

Safety Data Sheets (SDSs)

Client	Wuhan Lixing (Torch) Power Sources Co., Ltd.
Add. of Client	The Guandong Industrialized Country of East Lake High and New Technology Development Zone, Wuhan
Description	Lithium Manganese Dioxide Battery
Model /Type	CR123A
Manufacturer	Wuhan Lixing (Torch) Power Sources Co., Ltd.
Add. of Manufacturer	The Guandong Industrialized Country Of East Lake High and New Technology Development Zone, Wuhan
Nominal Voltage	3.0V, 1500mAh
Date of Receipt	2017-02-24

Laboratory	Guangzhou CP-UP Certification Technology Service Co., Ltd.
Address	No 2 Guangxing Hongmian Road, jingkeng Industrial Park, Nancun Town, Panyu District, Guangzhou City, China

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product name: Lithium Manganese Dioxide Battery

Model: CR123A

Other means of identification

Synonyms:none

Recommended use of the chemical and restrictions on use

Recommended Use:Used in portabl electronic equipments;

Uses advised against:

- a) Do not dismantle, open or shred batteries.
- b) Do not expose batteries to heat or fire. Avoid storage in direct sunlight.
- c) Do not short-circuit battery. Do not store 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 battery from its original packaging until required for use.
- e) Do not subject 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) Observe the plus (+) and minus (-) marks on the cell, battery and equipment and ensure correct use.
- h) Do not use any cell or battery which is not designed for use with the equipment.
- i) Do not mix cells of different manufacture, capacity, size or type within a device.
- j) Battery usage by children should be supervised.
- k) Seek medical advice immediately if a cell or a battery has been swallowed.
- l) Always purchase the battery recommended by the device manufacturer for the equipment.
- m) Keep cells and batteries clean and dry.
- n) After extended periods of storage, it may be necessary to charge and discharge the cells or batteries several times to obtain maximum performance.
- o) Use only the cell or battery in the application for which it was intended.
- p) When possible, remove the battery from the equipment when not in use.
- q) Dispose of properly.

Details of the supplier of the safety data sheet:

Supplier Name: Wuhan Lixing (Torch) Power Sources Co., Ltd.

Address: The Guandong Industrialized Country of East Lake High And New Technology Development Zone ,
Wuhan

Telephone number of the supplier: 0086-027- 87561046

Fax: 0086-027-87561046

Postcode: 430074

E-mail address: lqc@lisun.com

Emergency telephone number

Company Emergency Phone Number: 0086-027-87561046

2. HAZARDS IDENTIFICATION

Classification

No harm at the normal use. If contact the Electrolyte in the Lithium manganese dioxide cylindrical cell, reference as follows:

Classification of the substance or mixture

Classification according to GHS

Acute Toxicity, Oral(Hazard category 4)

Acute Toxicity, inhalation(Hazard category 4)

Serious eye damage/eye irritation (Hazard category 2A)

GHS Label elements, including precautionary statements:



GHS07

Signal word: Warning

Hazard statement(s):

H319:Causes serious eye irritation;

H332:Harmful if inhaled;

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.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

Response:

P312:Call a Poison center or doctor/physician if you feel unwell.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists:Get medical advice/attention.

P304+P340 IF INHALED:Remove person to fresh air and keep comfortable for breathing.

P301+P312:IF SWALLOWED:Call a Poison center or doctor/physician if you feel unwell.

P330 Rinse mouth.

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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures

Description:

Product: Consisting of the following components.

Common Chemical Name	Concentration (%)	CAS Number	EC No.
Lithium(Li)	3.6	7439-93-2	231-102-5
Manganese dioxide(MnO ₂)	31.0	1313-13-9	215-202-6
Graphite (C)	4.6	7782-42-5	231-955-3
Lithium Perchlorate	1.0	7791-03-9	232-237-2
Ethylene Glycol dimethylether(LiClO ₄)	7.0	110-71-4	203-794-9
Propylene carbonate(C ₄ H ₁₀ O ₂)	8.0	108-32-7	203-572-1
Box-hat(Fe)	33.8	7439-89-6	231-096-4
Chromium(Cr)	8.0	7440-47-3	231-157-5
Molybdenum(Mo)	1.2	7439-98-7	210-478-4
Polypropylene((C ₃ H ₆) _n)	0.5	9003-07-0	---
PVDF(-[CH ₂ -CF ₂ -] _n)	0.8	24937-79-9	----
PTFE(C ₂ F ₄) _n	0.5	9002-84-0	204-126-9

Note: CAS number is Chemical Abstract Service Registry Number.

N/A=Not apply.

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

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.

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.

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 Lithium manganese dioxide cylindrical cell is subject to storage for such a long term as more than 3 months, it is recommended to recharge the Lithium manganese dioxide cylindrical cell periodically.

3 months: -10°C~+40°C, 45 to 85%RH

And recommended at 0°C~+35°C for long period storage.

Do not storage Lithium manganese dioxide cylindrical cell 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 manganese dioxide cylindrical cell 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.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters

CAS Number	ACGIH	NIOSH	OSHA
7782-42-5	TLV-TWA 2mg/m ³	RELs-TWA2.5mg/m ³	PELs-TWA 15mppcf
1333-86-4	TLV-TWA 3mg/m ³	RELs-TWA3.5mg/m ³	PELs-TWA 3.5mg/m ³
1313-13-9	PELs-TWA 0.1mg/m ³ PELs-TWA 0.02mg/m ³	N/A	N/A

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 trough 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Form: button
	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.
Odour threshold	Not determined.
Evaporation rate	Not determined.
Viscosity	Not determined.
Other Information	:
Voltage	3.0V
Electric capacity	1500mAh
Lithium content	16.8g

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.

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.

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.

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.

14. TRANSPORT INFORMATION

Land transport

ADR/RID class: Not regulated.

UN-Number: UN3090 or UN3091.

Maritime transport

IMDG Class: Class 9.

UN Number: UN3090 or UN3091.

Marine pollutant: No

Air transport

ICAO/IATA Class: Class 9

UN/ID Number: UN3090 or UN3091

Environmental hazards: Not applicable.

Special precautions for user: Not applicable.

Transport/Additional information: Not restricted goods according to the above specifications.

The Lithium manganese dioxide cylindrical cell had been tested according to the requirements of the UN manual of tests and Criteria, Part III, subsection 38.3;

The lithium ion batteries according to Section II of PACKING INSTRUCTION 968, or Section II of PACKING INSTRUCTION 969~970 of the Dangerous Goods regulations 58th 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.

Meets requirements of Special Provision 188 of IMDG(37-14) to be transported as non-dangerous goods
 Meets the requirements of 49CFR173.185 to be transported as non-dangerous goods for road, rail, air, and vessel (Effective August 6, 2014 per HM224F)

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

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/ NDSL)	Australia (AICS)	Korea (ECL)	China (IECSC)
7439-93-2	Listed	Listed	Listed	DSL	Listed	Listed	Listed
7791-03-9	Listed	Listed	Listed	DSL	Listed	Listed	Listed
25037-45-0	Listed	Listed	Listed	DSL	Listed	Listed	Listed
115-10-6	Listed	Listed	Listed	DSL	Listed	Listed	Listed
9003-07-0	Listed	Listed	Listed	DSL	Listed	Listed	Listed
1313-13-9	Listed	Listed	Listed	DSL	Listed	Listed	Listed
7782-42-5	Listed	Listed	Listed	DSL	Listed	Listed	Listed
1333-86-4	Listed	Listed	Listed	DSL	Listed	Listed	Listed
65997-19-5	Listed	Listed	Listed	DSL	Listed	Listed	Listed
110-71-4	Listed	Listed	Listed	DSL	Listed	Listed	Listed

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

16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases:

R20/22: Harmful by inhalation and if swallowed.

R36: Irritating to eyes.

H302: Harmful if swallowed.

H332: Harmful if inhaled.

*****End of SDS*****

Safety Data Sheet

Date of Issue: Sept.27-2017

File No.: WHLX20170927SDS01

1. IDENTIFICATION

Product Identifier

Name of Product: Lithium Manganese Dioxide Cylindrical Cell

Other means of identification

Product Models: CR2

Nominal Voltage: 3.0V

Nominal capacity: 850mAh

Weight: 11g

Recommended use of the chemical and restriction on use

Recommended Use: Lithium Metal Battery

Restriction On Use: No information available

Information Of Supplier:

Company Name: Wuhan Lixing (Torch) Power Sources Co., Ltd.

Address: The Guangdong Industrialized Country Of East Lake High and New Technology Development Zone,Wuhan

Zip code: 430074

Contact person: He yi

Tel: 0086-027-87561046

E-mail:yhe@lisun.com

Emergency Telephone

0086-027-87561046

2. Hazard(s) Identification

Classification:

This product is an article which is a sealed battery and as such does not require an SDS per the OSHA hazard communication standards unless ruptured. The sealed Lithium Metal Battery is not hazardous in normal use.

Signal Word: No signal word

Hazard Statements and Symbol

Hazard statement: No hazard statement

Pictogram(s): No pictogram

Precautionary Statements: No Precautionary Statements

Description of any hazards not otherwise classified

In case of mistreatment(abusive over charge, reverse charge, external short circuit...) and in case of fault some electrolyte can leak from the cell through the safety device. In these case refer to the risk of the electrolyte. Contact with internal components may cause irritation or severe burns. Irritating to eyes, respiratory system and skin.The electrode materials are only hazardous, If the material are released by mechanical damaging of the cell or if exposed to fire.

Safety Data Sheet

Date of Issue: Sept.27-2017

File No.: WHLX20170927SDS01

Skin touch

Contact with battery electrolyte may cause burns and skin irritation.

Eye touch

Contact with battery electrolyte may cause burns. Eye damage is possible.

Inhalation

Inhalation of a large number of vapors or fumes released due to heat may cause respiratory.

Ingestion

Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.

Unknown Toxicity

No information available.

3. Composition/ Information on Ingredients

Chemical Name	CAS No.	Weigh%
Lithium(Li)	7439-93-2	2.8
Manganese dioxide(MnO ₂)	1313-13-9	34.0
Graphite(C)	7782-42-5	7.0
Lithium perchlorate(LiClO ₄)	7791-03-9	1.0
1,2 Dimethoxyethane (DME)	110-71-4	7.2
Propylene carbonate(PC)	108-32-7	7.4
Box-hat(Fe)	7439-89-6	27.2
Chromium(Cr)	7440-47-3	7.6
Nickel(Ni)	7440-02-0	0.1
Polypropylene((C ₃ H ₆) _n)	9003-07-0	0.8
PTFE(C ₂ F ₄) _n	9002-84-0	0.8
Aluminium(Al)	7429-90-5	4.1

4. First Aid Measures

General Advice

First aid is Applicable only in the case of cell rupture.

Skin Contact:

Washing immediately with plenty of water and soap for at least 15 minutes. In the case of skin irritation or allergic reaction see a physician.

Eye contact:

If symptoms persist, call a physician. 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. Do not rub affected area.

Inhalation of Vented Gas:

Remove to fresh air. If symptoms persist, call a physician. Get medical attention immediately if symptoms occur.

Ingestion:

Safety Data Sheet

Date of Issue: Sept.27-2017

File No.: WHLX20170927SDS01

Do not induce vomiting. Rinse mouth immediately and drink plenty of water. Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed

Contact with internal components may cause allergic skin sensitizations (rash) and irritate eyes, nose, throat, respiratory system. Cobalt and cobalt compounds are considered to be possible human carcinogen(s).

Indication of any immediate medical attention and special treatment needed

No information available

5. Fire –Fighting Measures

Suitable Extinguishing Media

Use foam , dry powder or dry sand, CO₂ as appropriate.

Unsuitable Extinguishing Media:

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the chemical

Under fire conditions, batteries may burst and release hazardous decomposition products when exposed to fire situation. This could result in the release of flammable or corrosion materials.

Hazardous Combustion product:

CO, CO₂, Metals oxides, Irritating fumes.

Protective equipment and precautions for firefighters

Firefighters must wear fire resistant protective equipment and appropriate breathing apparatus. The staff must equipment filtermask(full mask) or isolated breathing apparatus. The staff must wear the clothes which can defense the fire and the toxic gases. Put out the fire in the upwind direction. Remove the container to open space as soon as possible. Spray water on the containers in the fireplace to keep them cool until finish extinguishment.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area, dispose the case after the batteries cool and vapors dissipate. Provide maximum ventilation. Avoid contact with skin, eyes or inhalation of vapors.

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.

7. Handling and Storage

Precaution for safe handling

Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types. Keep batteries away from children. For devices to be used by children, the battery casing should be protected against unauthorized access. Unpacked batteries shall not lie about in bulk. In case of battery change always replace all batteries by new ones of identical type and brand. Do not swallow batteries. Do not throw batteries into water. Do not throw batteries into fire. Avoid deep

Safety Data Sheet

Date of Issue: Sept.27-2017

File No.: WHLX20170927SDS01

discharge. Do not short-circuit batteries use recommended charging time and current.

Conditions for safe storage, including any incompatibilities

Storage:

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. If battery is subject to storage for such a long term as more than 3months, it is recommended to recharge the battery periodically.

Incompatible products: Strong acids.Strong oxidizing agent.

8. Exposure Controls/Personal Protection

Control parameters

Not established

Appropriate engineering controls

Under normal conditions(during charge and discharge) release of ingredients does not occur.

Individual protection measures

Respiratory protection:

No personal respiratory protective equipment normally required. In case of inadequate ventilation wear respiratory protection

Eye /face protection:

No personal protective equipment normally required.

Skin protection:

Wear protective clothing to prevent contact

Hand protection:

Wear protective gloves

9. Physical and Chemical Properties

Physical State: Solid

Color: Silver

Odor: Odorless

Odor Threshold: No information available

pH:No data available

Melting/freezing point:No data available

Boiling point/boiling range:No data available

Flash Point:No data available

Evaporation Rate:No data available

Flammability(Solid, gas):No data available

Flammability Limit in Air:

Upper flammability limit:No data available

Lower flammability limit:No data available

Vapor pressure:No data available

Vapor density:No data available

Specific Gravity:No data available

Safety Data Sheet

Date of Issue: Sept.27-2017

File No.: WHLX20170927SDS01

Solubility: Insoluble in water

Partition coefficient:n-octanol/water: No data available

Autoignition temperature:No data available

Decomposition temperature:No data available

Kinematic viscosity:No data available

Dynamic viscosity:No data available

10. Stability and Reactivity

Reactivity:

No data available

Chemical stability:

Stable under recommended storage conditions.

Possibility of Hazardous Reactions:

When heated above 150°C the risk of rupture occurs. Due to special safety construction, rupture implies controlled release of pressure without ignition

Conditions to avoid:

Do not subject battery to mechanical shock. Keep away from open flames, high temperature.

Incompatible materials:

Strong acids, strong oxidizing agents.

Hazardous decomposition products:

Under fire conditions, the electrode materials can form carcinogenic cobalt oxides

11. Toxicological Information

Information on likely routes of exposure

Inhalation:

Inhalation of a large number of vapors or fumes released due to heat may cause respiratory.

Eye Contact:

Contact with battery electrolyte may cause burns. Eye damage is possible.

Skin Contact:

Contact with battery electrolyte may cause burns and skin irritation.

Ingestion:

Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.

Under normal conditions (during charge and discharge) release of ingredients does not occur. If accident release occurs see information in section 2,3, and 4. Swallowing of battery can be harmful. Call the local Poison Control Centre for advice and follow-up.

Information on toxicological characteristics

Acute toxicity:

No data available.

Skin corrosion/irritation:

The liquid in the battery irritates.

Serious eye damage/ irritation:

The liquid in the battery irritates.

Safety Data Sheet

Date of Issue: Sept.27-2017

File No.: WHLX20170927SDS01

Respiratory sensitization:

The liquid in the battery may cause sensitization to some person.

Skin sensitization:

The liquid in the battery may cause sensitization to some person.

Carcinogenicity:

Cobalt and Cobalt compounds are considered to be possible human carcinogen(s)

Germ Cell Mutagenicity:

No data available.

Reproductive Toxicity:

No data available.

STOT-single Exposure:

No data available.

STOT-repeated Exposure:

No data available.

Aspiration Hazard:

No data available.

12. Ecological Information

Ecotoxicity:

Water hazard class1(Self-assessment): slightly hazardous for water

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 in accordance with federal, state and local regulations.

14. Transportation Information

According to Packing Instruction 968-970 of IATA DGR and the special provision 188 of IMDG(inc Amdt38-16), 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 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 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 sources. 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

Safety Data Sheet

Date of Issue: Sept.27-2017

File No.: WHLX20170927SDS01

area. Forbid to use wooden, cement for bulk transport:

Lithium batteries shipped as "Lithium batteries", Lithium batteries packed with equipment", or "lithium batteries contained in equipment" may not be classified as "No Dangerous Goods" when shipped in accordance with Packing Instruction 968-970 of IATA-DGR" or "Special provision 188 of IMO-IMDG Code".

DOT: NOT REGULATED

Proper Shipping Name: NON REGULATED

Hazard Class: N/A

TDG: Not regulated

MEX: Not regulated

ICAO: Not regulated

IATA: Not regulated

Proper Shipping Name: NON REGULATED

Hazard Class: N/A

IMDG/IMO: Not regulated

Hazard Class: N/A

Ems No.: F-A,S-1

RID: Not regulated

ADR: Not regulated

AND:Not regulated

15. Regulatory information

OSHA hazard communication standard (29 CFR 1910.1200)

Hazardous Non-hazardous

16. Other Information

Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used material used in combination with any other materials or in any process, unless specified in the test

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File No.: WHLX20170927SDS01

Revision Date: Sept.27-2017

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