

# SAFETY DATA SHEET

**Sample name:** Li-ion Battery

**Model No.:** M 552445

**Consignor:** Performance Designed Products LLC

**Address:** 9179 Aero Drive, San Diego, CA 92123

# 1. IDENTIFICATION

**Product identifier**

**Product Name:** Li-ion Battery

**Model:** M 552445

**Nominal Voltage:** 3.7V

**Typical Capacity:** 660mAh

**Watt-hour:** 2.22Wh

**Other means of identification**

**Synonyms:** None

**Relevant identified use of Product and uses advised against:**

**Recommended Use:** Bluetooth game controller/headset/mouse

**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:** Guangdong Miyear Technology Co., Ltd

**Address:** Building 4, No.3, Xiegang Jinlong North Road, Xiegang Town, Dongguan, Guangdong

**Telephone:** 86-769-82931202

**E-mail:** lilu@miyear.com

**Emergency telephone number:** 86-13823324184

# 2. HAZARDS IDENTIFICATION

**Classification:**

The watt-hour rate of the product is 1.665 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.
Graphite powder	C24X12	19.6	7782-42-5	231-955-3
Polypropylene (PP)	C3H6	3.5	9003-07-0	618-352-4
Nylon-6	Nylon-6	2.7	25038-54-4	211-024-8

Lithium Hexafluorophosphate	LiPF <sub>6</sub>	14.7	21324-40-3	244-334-7
Polyethylene	(C <sub>2</sub> H <sub>4</sub> ) <sub>n</sub>	3.8	9002-88-4	200-815-3
Copper	Cu	11.3	7440-50-8	231-159-6
Aluminum	Al	6.8	7429-90-5	231-072-3
Lithium Cobalt Oxide	CoLiO <sub>2</sub>	37.6	12190-79-3	235-362-0

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
Lithium Hexafluorophosphate 21324-40-3	TWA: 2.5 mg/m <sup>3</sup>	TWA: 2.5 mg/m <sup>3</sup> F TWA: 2.5 mg/m <sup>3</sup> Dust (vacated) TWA: 2.5 mg/m <sup>3</sup>	--

Copper 7440-50-8	TWA: 0.2 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> Cu dust and mist	TWA: 0.1 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> dust and mist (vacated) TWA: 0.1 mg/m <sup>3</sup> Cu dust, fume, mist	IDLH: 100 mg/m <sup>3</sup> dust, fume and mist TWA: 1 mg/m <sup>3</sup> dust and mist TWA: 0.1 mg/m <sup>3</sup> fume
Aluminum 7429-90-5	TWA: 1 mg/m <sup>3</sup> respirable fraction	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 5 mg/m <sup>3</sup> Al Aluminum	TWA: 10 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> 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
Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) 12190-79-3	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

**NTP (National Toxicology Program)**

Known - Known Carcinogen

**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
Copper	Toxic
Aluminum	Ignitable powder



## 14. TRANSPORT INFORMATION

**Note:** According to PACKING INSTRUCTION 965 ~ 967 of IATA DGR 65th Edition for transportation, the special provision 188 of IMDG (inc Amdt 41-22). 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:** Guangdong Miyear Technology Co., Ltd

**Address:** Building 4, No.3, Xiegang Jinlong North Road, Xiegang Town, Dongguan, Guangdong

**Date of this revision:** 12/04/2024

**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**

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**End of Sheet Safety Data Sheet**