

One. Sample information **Sample information**

Sample name Sample Name	Rechargeable lithium-ion battery pack Rechargeable Li-ion Battery Pack	Sample model Type	INR18650-1
Nominal voltage Nominal voltage	11.1V	Rated capacity Rated capacity	1500mAh
Sample appearance Shape	Prismatic Prismatic		

Two. Content and **instructions****Chemical product and company identification**

The name of the chemical Name of chemical product	Rechargeable lithium-ion battery pack Li- ion Battery	
manufacturer Manufacturer	name Name	Guangzhou Yuntong Magnetolectric Co., Ltd Wintonic Battery & Magnet Co., Ltd.
	address Address	No. 38, Yunfeng Road, Xinhua Industrial Zone, Huadu District, Guangzhou No.38 Yun Feng Road, Xinhua Ind park, Huadu, Guangzhou, P. R. China
	telephone number Telephone number	+86-18922503187
	Emergency consultation telephone number	+86-18922503187
	email E-mail address	1293554753@qq.com

This MSDS report was issued by Dongguan Zhongbai Lianke Testing Technology Co., Ltd.;
This MSDS was prepared by Dongguan ZRLK Testing Technology Co., Ltd.

2. Overview of Hazards identification

1) Important Physical and chemical hazards

In the case of strong pressure deformation, dismantling, short circuit, there is a risk of fire explosion and chemical burns, in a high temperature environment or placed in a flame environment, overloaded use of the fire and explosion risk

When the battery is in extreme pressure deformation, high-temperature environment, overload, short-circuit condition, or disassemble the battery, an explosion of fire and chemical burn hazards may occur.

2) Effects of the human health

Eyes

It is harmless under normal use, but it may cause the battery to catch fire and explode and injure the eyes when disassembled, bent, or short-circuited. Volatilizing gases on breakage can irritate the eyes.

In normal condition, contact between the battery and eyes will not cause any harms. However, the gas Volatilize from a damaged battery may be harmful to eyes.

Skin Skin

Under normal circumstances, contact is not harmful to the skin. Exposure in case of battery breakage may cause chemical burns or symptoms of skin allergies and inflammation.

In normal condition, contact between the battery and skin will not cause any harms. Contact with a damaged battery may cause skin allergies or chemical burns.

Inhale inhalation

The intact battery does not emit gases that can be inhaled. When broken, it volatilizes trace amounts of gas and irritates the respiratory tract, and in severe cases, it may cause allergic reactions.

A battery volatilizes no gas unless it was damaged. Damaged battery will volatilize little gas that may stimulate the respiratory tract or cause an anaphylaxis in serious condition.

Ingestion

Ingestion can cause damage to the respiratory tract, burn the stomach and intestines, and cause permanent damage. Swallowing battery will be damaged to the respiratory tract and cause chemical burns to the stomach; in serious conditions it will cause Permanent damage.

Composition /information on ingredients

Hazardous Ingredients (Chemical Name)	Concentration or concentration ranges (%)	CAS Number
Lithium cobalt oxide Lithium Cobalt Oxide (LiCoO ₂)	35.5	12190-79-3
铝 Aluminum Foil (Al)	9	7429-90-5
Polyvinylidene fluoride resin 1,1-Difluoroethylene polymer	1	24937-79-9
Graphite (C).	18	7782-42-5



铜 Copper Foil (Cu)	15	7440-50-8
Styrene-butadiene rubber Styrene-Butadiene polymer	1.5	9003-55-8
Lithium hexafluorophosphate /Lithium hexafluorophosphate	2.8	21324-40-3
Vinyl carbonate Ethylene carbonate	5	96-49-1
Dimethyl carbonate Dimelene carbonate	5	616-38-6
Methyl ethyl carbonate Carbonate, methyl ethyl	5	623-53-0
镍/Nickel	2.2	7440-02-0

4. First-aid measures

Eyes

If contact damages the battery, immediately wash your eyes with water for more than 15 minutes until the tingling/irritation disappears and go to the doctor in time.

If your eyes contact with a damaged battery, flush with copious amount of water for at least 15 minutes until the stinging and irritation subside, and Seek immediate medical attention.

Skin Skin

In case of contact, immediately remove contaminated clothing and rinse the skin or shower with plenty of water, such as burning sensations that persist and go to the doctor immediately.

If your skin contact with a damaged battery, immediately take off contaminated clothing and flush your skin with copious amount of water or have a shower. Seek immediate medical attention if burning sensation continues.

Inhale inhalation

Immediately transfer to the fresh air environment to breathe fresh air and rest. If you have difficulty breathing or dizziness and headache, please accompany you to the doctor immediately.

Remove to fresh air immediately and have a rest, If you feel dyspnea, dizziness or headache, seek immediate medical attention.

Ingestion

If you eat batteries, do not induce vomiting and do not eat food or drink drinks again, and immediately seek medical attention

If battery or open battery is ingested, do not induce vomiting or give food or drink. Seek medical attention immediately.

5. Fire-fighting measures

This product is prone to fire and a lot of smoke in the case of strong pressure bending or short circuit, etc., should be used correctly and placed in a cool environment, avoiding places under high temperature, sunlight and heavy pressure. In the event of a fire, wear a gas mask and sprinkle water when conditions permit or use a fire extinguisher to cool down the adjacent unfired battery to avoid the spread of the fire and use tools to separate the fire battery from other batteries and let it go out naturally; Or use a lot of water to extinguish the fire, but the fire battery will generally be extinguished after the internal



chemical reaction is completed. If there is a battery fire that is large, immediately report the fire alarm and evacuate the personnel to a safe place.

This battery can get fire easily and made a lot of smoke under the forced bending and short-circuit condition, so it should be properly used and placed in a cool environment and Avoid placing the battery package under heat,



pressure and direct sunlight. In the event of fire, wear gas masks and cool the adjacent batteries and control the spread of fire with water or extinguishers, separate the fire batteries with other batteries as conditions permit, let the fire naturally extinguished, otherwise put out the fire with lots of water. In normal condition the fire is not extinguished until the reactions that between the chemicals contained in the battery are completed. In the event of a big fire, report the fire immediately and evacuate to a safe place.

6. Leak emergency treatment **Accidental release measures**

The spills and batteries are cleaned up and put into dry and airtight metal containers or non-flammable containers, and handed over to battery recycling companies for environmental protection treatment. Avoid throwing the battery away into the natural environment.

Clean the spills and batteries, place them in a dry sealed metal container or nonflammable material container, and bring them to battery recycling companies to deal with environmental protection. Do not throw away the damaged batteries or waste batteries.

7. Operation disposal and **storage** **Handling and storage**

Manipulate **Handling**

The battery cannot be assembled or short-circuited without authorization, and the battery cannot be brought close to the source of ignition. The transport of batteries should avoid violent loading and unloading of battery cargo, and avoid squeezing or violent vibration of the battery.

Do not assemble and disassemble a battery, battery short-circuit is not allowed too. Keep the battery away from the fire. When transporting these batteries, the battery should be careful handling to avoid the battery being squeezed or excessive vibration.

Storage **Storage**

Fully charge before storing for a long time. Batteries should be stored in a cool environment.

The battery should be fully charged before long term storage. The battery should be stored in a cool environment.

8. Contact control and personal **protection** **Exposure controls/Personal Protection**

Engineering control

Choose reasonable ventilation equipment, a sufficient amount of gas mask fire extinguishers and water sources, and a metal container for storing leaking batteries. Equipped with bathing equipment.

Choose the suitable ventilation equipment; provide sufficient quantity of fire extinguishers, gas mask and water; equip with metal storage containers and bathing equipments.

Respiratory protection

Normally there is no need to do protection

Eye protection **Eye protection**

Normally there is no need to do protection

The body and skin protection

Normally there is no need to do protection

9. Physical **and chemical properties**

Object appearance and shape

Prismatic prismatic

Smell Odour

None None

Stability and reactivity**Stability**

Stable under normal circumstances. Stable under the regular environment.

Conditions to avoid should avoid conditions

High temperature or over-humid environment, impact vibration or squeezing, positive and negative electrodes are used in reverse.

High temperature, wet environment, mechanical shock, vibration, crush, reverse polarity used should be avoided.

Incompatible substances

None None

Hazardous decomposition products

When it catches fire, it emits a pungent smoke.

When the battery catches fire, it will release pungent thick smoke.

11. Toxicological information Toxicological information

Under normal circumstances, contact with the battery has no toxic effect.

In normal condition, contact with the battery is non-toxic.

12. Ecological information ecological information

Normal treatment of the battery will not have an impact on the ecological environment.

Proper disposal of battery does not present ecological hazard.

13. Disposal of Disposal considerations

It is handed over to the battery recycling enterprise for recycling and disposal, and cannot be discarded in the environment at will. Specifically refer to the relevant laws and regulations of relevant countries.

It needs to be referred to the waste battery recycling companies for recycling disposal, cannot arbitrarily discarded in the environment. Specific conditions reference to the relevant national laws and regulations.

14. Shipping Information Transport Information

This report applies to sea, air and ground freight;

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

The sample is a rechargeable lithium-ion battery pack that has passed the UN38.3 test.

ADR klasse: 9 – Diverse gevaarlijke stoffen en voorwerpen
UN code: 3481



This battery sample is Rechargeable Li-ion Battery Pack and This battery type is proved to meet the Requirements tests in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3.

Rechargeable lithium-ion battery packs should be packaged empty in accordance with the provisions of 3.9.2.6.1(e) of the 2022 IATA Dangerous Goods Regulations (63rd Edition).

Transport; Packaging may be carried by air in accordance with the relevant provisions of Sections PI965 IB, PI966 II and PI 967 II of the IATA Dangerous Goods Code.

The Rechargeable Li-ion Battery Pack pack according to Section IB of PACKING INSTRUCTION 965 or Section II of PACKING INSTRUCTION 966-967 of the 2022 IATA Dangerous Goods regulations 63rd Edition may be transported. and applicable U.S. DOT regulations for the safe transport of Li- ion Battery.

Rechargeable lithium-ion battery packs must be protected against short circuits, including contact with conductive materials within the same package that may cause short circuits;

Rechargeable Li-ion Battery Pack was protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit;

Rechargeable lithium-ion battery packs must be placed in an inner package that allows them to be completely enclosed before being placed in the outer packaging. To prevent damage and squeezing of the battery

The inner packaging must be discharged in the sturdy and hard outer packaging;

Rechargeable Li-ion Battery Pack offered for transport must be packed in inner packaging's that completely enclose the cell or battery; to provide protection from damage or compression to the batteries, the inner packaging's must be placed in a strong rigid outer packaging;

Rechargeable lithium-ion battery packs must be fed in a state of charge (SoC) not exceeding 30% of their rated capacity when transported under section PI 965 IB

line transport;

Rechargeable Li-ion Battery Pack according to the PI 965 Section IB transport listed in this report must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated capacity.

It can be packed and transported by sea in accordance with the relevant provisions of Article 188 of the Special Provisions of the International Maritime Dangerous Goods Code (2020 Edition).

Can be transport by sea according to the special provision 188 of IMO *International Maritime Dangerous Goods Code relevant regulations*.

According to 2.9.4.7 of IMO IMDG Code (2020 Edition), Manufacturers and subsequent distributors of batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, subsection 38.3, paragraph 38.3.5;

According to 2.9.4.7 of the IMO IMDG Code (2020 Edition), manufacturers and post-factory sellers of lithium batteries or battery packs should provide the United Nations "Trial

Summary of UN38.3 tests as specified in Part III, Subsection 38.3, Paragraph 38.5, of the Manual of Testing Standards;

According to 2.9.4.7 of IMO IMDG Code (2020 Edition), Manufacturers and subsequent distributors of batteries manufactured shall make available the test summary as specified in the manual of tests and criteria, Part III, subsection 38.3, paragraph 38.3.5;

According to RID/ADR (2019 Edition) 2.2.9.1.7(g), manufacturers and post-factory sellers of lithium battery packs should provide the UN Tests and Standards

Summary of the UN38.3 test as set out in Subsection 38.3.5 of Part III of the Quasi-Manual;

According to 2.2.9.1.7(g) of RID/ADR (2019 Edition), Manufacturers and subsequent distributors of batteries manufactured shall make available the test summary as specified in the manual of tests and criteria, Part III, subsection 38.3, paragraph 38.3.5;



Dangerous Goods Regulations

IMO International Maritime Dangerous Goods Code relevant regulations

Refer to United Nations, national, and local regulations.

Refer to U. N., national, local regulations.

**16. Other Information Other Information**

The above information is based on existing data and is the best information we have at present. However, no warranties of appropriateness or any other warranties, express or implied, are made with respect to such information, and we accept no liability arising from the use of such information. Users should conduct their own investigations to determine whether the information is suitable for their particular purpose. While reasonable precautions have been taken in compiling the data contained in this report, they are for your information, consideration and investigation only. This Material Safety Data Sheet provides guidelines for the safe handling and use of this product; It does not and cannot make recommendations on all possible situations ; Therefore, you should evaluate your specific use of this product to determine if you need to take extra precautions.

The data/information contained in this document has been reviewed and approved for general publication in the light of the absence of export control information in this document.

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