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Standard LiPo Battery

Ultra Thin LiPo Battery

Round LiPo Battery

LiHv Battery 3.8V-3.9V

Li ion Battery

LiPo Battery 2S 7.4V

Micro Lithium Battery

18650 Lithium Battery

18650 High Amp Battery

Lithium Polymer Battery
30mAh - 200mAh
200mAh - 500mAh
500mAh - 1000mAh
1000mAh - 2000mAh
2000mAh - 5000mAh
5000mAh - 10000mAh

High Rate Discharge Lithium Polymer Battery
5C - 10C
10C - 20C
30C - 40C
40C - 50C

18650 Battery
LP18650A+ 3500mAh
LP18650A 3200mAh
LP18650B 2800mAh
LP18650C 2600mAh
LP18650D 2200mAh

18650 High Amp Battery
1500mAh 30A
2000mAh 25A
2200mAh 10A
2500mAh 20A
3000mAh 30A
3200mAh 10A
3500mAh 25A

RC LiPo Battery
2S1P 7.4V
3S1P 11.1V
4S1P 14.8V
5S1P 18.5V
6S1P 22.2V
7S1P 25.9V
12S1P 44.4V

What's MSDS of Lithium Polymer Battery?

Material Safety Data Sheet (MSDS) of Lithium Polymer Battery is the battery manufacturer showing the chemistry characters. It's a document that may pose a hazard to the user's health such as carcinogenic, teratogenic, etc.

1 ID OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

MSDS of PRODUCT IDENTIFIER:

Lithium Polymer Battery

APPROVED USE OF THE CHEMICAL AND RESTRICTIONS:

Portable Electronic Equipments

MSDS RECOMMENDED AGAINST:

1.1 Do not dismantle, open or shred lithium polymer batteries or cells.

1.2 Do not expose lithium polymer batteries or cells to heat or fire. Avoid storage in direct sunlight.

1.3 Do not short-circuit a lithium polymer battery or a cell.

1.4 Do not store lithium polymer batteries or cells haphazardly in a box or drawer where they may short-circuit each other or short-circuit by other metal objects.

1.5 Do not remove a lithium polymer battery or a cell from its original packaging until required for use.

1.6 Do not subject lithium polymer batteries or cells to mechanical shock.

1.7 In the event of a lithium polymer battery or a cell leaking, do not allow the liquid to come in contact with the skin or eyes. If the contacts have been made, wash the affected area with copious amounts of water and seek medical advice.

1.8 Do not use any other charger than that expressly provided for use with the equipment.

1.9 Observe the plus(+) and minus(-) marks on the lithium polymer battery or the cell equipment and ensure correct use.

1.10 Do not use any lithium polymer battery or cell which is not designed for use with equipment.

1.11 Do not mix lithium polymer batteries or cells of different manufacturers, capacity, size or type within a device.

1.12 Battery usage by children should be supervised.

1.13 Seek medical advice immediately if a lithium polymer battery or a cell has been swallowed.

1.14 Always purchase the lithium polymer battery or the cell recommend by the device manufacturer for the equipment.

1.15 Keep the lithium polymer batteries or the cells clean and dry.

1.16 Wipe the lithium polymer battery or the cell terminals with a clean, dry cloth if they become dirty.

1.17 The lithium polymer batteries or the cells need to be charged before use. Always use the original & correct charger and refer to the manufacturer’s instructions or equipment manual for proper charging instructions.

1.18 Do not leave a lithium polymer battery or a cell on prolonged charge when not in use.

1.19 After extended periods of storage, it may be necessary to charge and discharge the lithium polymer batteries or the cells several times to obtain maximum performance.

1.20 Retain the original product literature for future reference.

1.21 Use only the lithium polymer battery or the cell in the application for which it was intended.

1.22 When possible, remove the lithium polymer battery or the cell from the equipment when not in use.

1.23 Dispose of properly.

2. POSSIBILITIES IDENTIFICATION OF MSDS

2.1 Classification
No harm at the regular use. If contacting the Electrolyte liquid in the lithium polymer battery or the cell, reference as follows:

2.2 Classification of the substance or mixture
Classification according to GHS
Acute Toxicity, Oral (Hazard category 4)
Acute Toxicity, Dermal (Hazard category 3)
Skin, irritate (Category 1B)
Eye Irritate (Hazard category 1)

2.3 GHS Label elements, including precautionary statements

Signal word: Warning
Hazard statements:
H242: Heating may cause a fire
H311: Toxic in contact with the skin
H314: Causes severe skin burns and eye damage
H302: Harmful if swallowed

2.4 Precautionary statements
Restriction:
P264 Wash thoroughly after handing.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves / protective clothing / eye protection / face protection

Compliance:
P312: Call a poison center or doctor/physician if you feel unwell.
P302+P350 IF ON SKIN: Gently wash with plenty of soap and water.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Disposal:
P501: Dispose of contents/container by local/national regulations

3. CONSTRUCTION / INFORMATION ON INGREDIENTS OF MSDS

Chemical characterization: Mixtures
Description:
Product: Consisting of the following components.
Note: CAS number is Chemical Abstract Service Registry Number.

Common Chemical Name	Concentration (%)	CAS Number
Lithium Cobalt Dioxide (LiCoO2)	30-37	12190-79-3
Graphite (C)	15-20	7782-42-5
Poly Vnylidene Fluoride (PVDF)	0-1	24937-79-9
Acetylene Black	0-1	1333-86-4
Phosphate(1-), hexafluoro-, lithium	12-16	21324-40-3
Polypropylene	6-10	9003-07-0
Aluminium	2-5	7429-90-5
Copper	5-10	7440-50-8
Iron	10-15	7439-89-6

4. FIRE-AID FIGHTING MEASURES OF MSDS

4.1 Suitable Extinguishing Media
CO2, dry chemical powder, water spray.

4.2 Specific Hazards Arising from the Chemical
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Carbon monoxide(CO)
Carbon dioxide
Other irritating and toxic gases.

4.3 Hazardous Combustion Lithium Polymer Battery
Carbon oxides
Explosion Data
Sensitivity to Mechanical Impact: No
Sensitivity to Static Discharge: No

4.4 Protective Devices and Forethoughts 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.

4.5 Special hazards arising from the substance or mixture:
Lithium Polymer Battery may burst and release hazards decomposition products when exposed to a fire situation. lithium polymer battery contains the flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature(>150°C), When damaged or abused(e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in clothes proximity.

5. NONESSENTIAL RELEASE MEASURES

5.1 Personal precautions, protective equipment, and emergency procedures
Personal Precautions avoid contact with eyes. Refer to section 8 for personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

5.2 Environmental forethoughts
Absorb with the liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

5.3 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 Noncombustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

6. FIRST-AID MEASURES OF MSDS

6.1 First aid measures
Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician. Skin Contact Remove contaminated clothing and shoes. Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician. Inhalation: Move to fresh air. If symptoms persist, call a physician. Ingestion: Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

6.2 Most important symptoms and effects, both acute and delayed. Swallowing Do not induce vomiting. Get medical attention.

7. MSDS HANDLING AND STORAGE

7.1 Forethoughts for safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Wear personal protective equipment. Wash thoroughly after handling. Use this material with adequate ventilation. The lithium polymer battery is not explosive.

7.2 Conditions for safe storage, including any incompatibilities

If the Lithium Polymer Battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the Lithium Polymer Battery periodically.
3 months: -10°C~ +40°C, 45 to 85%RH.
And recommended at 0°C~ +35°C for long period storage.
The capacity recovery rate in the delivery state (50% capacity of fully charged) after storage is assumed to be 80% or more.
The voltage for a long time storage shall be 3.8V ~ 4.8V range.
Do not storage Lithium Polymer Battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.
Keep out of reach of children.
Do not expose Lithium Polymer Battery to heat or fire. Avoid storage in direct sunlight.
Do not store together with oxidizing and acidic materials.
Keep ignition sources away - Do not smoke.
Store in cool, dry and well-ventilated place.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Instrument Parameters
Ingredients with limit values that require monitoring at the workplace
12190-79-3 Lithium Cobalt Oxide
TLV (USA): 0.02mg/m3
MAK (Germany): 0.1mg/m3
Vacated limits revoked by the court of appeals decision in AFL-CIO OSHS 965 F.2d 962 (11th Cir., 1992)

8.2 Individual protection measures, such as personal protective equipment
Eye/Face Protection
Body protection
Skin protection
Respiratory Protection
Hygiene Measures

9. STABILITY AND REACTIVITY OF MSDS

9.1 Reactivity
Stable under recommended storage and handling conditions.

9.2 Element stability
Stable under normal conditions of use, storage, and transport.

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

9.4 The possibility of Hazardous Reactions
None under normal processing.

9.5 Hazardous Polymerization
Hazardous polymerization does not occur.

9.6 Conditions to avoid
Strong heating, fire, Incompatible materials

9.7 Incompatible materials
Strong oxidizing agents. Strong acids. Base metals.

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

10. DISPOSAL MSDS CONSIDERATIONS

10.1 Waste treatment methods
Recommendation: Must not be disposed of together with household garbage. Do not allow the product to reach the sewage system

10.2 Uncleaned packaging:
Recommendation: Disposal must be made according to official regulations.

11 MSDS TRANSPORT INFORMATION

11.1 The Lithium Polymer Battery had been tested according to the requirements of the UN manual of tests and Criteria.

11.2 The Lithium Ion Polymer Battery with a Watt-hour rating not exceeding 100Wh or the cell with a Watt-hour rating in not exceeding of 20Wh.

11.3 Meets the requirements of International Maritime Dangerous Goods(IMDG)-2014 Special Provision 188 to be transported as non-dangerous goods;

11.4 Meets the requirements of 49CFR173.185 to be transported as non-dangerous goods for the road, rail, air, and vessel.

11.5 Meets the requirements of TDG special provision 34 to be transported as non-dangerous goods.

11.6 The package must be handled with care and that a flammability hazard exists if the package is damaged.

11.7 The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design shall be chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of moisture.

12. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Form: Almost Cuboid	
	Color: Silver	
	Odour: Odourless	
	Odor Threshold: No information available	
Change in condition:		
pH, with indication of the concentration		Not determined.
Melting point/freezing point		Not determined.
Initial boiling point and Boiling range:		Not determined.
Flash Point		Not determined.
Evaporation rate		Not determined.
Flammability (solid, gas)		Not determined.
Upper/lower flammability or explosive limits		Not determined.
Vapor Pressure:		Not determined.
Vapor Density:		Not determined.
relative density:		Not determined.
Solubility in Water:		Not determined.
Solubility in other solvents		Not determined.
n-octanol/water partition coefficient		Not determined.
Auto-ignition temperature		Product is not self-igniting.
Decomposition temperature		Not determined.
Odout threshold		Not determined.
Evaporation rate		Not determined.
Viscosity		Not determined.
Other Information		No further relevant information available.

13. REGULATORY INFORMATION

13.1 Safety, health and environmental regulations/legislation specific to the substance or mixture

13.2 Regulatory information

End of Lithium Polymer Battery MSDS

LiPo Battery Safety Precautions

LiPo Battery Performance Standards

How to Store Lithium Polymer Battery Safely

Caution of Lithium Polymer Battery

What's IEC 62133-2:2017 Certification of Lithium-Ion Battery?

What's MSDS of Lithium Polymer Battery?

Quality Control for Lithium Polymer Battery Production

What you should do when you got the lithium polymer battery from us