



Safety Data Sheet

1. Product and Company Identification

Important Note: As a solid, manufactured article, exposure to hazardous ingredients is not expected with normal use. This battery is an article pursuant to 29 CFR 1910.1200 and, as such, is not subject to the OSHA Hazard Communication Standard requirement. The information contained in this Safety Data Sheet contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Commercial product name

323453

Use of the substance/preparation

Lithium-ion batteries

Synonyms

Lithium-ion Cell, Lithium-ion Pack, Lithium-ion Battery, Li-Ion Cell, Li-Ion Pack, Li-Ion Battery

Manufacturer

- Amperex Technology Limited

Address

- 3503,Wharf Cable TV Tower, 9 Hoi Shing Road,Tsuen Wan,N.T, HongKong China

Company/undertaking identification

- Emergency contact

+86-138-6039-5119

Further Information

Battery-System: Lithium-ion (Li-ion)

Nominal Voltage: 3.7V

Rated Capacity: 0.52Ah

Wh rating: 1.92Wh

Weight : 11g

Anode (negative electrode): based on intercalation graphite

Cathode (positive electrode): based on lithiated metal oxide (Cobalt, Nickel, Manganese)

Remark:

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. -. makes no warranty, expressed or implied, with respect to this information and disclaims all liabilities from reliance on it.

2. Hazards Identification



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Classification of the substance or mixture.

Preparation Hazards and Classification: The product is a Lithium ion cell or battery and is therefore classified as an article and is not hazardous when used according to the recommendations of the manufacturer. The hazard is associated with the contents of the cell or battery. Under recommended use conditions, the electrode materials and liquid electrolyte are non-reactive provided that the cell or battery integrity remains and the seals remain intact. The potential for exposure should not exist unless the cell or battery leaks, is exposed to high temperatures or is mechanically, electrically or physically abused/damaged. If the cell or battery is compromised and starts to leak, based upon the battery ingredients, the contents are classified as Hazardous.

Hazard Summary

Physical hazards: Not classified for physical hazards.

Health hazards: Not classified for health hazards.

Environmental hazards: Not classified for hazards to the environment.

Specific hazards: Exposure to contents of an open or damaged cell or battery: contact with this material will cause burns to the skin, eyes and mucous membranes. May cause sensitization by skin contact.

Main Symptoms: Symptoms include itching, burning, redness and tearing.

Hazardous Materials Information Label (HMIS)

Health: 0

Flammability: 1

Physical Hazard: 0

NFPA Hazard Ratings

Health: 0

Flammability: 1

Reactivity: 0

Unique Hazard:

GHS precautionary statements

Precautionary Statement(s) Prevention	P102: Keep out of reach of children. P103: Read label prior to use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking. P234: Keep only in original container. P254: Wash hands thoroughly after handling.
Response (If cell/battery leaks)	P260: Do not breathe vapor or spray. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301/330/331: IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. P303/361/353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304/340: If INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305/351/338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310: Immediately call a POISON CENTER or doctor/physician. P363: Wash contaminated clothing before reuse. P370: In case of fire: Use carbon dioxide, dry chemical or water extinguisher.
Storage (Store as indicated in Section 7)	P402: Store in a dry place. P405: Store locked up. P410: Protect from sunlight.
Disposal	P406: Store any spilled/leaking electrolyte material in a corrosive resistant container with a resistant inner liner. P501: Dispose of batteries in accordance with applicable hazardous waste regulations.

Other Hazards.

Appearance, Color and Odor: Solid object with no odor.



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Primary Routes(s) of Exposure: These chemicals are contained in a sealed enclosure. Risk of exposure occurs only if the cell or pack is mechanically, thermally, electrically or physically abused to the point of compromising the enclosure.

If this occurs, exposure to the electrolyte solution contained within can occur by inhalation, ingestion, eye contact and skin contact.

Potential Health Effect(s):

Acute (short term): see Section 8 for exposure controls.

In the event that this cell or pack has been ruptured, the electrolyte solution contained within the cell would be corrosive and can cause burns to skin and eyes.

Inhalation: Inhalation of materials from a sealed cell is not an expected route of exposure. Vapors or mists from a ruptured cell may cause respiratory irritation.

Ingestion: Swallowing of materials from a sealed cell is not an expected route of exposure. Swallowing the contents of an open cell can cause serious chemical burns to mouth, esophagus, and gastrointestinal tract.

Skin: Contact between the cell and skin will not cause any harm. Skin contact with the contents of an open cell can cause severe irritation or burns to the skin.

Eye: Contact between the cell and the eye will not cause any harm. Eye contact with the contents of an open cell can cause severe irritation or burns to the eye.

CHRONIC (long term): see Section 11 for additional toxicological data.

Interactions with other chemicals: Immersion in high conductivity liquids may cause corrosion and breaching of the cell or battery enclosure. The electrolyte solution inside of the cells may react with alkaline (basic) materials and present a flammability hazard.

Potential Environmental Effects: Not Available.

3. Composition/information on ingredients

Hazardous components

	Chemical Name	CAS No.	*Mass range in cell (g/g %)
Electrolyte	Contains Electrolyte salt and solvents.	/	10-30
Electrolyte salt	Lithium Hexafluorophosphate	21324-40-3	3-15
Electrolyte solvent	Ethylene carbonate Propylene Carbonate Diethyl Carbonate Ethyl Methyl Carbonate Dimethyl Carbonate	96-49-1 108-32-7 105-58-8 623-53-0 616-38-6	5-20
PVDF	Poly vinylidene fluoride	24937-79-9	3-10
Copper	Copper foil	7440-50-8	5-10
Aluminium	Aluminum foil	7429-90-5	5-10
Cathode	Lithium cobalt	12190-79-3	15-30
Anode	Acetylene Black	1333-86-4	5-20
Steel, Nickel, and inert components	/	Various	Balance



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Because of the cell structure the dangerous ingredients will not be available if used properly.
During charge process a lithium graphite intercalation phase is formed.

4. First Aid Measures

Description of first aid measures

The hazardous components of this cell or battery are contained within a sealed unit. The following measures are only applicable if exposure has occurred to components when a cell or battery leaks, is exposed to high temperatures or is mechanically, electrically or physically abused/damaged. The hazardous contents are caustic alkaline electrolytes contained in cells with lithium metal oxide cathodes, graphite and carbon anodes and Polyvinyliden fluoride binders.

Ingestion: Swallowing a battery can be harmful

Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract. If battery or open battery is ingested, do not induce vomiting or give food or drink. Seek medical attention immediately.

Inhalation: Contents of an open battery can cause respiratory irritation. Inhalation of vapors may cause irritation of the upper respiratory tract and lungs. Provide fresh air and seek medical attention.

Skin Absorption: Ethylene carbonate, diethyl carbonate and dimethyl carbonate may be absorbed through the skin causing localized inflammation.

Skin Contact: Contents of an open battery can cause skin irritation and/or chemical burns. Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

Eye Contact: Contents of an open battery can cause severe irritation and chemical burns. Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

PROTECTION FOR FIRST

AIDERS: Do not enter corrosive vapor contaminated areas without a respirator or Self Contained Breathing Apparatus. Wear adequate personal protective equipment as indicated in Section 8.

FIRST AID FACILITIES: Eye wash bottle, fountain, safety showers or at least a source of running water are required in the area where the product is used.

Most important symptoms & effects, acute & delayed, caused by exposure:

ACUTE: The contents of the battery are rated as harmful. Ingestion of the electrolyte could lead to severe gastrointestinal tract irritation with nausea, vomiting and potentially burns. Inhalation of vapors may lead to severe irritation of the mouth and upper respiratory tract with a burning sensation, pain, burns and inflammation in the nose and throat; there may also be coughing or difficulty breathing. Eye contact may lead to severe eye irritation or in worst case scenario irreversible damage and possible eye burns. Skin contact may lead to irritation and possible skin burns.

CHRONIC: Skin contact may aggravate/exacerbate existing skin conditions, such as dermatitis. Chronic inhalation may lead to the same symptoms as listed for acute inhalation above.

Indication of any immediate medical attention and special treatment needed

ADVICE TO DOCTOR: Treat symptomatically if the person comes into contact with the electrolyte liquid contents of a damaged battery.

5. Fire Fighting Measures

Risk Analysis (electrical shock, fire, explode, population)

There was no electrical shock risk for single cell, or battery module which voltage was less than 50V DC (the safety voltage). But if the pack had the voltage was bigger than 50V DC, the electrical shock shall be protected.

During the shipment or testing process for LIB Pack or Module, there was danger factors like drop, crush, broken, metal short circuit, liquid immersion, the factors would lead the risk like electrical shock, catch fire. If pack was in well sealed box, there was gas explode risk; if the pack was in big room or fans, there was not explode risk. The released liquid was the environment population risk.

Material prepare & people training

1) **Water based sprayer fire extinguish:** 1 set of 9L or 2 sets of 6L water spray fire extinguishers per each



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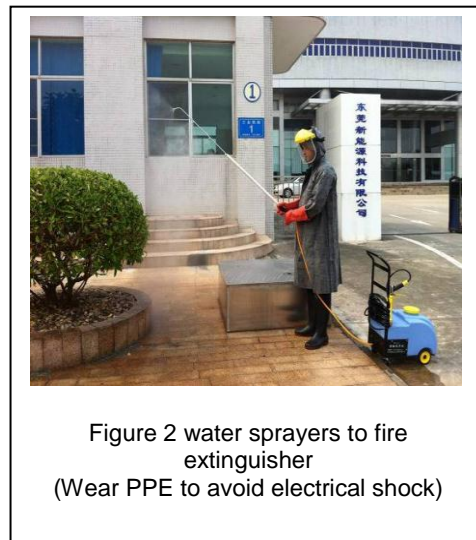
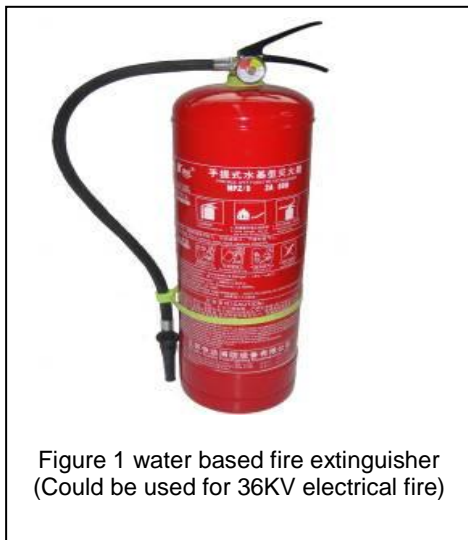
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500KWh LIB pack or Modules. Or you could use portable electrical water sprayer or hang type water spray fire extinguisher (photo 1) . The water based spray fire extinguisher could be used for fire type ABCE = solid (A), flash point >60°C liquid (B), gas (C), <36Kv electrical (E) fire. It was recommended to prepare water based sprayers in the trucks.

- 2) **Water protection sets:** raincoat, galoshes, rubber gloves. Plastic rollers. Rags.
- 3) **PPE:** breathing mask, safety glass, face mask, gloves for high temperature.
- 4) **Smoke escape:** fans in wall one per 20m or portable fans in rooms. Keep gas exchange hole in trucks.
- 5) **Gas explode tools:** open condition for devices & rooms. Some devices like high or low temperature ovens must be sealed, there was one copper film with the diameter 200mm & thickness 8um as the safety vent. The wall should have one fan per 20m, ≥5000m3 per hour for flow rate.
- 6) **Neutralized material:** prepare 10kg Ca(OH)₂ powder per 500KWh LIB pack or modules, it was used for neutralized for release electrolyte. Because electrolyte met with water, 8% HF would be created.
- 7) **Voltage measure.** Multimeter. Please physical block the current measure function, the mistake would lead instrument exploding.
- 8) **People training:** (a) turn on fans or portable fans for smoke escape. (b) wear the water protection sets → use water spray fire extinguishers → dry by cloths with rubber gloves → insulated by plastic film. (c) neutralized by Ca(OH)₂ or NaOH for released electrolyte. (d) use multimeter to measure voltage. Take care of the mistake.

Fire Extinguisher Flow Chart

- 1) Alarm if you found the smoking or burning.
- 2) Wear PPE. (Breath mask, face mask. If using water, PPE should include the raincoat, galoshes, rubber gloves).
- 3) Turn Off power supply in devices or power supply.
- 4) Use any fire extinguishers for solid material fire, the recommended sequence was water or mist water, sand, fire extinguisher blanket, CO₂, powder.
- 5) Smoke Escape by turn on fans or open air environment.
- 6) Dry and neutralize. Drying by fans, Neutralization by Ca(OH)₂ powder if water was used.



Additional information

If possible, remove cell(s) from fire fighting area. If heated above 125°C, cell(s) can explode/vent. Cell is not flammable but internal organic material will burn if the cell is incinerated.



6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed areas before entering. Wear adequate personal protective equipment as indicated in Section 8.

Environmental precautions

Absorb spilled material with non-reactive absorbent such as vermiculite, clay or earth. Prevent from migration into soil, sewers and natural waterways – inform local authorities if this occurs.

Methods and material for containment and cleaning up

Evacuate spill area immediately and remove sources of ignition. Do NOT touch spilled material. Cleanup personnel must be trained in the safe handling of this product. Spills may be absorbed on non-reactive absorbents such as vermiculite. Place cells or batteries into individual plastic bags and then place into appropriate containers and close tightly for disposal. Ensure that cleanup procedures do not expose spilled material to any moisture. Immediately transport closed containers outside. Lined steel drums are suitable for storage of damaged cells or batteries until proper disposal can be arranged.

7. Handling and Storage

One of the major risks associated with the transport of batteries and battery-powered equipment is short-circuit of the battery as a result of the battery terminals coming into contact with other batteries, metal objects, or conductive surfaces. Packaged batteries or cells must be separated in a way to prevent short circuits and damage to terminals. They must be packed in a strong outer packaging or be contained in equipment.

Precaution for Handling

Do not expose the battery to excessive physical shock or vibration. Short-circuiting should be avoided; however, accidental short-circuiting for a few seconds will not seriously affect the battery. Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin. Sources of short circuits include jumbled batteries in bulk containers, coins, metal jewelry, metal covered tables, or metal belts used for assembly of batteries in devices. To minimize risk of short-circuiting, the protective case supplied with the battery should be used to cover the terminals when transporting or storing the battery. Do not disassemble or deform the battery. Should an individual cell within a battery become ruptured, do not allow contact with water. When operators handle the battery which voltage more than 50v, they must wear the insulation protection PPE.

Condition for storage

The lithium ion battery should be between 25% and 75% of full charge when stored for a long period of time. Stored in a cool, dry, and well ventilated area. Elevated temperatures can result in loss of battery performance, leakage, or rust. Do not expose the battery to open flames.

8. Exposure controls/personal protection Exposure limit values Exposure limits

Exposure Control Measures

Exposure Limit Values: Airborne exposures to hazardous substances are not expected when the cells or batteries are used for their intended purposes. Exposure standards are not applicable to the sealed articles.

Biological Monitoring: Not applicable.

Control Banding: Not applicable.

Recommended monitoring procedures: Follow standard monitoring procedures.

Derived no-effect level (DNEL): Not applicable.

Derived minimal effect level (DMEL): Not applicable.



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Predicted no-effect concentrations (PNECs): Not applicable.

Engineering Controls

Engineering Controls: Special ventilation is not required when using these products in normal use scenarios. Ventilation is required if there is leakage from the cell or battery.

Individual Protection Measures

Respiratory protection: Not necessary under normal conditions. However, if dealing with an electrolyte leakage and irritating vapors are generated, an approved half face inorganic vapor and gas/acid/particulate respirator is required.

Eye and Face protection: Not necessary under normal conditions. Wear safety glasses with side shields if handling an open or leaking battery.

Skin (Hand) protection: Not necessary under normal conditions. PVC gloves are recommended when dealing with a leaking or ruptured cell or battery.





Skin (clothing) protection: Not necessary under normal conditions. Wear long sleeved clothing to avoid skin contact if handling a leaking or ruptured cell or battery. Soiled clothing should be washed with detergent prior to re-use.

Thermal Protection: Not applicable.

Other Protective Equipment: Have a safety shower or eye wash station readily available

Hygiene Measures: Do not eat, drink or smoke in work areas. Avoid storing food, drink or tobacco near the product. Practice and maintain good housekeeping.

Environmental exposure controls: Avoid release to the environment.

Respiratory Protection	Hand Protection	Eye Protection	Other
			
In all fire situations, use self-contained breathing apparatus.	In the event of leaking or ruptured cells or batteries, wear gloves.	Safety glasses are recommended in case of leaking or ruptured cells or batteries.	In the event of leaking or ruptured cells or batteries, wear protective clothing.

9. Physical and Chemical Properties

Appearance

physical state,: Solid
Color: Various
Odor: Odorless

Important health, safety and environmental information

pHValue	n.a.	Solubility in water:	n.a.
Vapor pressure	n.a.	Explosion limit	n.a.
Flash point	n.a.	Auto flammability	n.a.



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Water solubility:	Insoluble	Melting Point	n.a
Boiling Point	n.a	Freezing Point	n.a.

10. Stability and Reactivity

Stability

Stable

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition. Do not puncture, crush or incinerate.

Materials to avoid

No materials to be especially mentioned.

Hazardous decomposition products

In case of open cells, there is the possibility of hydrofluoric acid and carbon monoxide release.

Possibility of Hazardous Reactions

Will not occur

Additional information

No decomposition if stored and applied as directed.

11. Toxicological Information

Information on toxicological effects:

The hazardous components of the cell or battery are contained within a sealed unit. Under recommended use conditions, the electrode materials and liquid electrolyte are non-reactive provided that the cell or battery integrity remains and the seals remain intact. The potential for exposure should not exist unless the battery leaks, is exposed to high temperature or is mechanically, electrically or physically abused/damaged. **The following toxicology data is in respect to if a person comes into contact with the electrolyte.**

Acute Toxicity:

Swallowed: The electrolyte contained within the cell or battery is a corrosive liquid. Ingestion of this electrolyte would be harmful. Swallowing may result in nausea, vomiting, diarrhea, abdominal pain and chemical burns to the gastrointestinal tract. During normal usage ingestion should not be a means of exposure.

Eye: The electrolyte contained within the cell or battery is a corrosive liquid and it is expected that it would cause irreversible damage to the eyes. Contact may cause corneal burns. Effects may be slow to heal after eye contact. Correct handling procedures incorporating appropriate eye protection should minimize the risk of eye irritation.

Skin: The electrolyte contained within the cell or battery is a corrosive liquid and it is expected that it would cause skin burns or severe irritation to the skin if not washed off immediately. Correct handling procedures should minimize the risk of skin irritation. People with pre-existing skin conditions, such as dermatitis, should take extreme care so as not to exacerbate the condition.

Inhaled: Inhalation of vapors from a leaking cell or battery is expected to cause severe irritation of the mouth and upper respiratory tract with a burning sensation, pain, burns and inflammation in the nose and throat; there may also be coughing or difficulty breathing.

Skin Corrosion/Irritation: The electrolyte contained within the cell or battery is classified as a corrosive liquid and is expected to exhibit Dermal Corrosivity/Irritation.

Serious Eye Damage/Irritation: The electrolyte contained within the cell or battery is classified as a corrosive liquid and is expected to exhibit serious Damage/Corrosivity.



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Respiratory or Skin Sensitization: The electrolyte contained within the cell or battery is not expected to be a skin sensitizer according to OECD test 406, based on the available data and the known hazards of the components. The electrolyte contained within the battery is not expected to be a respiratory tract sensitizer, based on the available data and the known hazards of the components.

Germ Cell Mutagenicity: The electrolyte contained within the cell or battery is not expected to be mutagenic according to test such as OECD tests 471, 475, 476, 478 and 479, based on the available data and the known hazards of the components.

Carcinogenicity: The electrolyte contained within the cell or battery is not expected to be a carcinogen. The cathode contains Cobalt and Nickel components. These components are classified as IARC 2B – possibly carcinogenic to humans, however they do not pose a threat when contained in the cell or battery sealed unit.

Reproductive Toxicity: The electrolyte contained within the cell or battery is not expected to be a reproductive hazard according to test such as OECD tests 414 and 421, based on the available data and the known hazards of the components.

Specific Target Organ Toxicity (STOT) – Single Exposure: The electrolyte contained within the cell or battery is corrosive and is expect to cause respiratory irritation by inhalation. Inhalation of vapors may lead to severe irritation of the mouth and upper respiratory tract with a burning sensation, pain, burns and inflammation in the nose and throat; there may also be coughing or difficulty breathing.

Specific Target Organ Toxicity (STOT) – Repeated Exposure: The cells or batteries are not expected to cause organ damage from prolonged or repeated exposure according to tests such as OECD tests 410 and 412, based on the available data and the known hazards of the components.

Aspiration Hazard: The cells or batteries are not classified as an aspiration hazard, based on the available data and the known hazards of the components. However, due to the corrosive nature of the product if swallowed, do NOT induce vomiting. If vomiting has occurred after ingestion the person should be observed to ensure that aspiration into the lungs has not occurred and assessed for chemical burns to the gastrointestinal and respiratory tracts.

12. Ecological Information

Further information

Ecological injuries are not known or expected under normal use. Do not flush into surface water or sanitary sewer system. If the battery is scrapped, it should be selected and disposed by professional company

13. Disposal Considerations

Advice on disposal

For recycling consult manufacturer.

Contaminated packaging

Disposal in accordance with local regulations.

14. Transport Information

The requirement of air transportation

The lithium battery should according with the International Air Transport Association (IATA DGR 56edition) and International Civil Aviation Organization (ICAO) requirements for transportation. The battery or cell should be packed



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and signed as following table. (If the cell's power less than 20Wh or battery's power less than 100Wh and the package according with PI-965 Section II, it is not classified as dangerous cargo) .

UN NO.	Proper Shipping Name	Power	Package requirements	Label which need to paste
UN3480	lithium ion batteries	Cell≤20Wh Battery≤100Wh	PI965 Section IB	Class 9 hazard label and lithium battery handling label
		Cell > 20Wh Battery > 100Wh	PI965 Section IA	Class 9 hazard label
		Cell≤20Wh Battery≤100Wh	PI965 Section II	lithium battery handling label

Do not damage or mishandle this package. If package is damaged, batteries must be quarantined, inspected, and repacked. Cells and batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport .Waste lithium batteries and lithium batteries being shipped for recycling or disposal are prohibited from air transport unless approved by the appropriate national authority of the State of origin and the State of the operator.

The lithium battery should pass the UN38.3 test, if the battery can not pass the testing, it can not transport, should redesign. If the battery through the test, for the lithium battery only, follow the UN3480 and the packing requirements for PI965, for the lithium battery which installed in equipment, follow the UN3481 and the packing requirements for PI967.

The lithium battery testing meets all requirements under UN Manual of Tests and Criteria Part III, subsection 38.3.

Manual of Test and Criteria (38.3 Lithium batteries)		Test Results	Remark
No	Test item		
T1	Altitude Simulation	Pass	
T2	Thermal Test	Pass	
T3	Vibration	Pass	
T4	Shock	Pass	
T5	External Short Circuit	Pass	
T6	Impact/Crush	Pass	
T7	Overcharge	Pass	For pack and single cell battery only
T8	Forced Discharge	Pass	

The requirement of ocean shipping

According to International Maritime Dangerous Goods Code(IMDG 37th) to transport and according to the requirements of UN NO. 3480/3481 to management the goods, and require class II packaging. Firmly installation. mutual isolation. avoid short circuits. If the package contain more than 24 lithium batteries or more than 12 lithium battery packs, must provide the special program if package damage.

The clause 188 of IMDG require the Watt of lithium ion cell less than 20Wh is not classified as dangerous cargo and the Watt of lithium ion battery less than 100Wh is not classified as dangerous cargo but need marked the WHR



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ratio label. Otherwise, the battery and module should be packed in a strong outer packaging or be contained in equipment.

The clause 230 of IMDG 37th requires the lithium battery testing should meet all requirements under UN Manual of Tests and Criteria Part III, subsection 38.3.

For more information, Call: +86-13860395119.

15. Regulatory Information

Canadian Federal Regulations:

These products have been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification: Not Controlled, manufactured article.

New Substance Notification Regulations: Lithium hexafluorophosphate is listed on the Non-Domestic Substance List (NDSL). All other ingredients in the product are listed, as required, on Canada's Domestic Substances List (DSL).

National Pollutant Release Inventory (NPRI) Substances: These products do not contain any NPRI chemicals.

United States Federal and State Regulations:

TSCA Status: All ingredients in these products are listed on the TSCA inventory.

OSHA: These products do not meet criteria as per Part 1910.1200, manufactured article.

SARA EPA Title III: None.

Sec. 302/304: None.

Sec. 311/312: None.

Sec. 313: None.

CERCLA RQ: None.

Australia and New Zealand

SUSMP: Not applicable

AICS: All ingredients are on the AICS list.

HSNO Approval number: Not applicable

HSNO Group Title: Not applicable

NOHSC:1008 Risk Phrases: R34 - Causes Burns.

NOHSC:1008 Safety Phrases:

S1 – Keep locked up.

S2 – Keep out of reach of children.

S23 – Do not breathe vapor.

S24/25 – Avoid contact with skin and eyes.

S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S27/28 – After contact with skin, take off immediately all contaminated clothing and wash immediately with plenty of water.

S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.

S56 – Dispose of this material and its container at hazardous waste or special waste collection point.

S62 – If swallowed, DO NOT induce vomiting: seek medical advice immediately and show this container or label.

S64 – If swallowed, rinse mouth with water (Only if the person is conscious).

EC Classification for the Substance/Preparation:

These products are not classified as hazardous according to Regulation (EC) No. 1272/2008.

Keep out of the reach of children.

EU Restrictions on use:

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended: Aluminium (CAS 7429-90-5)

Other EU Regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006.



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Japanese Regulations

Japanese Industrial Standards (JIS) JIS Z 7253:2012
Waste disposal and public cleaning law
Law for Promotion of Effective Utilization of Resources

Taiwanese Regulations

Regulation of Labelling and Hazard Communication of Dangerous and Harmful Materials: Labeling requirements and other relevant provision of chemicals, this product is not classified as dangerous goods.
Toxic Chemicals Substance Control Law: Not Listed.
CNS 1030016 Safety of primary and secondary lithium cells and batteries during transport.

Chinese Regulations

General Rule for Classification and Hazard Communication of Chemicals (GB 13690-2009): Specifies the classification, labeling and hazard communication of chemicals in compliance with the GHS standard for chemical production sites and labeling of consumer goods.
General Rule for Preparation of Precautionary Labels for Chemicals (GB 15258-2009): Specifies the relevant application methods of precautionary labels for chemicals.
Safety Data Sheet for Chemical Products Content and Order of Sections (GB/T 16483-2008)

16. Other Information

Further Information

Data of sections 4 to 8, as well as 10 to 12, do not necessarily refer to the use and the regular handling of the product (in this sense consult package leaflet and expert information), but to release of major amounts in case of accidents and irregularities. The information describes exclusively the safety requirements for the product (s) and is based on the present level of our knowledge. This data does not constitute a warranty for the characteristics of the product(s) as defined by the legal warranty regulations. "(n.a. = not applicable; n.d. = not determined)"
The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.