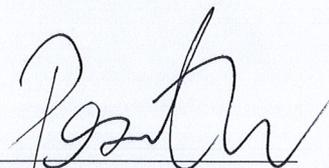


MSDS TEST REPORT

Applicant : SHENZHEN FUERXIN TECHNOLOGY CO., LTD.
Address : 5/F, 1st Building, No.264, Baoshi East Road, Shuitian Community, Shiyan Town, Baoan Distrist, Shenzhen.
Manufacturer : SHENZHEN FUERXIN TECHNOLOGY CO., LTD.
Address : 5/F, 1st Building, No.264, Baoshi East Road, Shuitian Community, Shiyan Town, Baoan Distrist, Shenzhen.
Product Name : Li-ion Battery
Trade Mark : No Trade Mark
Model/type reference : GPLB-105060A
Nominal Voltage : 3.7V
Typical Capacity : 3500mAh, 12.95Wh
Weight : 72.0g
Shape and Physical Dimension (mm) : Blue rectangle battery
Max. size L*W*T = 62.61*50.42*10.42mm
Date of Receiver : February 22, 2019
Date of Test : February 25, 2019 to March 08, 2019
Date of Issue : March 08, 2019
Test Report Form No : NTCS-MSDS-A1-B
Test Result : Pass *

This Test Report is Issued Under the Authority of :

Compiled by



Peanut Liu / Engineer

Approved by & Authorized Signer



Ryan Luo / Authorized Signatory

*Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of Dongguan Nore Testing Center Co., Ltd. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Material Safety Data Sheet

Reference to ST/SG/AC.10/30/Rev.7 (GHS)

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Sample Description: Li-ion Battery

Sample Model: GPLB-105060A

Other means of identification

Synonyms: None

Recommended use of the chemical and restrictions on use

Recommended Use: Used in portable electronic equipments;

Uses advised against:

- a) Do not dismantle, open or shred secondary cells or batteries.
- b) Do not expose cells or batteries to heat or fire. Avoid storage in direct sunlight.
- c) Do not short-circuit a cell or a battery. Do not store cells or batteries haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.
- d) Do not remove a cell or battery from its original packaging until required for use.
- e) Do not subject cells or batteries to mechanical shock.
- f) In the event of a cell leaking, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with copious amounts of water and seek medical advice.
- g) Do not use any charger other than that specifically provided for use with the equipment.
- h) Observe the plus (+) and minus (–) marks on the cell, battery and equipment and ensure correct use.
- i) Do not use any cell or battery which is not designed for use with the equipment.
- j) Do not mix cells of different manufacture, capacity, size or type within a device.
- k) Battery usage by children should be supervised.
- l) Seek medical advice immediately if a cell or a battery has been swallowed.
- m) Always purchase the battery recommended by the device manufacturer for the equipment.
- n) Keep cells and batteries clean and dry.
- o) Wipe the cell or battery terminals with a clean dry cloth if they become dirty.
- p) Secondary cells and batteries need to be charged before use. Always use the correct charger and refer to the manufacturer's instructions or equipment manual for proper charging instructions.
- q) Do not leave a battery on prolonged charge when not in use.
- r) After extended periods of storage, it may be necessary to charge and discharge the cells or batteries several times to obtain maximum performance.
- s) Retain the original product literature for future reference.
- t) Use only the cell or battery in the application for which it was intended.
- u) When possible, remove the battery from the equipment when not in use.
- v) Dispose of properly.

Details of the supplier of the safety data sheet:

Manufacturer name: SHENZHEN FUERXIN TECHNOLOGY CO., LTD.

Address: 5/F, 1st Building, No.264, Baoshi East Road, Shuitian Community, Shiyan Town, Baoan District, Shenzhen, Guangdong, P.R.China

Phone number: +86-752-2608883

FAX: --

E-mail: --

Emergency phone number: +86-752-2608883

SECTION 2 - HAZARDS IDENTIFICATION

Classification

No harm at the normal use. If contact the Electrolyte liquid in the Li-ion Battery, reference as follows:

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)

GHS Label elements, including precautionary statements:



GHS02



GHS05



GHS06

Signal word: Warning

Hazard statement(s):

H242: Heating may cause a fire;

H311: Toxic in contact with skin;

H314: Causes severe skin burns and eye damage;

H302: Harmful if swallowed;

precautionary statements:

Prevention:

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:

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: rise 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.

Storage: None

Disposal

P501: Dispose of contents/container in accordance with local/national regulations

Hazards not otherwise classified (HNOC)

Not Applicable

Other information

No information available.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures

Description:

Product: Consisting of the following components.

Common Chemical Name	Molecular Formula	CAS Number	Weight (%)
Lithium Cobalt Oxide	LiCoO ₂	12190-79-3	25.5
Lithium Manganate Oxide	LiMn ₂ O ₄	12057-17-9	10.9
Lithium Hexafluorophosphate	LiPF ₆	21324-40-3	15.0
Graphite	C	7782-42-5	16.7
Aluminium	Al	7429-90-5	19.8
Copper	Cu	7440-50-8	7.3
Other	--	--	4.8

Note: CAS number is Chemical Abstract Service Registry Number.
N/A=Not apply.

SECTION 4 - FIRST AID MEASURES

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.

Most important symptoms and effects, both acute and delayed

Swallowing Do not induce vomiting. Get medical attention.

Most Important Symptoms/Effects: No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

SECTION 5 - FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

CO₂, dry chemical powder, water spray.

Unsuitable Extinguishing Media: No information available.

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.

Hazardous Combustion Products

Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact: No

Sensitivity to Static Discharge: No

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.

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(>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.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

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.

Environmental precautions

Environmental Precautions : Refer to protective measures listed in Sections 7 and 8.

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

Dispose contaminated material as waste according to item 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.

SECTION 7- HANDLING AND STORAGE

Precautions for safe handling

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 product is not explosive.

Conditions for safe storage, including any incompatibilities

If the batteries are subject to storage for such a long term as more than 3 months, it is recommended to recharge the Li-ion battery periodically.

3 months: -20°C~+45°C, 45 to 75%RH

And recommended at +5°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.

Do not storage Li-ion 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 Li-ion 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.

Incompatible Products : None known.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters

Ingredients with limit values that require monitoring at the workplace:	
12190-79-3 Lithium Cobalt Oxide	
TLV (USA)	0.02mg/m ³
MAK (Germany)	0.1mg/m ³

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962(11th Cir., 1992).

Appropriate engineering controls

Engineering Measures: Showers

Eyewash stations

Ventilation systems

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Ensure adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/Face Protection:



Tightly sealed goggles

Body protection:

Protective work clothing.

Skin protection:



Protective gloves

Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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.

SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Form: Cuboid	
	Color: Blue	
	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.
Odour threshold	Not determined.
Evaporation rate	Not determined.
Viscosity	Not determined.
Other Information	No further relevant information available.

SECTION 10- STABILITY AND REACTIVITY

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

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. Base metals.

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

SECTION 11- TOXICOLOGICAL INFORMATION

Acute toxicity: No data available.

LD/LC50 values relevant for classification:

Not available.

Skin corrosion/irritation: No irritant effect.

Serious eye damage/irritation: Cause serious eye irritation.

Respiratory or skin sensitization: No sensitizing effects known.

Specific target organ system toxicity: No information available.

CMR effects(carcinogenity, mutagenicity and toxicity for reproduction): No information available.

SECTION 12- Ecological Information

Toxicity:

Acquatic toxicity:
No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No information available.

SECTION 13- DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation: Must not be disposed together with household garbage.

Do not allow product to reach sewage system

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

SECTION 14- TRANSPORT INFORMATION

This report applies to by sea, by air and by land.

The Li-ion Battery (model: GPLB-105060A) had been tested according to the requirements of the UN manual of tests and Criteria, Part III, subsection 38.3, according to the report ID: ATSU190308211.

The Li-ion Battery with a Watt-hour rating not exceeding 100Wh or the cell with a Watt-hour rating in not exceeding of 20Wh, The Li-ion Batteries according to Section II/Section IB of PACKING INSTRUCTION 965, or Section II of PACKING INSTRUCTION 966~967 of the 2019 IATA DGR 60th Edition may be transported.

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.

With regard to transport, the following regulations are cited and considered:

- The International Civil Aviation Organization (ICAO) Technical Instructions.
- The International Air transport Association (IATA) Dangerous Goods Regulations.

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

UN number of lithium battery: UN3480 or UN3481.

UN Proper shipping name/Description (technical name): Li-ion Batteries or Li-ion Batteries contained in equipment or Li-ion Batteries packed with equipment.

UN Classification (Transport hazard class): Non dangerous.

Marine pollutant (Y/N) : N.

Special Provision: International maritime dangerous goods code (IMDG) 188, 230, 310, 348, 957;

- The US Hazardous Materials Regulation (HMR) pursuant to a final rule issued by RSPA.

- The Office of Hazardous Materials Safety within the US Department of Transportations' (DOT) Research and Special Programs Administration (RSPA).

SECTION 15- REGULATORY INFORMATION

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

EU Regulation:

Authorisations: No information available.

Restrictions on use: No information available.

Regulatory information:

CAS No.	EU (EINECS)	US (TSCA)	Japan (ENCS)	Canada (DSL/NDL)	Australia (AICS)	Korea (ECL)	China (IECSC)
12190-79-3	Listed	Listed	Listed	Listed	Listed	Listed	Listed
12057-17-9	Listed	Listed	Listed	Listed	Listed	Listed	Listed
21324-40-3	Listed	Listed	Listed	Listed	Listed	Listed	Listed
7782-42-5	Listed	Listed	Listed	Listed	Listed	Listed	Listed
7429-90-5	Listed	Listed	Listed	Listed	Listed	Listed	Listed
7440-50-8	Listed	Listed	Listed	Listed	Listed	Listed	Listed

Chemical safety assessment : A Chemical Safety Assessment has not been carried out.

SECTION 16- OTHER INFORMATION

Issue Time: 2019-03-08

Modification record:/

Notice to reader:

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Other Information:

CAS:	Chemical Abstracts Service
EC:	European Commission

ACGIH:	American Conference of Governmental Industrial Hygienists
NIOSH:	US National Institute for Occupational Safety and Health
OSHA:	US Occupational Safety and Health
TLV:	Threshold Limit Value
TWA:	Time Weighted Average
STEL:	Short Term Exposure Limit
PEL:	Permissible Exposure Level
REL:	Recommended Exposure Limit
PC- STEL:	Permissible concentration-time weighted average
PC-TWA:	Permissible concentration-short time exposure limit
LC50:	Lethal concentration, 50 percent kill
LD50:	Lethal dose, 50 percent kill
IARC:	International Agency for Research on Cancer
EC50:	Median effective concentration
BCF:	Bioconcentration Factor
BOD:	Biochemical oxygen demand
NOEC:	No observed effect concentration
NTP:	US National Toxicology Program
RTECS:	Registry of Toxic Effects of Chemical Substances
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods
TDG:	Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations
TOC:	Total Organic Carbon
TSCA:	Toxic Substances Control Act of USA
DSL:	the Domestic Substances List of Canada
NDSL:	the Non-domestic Substances List of Canada

--- END OF THIS REPORT---