02-0	231-111-4
Phosphate(1-), hexafluoro-, lithium	Phosphate(1-), hexafluoro-, lithium	6.25	21324-40-3	244-334-7
Diethyl carbonate	Diethyl carbonate	6.31	105-58-8	212-786-4
Polyimide	Polyimide	0.76	182315-94-2	N/A
Polyethylene	Polyethylene	1.19	9002-88-4	200-815-3

Note: N/A=Not apply.

4. FIRST AID MEASURES

First aid measures

General Advice: First aid is upon rupture of sealed battery.

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

Skin Contact: Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Inhalation: Remove to fresh air. Get medical attention immediately if symptoms occur.

Ingestion: Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Call a physician.

Self-protection of the first aider: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects: Coughing and/or wheezing. Itching.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Protective Equipment and Precautions for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. For example: Wear self-contained respiratory protective device. Wear suitable protective clothing and eye/face protection.

Sensitivity to Mechanical Impact: No.

Sensitivity to Static Discharge: No.

Special hazards arising from the substance or mixture:

Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature (>150C), When damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in close proximity.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Avoid contact with skin, eyes or clothing. Ensure adequate ventilation.

Use personal protective equipment as required. Evacuate personnel to safe areas.

Other Information: Refer to protective measures listed in Sections 7 and 8.

Environmental Precautions

Environmental Precautions: Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to section 13.

Methods and material for containment and cleaning up

Methods for Containment: Prevent further leakage or spillage if safe to do so.

Methods for cleaning up: Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other Non-combustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling: In case of rupture. Use personal protection equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not breathe dust / fume / gas / mist / vapors / spray.

Conditions for safe storage, including any incompatibilities

Storage: Store in a cool, well-ventilated area. Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short-circuits. Materials to Avoid: Strong oxidizing agents, Corrosives.

Incompatible Products: Strong acids. Strong oxidizing agents. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
---------------	-----------	----------	------------

Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³ F TWA: 2.5 mg/m ³ Dust (vacated) TWA: 2.5 mg/m ³	--
Cobalt lithium manganese nickel oxide 182442-95-1	--	Ceiling: 5 mg/m ³ F	STEL: 3 mg/m ³ F
Nickel 7440-02-0	TWA: 1.5 mg/m ³ (Elements/Metal) TWA: 0.1 mg/m ³ (Soluble compounds) TWA: 0.2 mg/m ³ (Insoluble compounds)	--	10 mg/m ³
Copper 7440-50-8	TWA: 0.2 mg/m ³ fume TWA: 1 mg/m ³ Cu dust and mist	TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ dust and mist (vacated) TWA: 0.1 mg/m ³ Cu dust, fume, mist	IDLH: 100 mg/m ³ dust, fume and mist TWA: 1 mg/m ³ dust and mist TWA: 0.1 mg/m ³ fume
Aluminum 7429-90-5	TWA: 1 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ Al Aluminum	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value

OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health

Other Exposure Guidelines: Vacated limits revoked by the Court of Appeals decision in AFL-CIOv. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

Appropriate engineering controls

Engineering Measures: Showers
Eyewash stations

Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection: If splashes are likely to occur: Wear safety glasses with side shields (or goggles). None required for consumer use.

Skin and Body Protection: Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves.

Respiratory Protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State: Solid containing liquid, Solid

Color: Silvery

Odor: None

Odor Threshold: No information available

Property	Values	Remarks Method
pH	No data available	None known
Melting /freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air	No data available	None known
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	Insoluble in water	None known
Solubility in other solvents	No data available	None known
Partition coefficient:	No data available	None known
n-octanol/water	No data available	None known
Autoignition temperature	Product is not self-igniting.	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing Properties	No data available	
Other Information	No further relevant information available.	
Softening Point	No data available	
VOC Content (%)	No data available	

Particle Size	No data available	
Particle Size Distribution		

10. STABILITY AND REACTIVITY

Reactivity: Stable under recommended storage and handling conditions (see section 7).

Chemical stability: Stable under normal conditions of use, storage and transport.

Thermal decomposition/conditions to be avoided: No decomposition if used according to specifications.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous Polymerization: Hazardous polymerization does not occur.

Conditions to avoid: Strong heating, fire, Incompatible materials.

Incompatible materials: Strong oxidizing agents. Strong acids.

Hazardous Decomposition Products: Carbon oxides, other irritating and toxic gases.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information: Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture.

Inhalation: Specific test data for the substance or mixture is not available.
May cause irritation of respiratory tract.

Eye Contact: Specific test data for the substance or mixture is not available.
Expected to be an irritant based on components. Irritating to eyes.
May cause redness, itching, and pain. May cause temporary eye irritation.

Skin Contact: Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to skin. Prolonged contact may cause redness and irritation.

Ingestion: Specific test data for the substance or mixture is not available.
Ingestion may cause irritation to mucous membranes.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum 7429-90-5	> 2000 mg/kg (Rat)	-	> 0.9mg/L·4h(Rat)
Copper 7440-50-8	300-500 mg/kg(Rat)	> 2000 mg/kg(Rat)	> 5.1mg/L·4h(Rat)

Information on toxicological effects

Symptoms: Erythema (skin redness). May cause redness and tearing of the eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization: No information available.

Mutagenic Effects: No information available.

Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA

Cobalt lithium manganese nickel oxide 182442-95-1	A3	Group 2B	Known	X
---	----	----------	-------	---

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive Toxicity: Contains a known or suspected reproductive toxin.

STOT - single exposure: No information available.

STOT - repeated exposure: Causes damage to organs through prolonged or repeated exposure.

Based on classification criteria from the OSHA Hazard Communication Standard, this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

Chronic Toxicity: Contains a known or suspected carcinogen. Contains a known or suspected reproductive toxin. Possible risk of irreversible effects. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse liver effects.

Target Organ Effects: Respiratory system. Eyes. Skin. Reproductive System. Central Vascular System (CVS).
Kidney. Liver. Bone marrow. Endocrine system. Lungs. Spleen.

Aspiration Hazard: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Copper 7440-50-8	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas)		48h EC50: = 0.03 mg/L

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods**Disposal methods:** Should not be released into the environment.**Contaminated Packaging:** Dispose of contents/containers in accordance with local regulations.**California Hazardous Waste Codes:** 141

This product contains one or more substances that are listed with the State of California as a hazardous waste

Chemical Name	California Hazardous Waste
Cobalt lithium manganese nickel oxide	Toxic
Copper	Toxic
Aluminum	Ignitable powder

14. TRANSPORT INFORMATION

Note: According to PACKING INSTRUCTION 965 ~ 967 of IATA DGR 60th Edition for transportation, the special provision 188 of IMDG (inc Amdt 39-18). The batteries should be securely packed and protected against short-circuits. Examine whether the package of the containers are integrate and tighten closed before transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles. Don't put the goods together with oxidizer and chief food chemicals. The transport vehicle and ship must be cleaned and sterilized otherwise it is not allowed to assemble articles. During transport, the vehicle should prevent exposure, rain and high temperature. For stopovers, the vehicle should be away from fire and heat sources. When transported by sea, the assemble place should keep away from bedroom and kitchen, and isolated from the engine room, power and fire source. Under the condition of Road Transportation, the driver should drive in accordance with regulated route, don't stop over in the residential area and congested area.

Forbid to use wooden, cement for bulk transport.

UN number: 3480 & 3481

UN Proper shipping name: LITHIUM ION BATTERIES (including lithium ion polymer batteries) or;
LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM
ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer
batteries)

Transport hazard class(es): 9**Packing group (if applicable):** II**Marine pollutant (Yes/No):** Not regulated**Transport in bulk (according to:** No information available.**Annex II of MARPOL 73/78 and the IBC Code)****Special precautions:** No information available.

Transport fashion: By air, by sea, by railway, by road.

15. REGULATORY INFORMATION

OSHA hazard communication standard

_____ **Hazardous** V **Non-hazardous**

16. OTHER INFORMATION

Preparation and revision information

Prepared By: Performance Designed Products LLC

Address: 9179 Aero Drive, San Diego, CA 92123

Date of this revision: 20/04/2023

Abbreviations and acronyms

TSCA: Toxic Substances Control Act, The American chemical inventory.

DSL: Domestic Substances List

EINECS: European Inventory of Existing Commercial chemical Substances

ECL: Existing Chemicals List, the Korean chemical inventory.

IECSC: Inventory of existing chemical substances in China.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Sheet Safety Data Sheet