

SAFETY DATA SHEET

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

Product identifier

Product Name CR2032

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Lithium Primary/Metal Batteries

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name SHENZHEN LIDEA BATTERY CO., LTD.

Supplier Address 3/F, No.5 Bldg., Houhai Xufa Tech. Park, Loucun,
Gongming Town
Shenzhen
518107
CN

Supplier Phone Number Phone:86-755-2517 9976
Contact Phone8659183337809

Supplier Email ANITA@apex-intl.com.cn

Emergency telephone number

Company Emergency Phone Number 8675525179975

2. HAZARDS IDENTIFICATION

Classification


This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4



Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Reproductive Toxicity	Category 1B

GHS Label elements, including precautionary statements**Emergency Overview**

Signal word	Danger
Hazard Statements Harmful if swallowed Harmful if inhaled Causes skin irritation Causes serious eye irritation May damage fertility or the unborn child	
	
This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery. In case of rupture: the above hazards exist.	
Appearance Silver	Physical state Solid
	Odor Odorless

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Skin

IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity

51.4 % of the mixture consists of ingredient(s) of unknown toxicity

Other information

No information available

Interactions with Other Chemicals

Use of alcoholic beverages may enhance toxic effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%	Trade Secret
Manganese dioxide	1313-13-9	15 - 40	*
Propylene carbonate	108-32-7	1 - 5	*
Ethylene glycol dimethyl ether	110-71-4	1 - 5	*
Graphite	7782-42-5	1 - 5	*
Lithium	7439-93-2	1 - 5	*
Ptfe	9002-84-0	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures**General Advice**

Show this safety data sheet to the doctor in attendance. First aid is upon rupture of sealed battery.

Eye contact

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. Get medical attention if irritation develops and persists.

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

Ingestion

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to



protect themselves and prevent spread of contamination.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical, soda ash, lime or sand. DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk.

Unsuitable extinguishing media

DO NOT USE WATER OR FOAM.

Specific hazards arising from the chemical

Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. Some are transported in highly flammable liquid. Runoff may create fire or explosion hazard.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Do not touch or walk through spilled material. Stop leak if you can do it without risk.

Other Information DO NOT GET WATER on spilled substance or inside containers.

Environmental precautions

Environmental precautions Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

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 Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Do not breathe dust. Avoid generation of dust. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

Incompatible Products Strong acids. Strong oxidizing agents. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese dioxide 1313-13-9	TWA: 0.02 mg/m ³ Mn respirable particulate matter TWA: 0.1 mg/m ³ Mn inhalable particulate matter	(vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn



Graphite 7782-42-5	TWA: 2 mg/m ³ respirable particulate matter all forms except graphite fibers	TWA: 15 mg/m ³ total dust synthetic TWA: 5 mg/m ³ respirable fraction synthetic (vacated) TWA: 2.5 mg/m ³ respirable dust natural (vacated) TWA: 10 mg/m ³ total dust synthetic (vacated) TWA: 5 mg/m ³ respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m ³ TWA: 2.5 mg/m ³ respirable dust
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ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Do not breathe dust. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state	Solid	Odor	Odorless
Appearance	Silver	Odor Threshold	No information available
Color	No information available		
Property	Values	Remarks	Method
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Specific Gravity	2	None known	
Water Solubility	Insoluble in water	None known	
Solubility in other solvents	No data available	None known	



Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Excessive heat.

Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	. Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:.
Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
Skin contact	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). Prolonged contact may cause redness and irritation.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea,

vomiting and diarrhea. Harmful if swallowed. (based on components).

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Manganese dioxide 1313-13-9	= 9000 mg/kg (Rat)	-	-
Propylene carbonate 108-32-7	= 29000 mg/kg (Rat)	> 20 mL/kg (Rabbit)	-
Ethylene glycol dimethyl ether 110-71-4	= 775 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms Erythema (skin redness). May cause redness and tearing of the eyes. Coughing and/ or wheezing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Ptfe 9002-84-0		Group 3		

*IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans*

Reproductive toxicity Contains a known or suspected reproductive toxin.

STOT - single exposure No information available.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

Chronic Toxicity Contains a known or suspected reproductive toxin. Possible risk of irreversible effects. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.

Target Organ Effects Respiratory system. Eyes. Skin. Reproductive System. Blood. Central Nervous System (CNS). Central Vascular System (CVS). Kidney. Cardiovascular system. Liver.

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)

706.00 mg/kg

ATEmix (inhalation-gas)

6,109.00 ppm

ATEmix (inhalation-dust/mist)

1.63 mg/l

ATEmix (inhalation-vapor)

14.93 ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Propylene carbonate 108-32-7	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio) 96h LC50: = 5300 mg/L (Leuciscus idus)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L

Persistence and Degradability

No information available.

Bioaccumulation

Chemical name	Log Pow
Manganese dioxide 1313-13-9	<0
Propylene carbonate 108-32-7	0.48

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods**Disposal methods**

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging

Dispose of contents/containers in accordance with local regulations.

California Hazardous Waste Codes 141

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste
Lithium 7439-93-2	Corrosive Ignitable Reactive

14. TRANSPORT INFORMATION



Note:

The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule)

Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

DOT

Proper Shipping Name
Hazard Class
Emergency Response Guide
Number

NOT REGULATED
NON-REGULATED
N/A
138

TDG

Not regulated

MEX

Not regulated

ICAO

Not regulated

IATA

Proper Shipping Name
Hazard Class

Not regulated
NON REGULATED
N/A

IMDG/IMO

Proper Shipping Name
Hazard Class
EmS-No.

Not regulated
NON-REGULATED PER SP 188
N/A
F-A, S-I

RID

Not regulated

ADR

Not regulated

ADN

Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Not determined
DSL Not determined

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
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Manganese dioxide - 1313-13-9	1313-13-9	15 - 40	1.0
Ethylene glycol dimethyl ether - 110-71-4	110-71-4	1 - 5	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Manganese dioxide 1313-13-9	X		X	X	X
Ethylene glycol dimethyl ether 110-71-4	X	X	X	X	X
Graphite 7782-42-5	X	X	X		
Lithium 7439-93-2	X	X	X		

International Regulations**Mexico****National occupational exposure limits**

Chemical name	Carcinogen Status	Exposure Limits
Manganese dioxide		Mexico: TWA= 0.2 mg/m ³
Graphite		Mexico: TWA= 2 mg/m ³

Mexico - Occupational Exposure Limits - Carcinogens

Canada**WHMIS Hazard Class**

Non-controlled

16. OTHER INFORMATION

NFPA	Health Hazards 1	Flammability 0	Instability 0	Physical and Chemical Hazards -
HMIS	Health Hazards 0	Flammability 0	Physical Hazard 0	Personal Protection X

Prepared By Product Stewardship



	23 British American Blvd.
	Latham, NY 12110
	1-800-572-6501
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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 a 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 in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet



新利達電池有限公司 NEW LEADER BATTERY LIMITED.

Safety Data Sheet for Lithium Button Cell Series

Document Number: SDS-CR Coin Cell

– Not for recharge 不可充電 (Version : 2016)

SECTION 1 – Identification 生產商資料

Manufacturer's Name 生產商 : New Leader Battery Limited 新利達電池有限公司

Emergency & Information Phone No 緊急和查詢電話 : 852 - 2790 6280

Address : Rm A, 4/F, Block 1, Camelpaint Building, 62 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong.

Signature of Prepare (Optional)

SECTION 2 – Hazards Identification 危害健康之數據

IMPORTANT:

Use under normal conditions, the lithium battery is hermetically sealed. 鋰電池在正常使用下是密封的

Ingestion: Swallowing may lead to serious injury or death in as little as 2 hours due to chemical burns and potential of the esophagus. IMMEDIATELY SEE DOCTOR; Do not induce vomiting or give food or drink.

誤服：在誤吞鋰電池的情況下，誤服了的電池在短時間內會導致化學性燒傷，使食道嚴重灼傷或導致死亡，萬一誤服應立即盡快找就近的醫生診斷，不要給誤服者飲食或企圖把誤服之電池吐出

Inhalation: Contents of an open battery can cause respiratory irritation.

吸入：吸入了開封的電池會刺激呼吸道

Skin Contact: Contents of an open battery can cause skin irritation.

皮膚接觸：接觸了開封的電池會導致皮膚過敏

Eye Contact: Contents of an open battery can cause severe irritation.

眼睛接觸：如眼睛不慎接觸了電池會導致眼睛刺痛

Route(s) of Entry 進入人體之途徑

Inhalation 吸入 : N.A

Skin 皮膚 : N.A.

Ingestion 攝取 : N.A.

Health Hazard (Acute and Chronic) / Toxicological information 危害健康/毒性信息

In case of electrolyte leakage, skin will be itchy when contaminated with electrolyte

如電解液泄漏了，接觸到皮膚會導致皮膚發痒

In contact with electrolyte can cause severe irritation and chemical burns 接觸到電解液會引致化學性燒傷

Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs

吸入了蒸發化的電解液，會引致上呼吸道和肺部敏感



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SECTION 3 – Composition 成份表

Substance Name 名稱	Chemical Identification CAS#代號	% Weight
Lithium 鋰	7439 - 93 - 2	8%
Propylene Carbonate 碳酸丙烯酯	108 - 32 - 7	10%
Manganese Dioxide 二氧化錳	1313 - 13 - 9	24%
Dimethoxymethane 二甲氧基甲烷	109-87-5	7%
Lithium Perchlorate 高氯酸鋰	7791 - 03 - 9	3%
Graphite 石墨	7782 - 42 - 5	6%
Steel 鋼	12597-69-2	42%

SECTION 4 – First Aid Measures 急救處理措施

Ingestion: Swallowing may lead to serious injury or death in as little as 2 hours due to chemical burns and potential of the esophagus. **IMMEDIATELY SEE DOCTOR**; Do not induce vomiting or give food or drink.

誤服：在誤吞鋰錳電池的情況下，誤服了的電池在短時間內會導致化學性燒傷，使食道嚴重灼傷或導致死亡，萬一誤服應立即盡快找就近的醫生診斷，不要給誤服者飲食或企圖把誤服之電池吐出

Inhalation : Provide fresh air and seek medical attention.

吸入：提供新鮮的空氣和盡快找就近的醫生診斷

Skin Contact : Remove contaminated clothing and wash skin with soap and water

皮膚接觸：把受污染的衣物移走和應立即用肥皂水清洗患處

Eye Contact : 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.

眼睛接觸：盡快用清水沖洗 15 分鐘，眨動上下眼皮，直至沒有化學物殘留在眼睛，盡快找就近的醫生診斷

SECTION 5 – Fire-fighting measures

In case of fire where lithium batteries are present, flood area with water or smother with a Class D fire extinguishant appropriate for lithium metal, such as lith-X. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. A smothering agent will extinguish burning lithium batteries.

Emergency Responders should wear self-contained breathing apparatus. Burning lithium manganese dioxide battery produce toxic and corrosive lithium hydroxide fumes.



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如遇上鋰電池所引發之火警,應先用水浸淹火災區作冷卻, 然後用 D 型的泡沫滅火器救火,水劑滅火器是不能救熄在燃燒中的鋰電池,但會有效阻止火勢蔓延.燃燒中的電池只能燒盡作罷. 實際上很多由鋰電池所引發的火災,都只是會用水浸淹的情況下控制, 但請注意,當鋰電池中的鋰金屬接觸到水份時會產生氫氣,如在通風設備不好的環境下,有機會引起爆炸,因此泡沫劑是廣泛推介應用於鋰電池的火災中.同時在救火時應穿上帶有自供氣式的保護設備,因為鋰電池在燃燒時會產生帶有毒性的氫氧化鋰之氣體.

SECTION 6 – Accidental Release Measures 處理意外釋放或溢出之電池

Ventilation Requirements: Room ventilation may be required in areas where there are open or leaking batteries

通風設備：鋰電池如發生漏液或破損,應把電池移往室內通風地方

Respiratory Protection : Avoid exposure to electrolyte fumes from open or leaking batteries

呼吸道之保護：防止吸入已打開或漏液所產生之氣體

Eye Protection: Water safety glasses with side shields if handling an open or leaking batteries

眼部護理：應把已打開或漏液之電池,放入已盛載了水的水杯內

Gloves: Use neoprene or natural rubber gloves if handling an open or leaking batteries, battery materials should be collected in a leak-proof container.

手套：已打開或漏液之電池在處理時,應帶上橡膠手套和放入防漏之容器內



Keep out of reach of children. Swallowing may lead to serious injury or death in as little as 2 hours due to chemical burns and potential perforation of the esophagus. Immediately see doctor or ring

LOCAL EMERGENCY CALL. Keep in original package until ready to use. Dispose of used batteries immediately.

電池應遠離兒童,誤服了的電池在短時間內會嚴重引致化學性燒傷,使食道嚴重灼傷或導致死亡,應立刻盡快找就近的醫生診斷或致電當地之緊急救援電話,保留原有的包裝,用完之電池應盡快棄置

SECTION 7 – Handling and Storage 搬運和儲存

Storage : Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life. In locations that handle large quantities of lithium batteries, such as warehouse, lithium batteries should be isolated from unnecessary combustible.

存放: 請存放在通風及清涼處, 高溫的情況會影響電池之壽命,如存放大量的鋰電池, 請存放在貨倉內同時應和可燃燒的物品隔離

Mechanical Containment: If potting or sealing the battery in an airtight or watertight container is required, consult your New Leader Battery Limited representative for precautionary suggestions. Do not obstruct safety release



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vents on batteries, Encapsulation of batteries will not allow cell venting and can cause high pressure rupture.

機械密封：電池必須在一個防水氣和空氣之情況下做焊接或密封之加工，諮詢新利達電池有限公司查詢有關之安全建議。不要忽略已開封電池之安全。已封裝之電池是不容許打開外殼和有機會引起高壓擊破。

Handling: Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, generate significant heat and can cause the safety release vent to open. Source of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices. Damaging a lithium battery may result in an internal short circuit.

處理：短暫短路對電池不會有嚴重之影響，短路時間會對電池之容量構成影響，產生高熱影響安全。把其他電池或金屬物品混合和鋰電放在同一容器內，會對電池產生短路，被破壞之鋰電池在結構內會形成短路。

The contents of an open battery, including a vented battery, when exposed to water, may result in a fire and/or explosion. Crushed or damaged batteries may result in a fire.

處理已開封之電池：包括有開孔的電池，當電池放在水中，有機會引起火警或使電池發生爆炸，撞擊或破壞電池有機會引起火警

If soldering or welding to the battery is required, consult us for proper precaution to prevent seal damage or short circuit.

如需要焊接或點焊加工：請與生產商諮詢如何防止破壞電池或令電池發生短路

Charging: This battery is manufactured in a charged state. Its is not designed for recharging. Recharging can cause battery leakage or in some case, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards

充電：電池在生產時已有足夠電量，此款電池設計是不適用在充電池上，把電池再充電有機會令電池漏液及因高壓造成破壞，如不慎把電池充電可令電池發生反充。

SECTION 8 – Exposure Controls / Personal Protection 接觸控制/個人保護

Ventilation Requirements 通風系統之要求：N.A.

Respiratory Protection 呼吸道保護：N.A.

Eyes Protection 眼睛保護：N.A.

Gloves 手套：N.A.

SECTION 9– Physical / Chemical Characteristics 物理/化學特性

Boiling Point 沸點：N.A.

Specific Gravity 比重 (H₂O = 1)：N.A.

Melting Point 熔點：N.A.

Vapor Pressure 蒸氣壓 (mm Hg)：N.A.

Vapor Density 蒸氣密度 (AIR = 1)：N.A.

Evaporation Rate (Butyl Acetate)：N.A.

Solubility in Water 溶解度：N.A.

Appearance and Odor 形狀和氣味，Cylindrical Shape, Odorless 圓柱型：無氣味

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SECTION 10 – Stability and Reactivity 反應性數據

Stability 穩定性 : stable 穩定

Conditions to Avoid 避免條件 : Stable 穩定

Incompatibility 不相容性 : Materials to Avoid 材質避免

Lithium manganese batteries do not meet any of the criteria established in 40CFR 261.2 for reactivity
鋰錳電池的反應性達不到 40CFR 261.2 的標準

SECTION 11– Toxicological Information 毒物學的資料 : N.A.

SECTION 12 – Ecological Information 生態資料 : N.A.

SECTION 13– Disposal considerations 棄置方法 : Dispose of the batteries according to government regulations. 棄置電池方法請參照當地政府之規例

SECTION 14 – Transport information 運輸之資訊

The Batteries in all forms of transportation (e.g. Truck, air, or sea) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in (Strong Carton / Packaging) that prevents spillage of contents. The lithium button cell are exempt from the classification as dangerous goods as they meet the requirements of the special provisions listed below (Essentially, they are properly packaged and labeled, Contains less than 1 gram of lithium and pass the tests defined in UN model regulation section 38.3).

所有電池之運送方式(e.g.航運,空運和陸運)必須要已負責任之態度和安全包裝來運送.所有代理在監管安全包裝的問題上,電池必須要裝放在(加厚紙箱/包裝)防止短路和防電池溢出之包裝容器內.

如達到有關以下危險品之級別之要求的鋰電池則可豁免為危險品(必須有適當之包裝和標籤,其鋰含量小於 1 克及通過有關 UN38.3 規定之測試)

Regulatory Parties	Special Provisions
ADR	188,230,310,636,656
IMDG	188,230,310,957
UN	UN3090, UN3091
US DOT	29,A54,A101,A100
IATA, ICAO	Packaging Instructions 968 – 970 (section II)

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Ref: Summary of Packing Instruction (2015 IATA Dangerous Goods Regulations 56th Edition) the minimum requirements necessary to transport as non-restricted goods are as follows

參考：以下是在運送非限制品之包裝指示摘要必須跟據(2015 年國際航運協會危險品條例 56 版)最低之要求:

1. For a lithium metal/lithium alloy cell, the lithium content is not more than 1g.
所有的鋰金屬/鋰合金電池，鋰片含量不會超過 1 克
2. Each package must be displayed a battery handling label. (Tel no and emergency call must be printed on label)
每箱電池必須貼上處理電池標籤。(標籤必須印有電話號碼及急救號碼)
3. Each consignment must be accompanied with a declaration of non-dangerous goods document.
每批貨物必須附上有關非危險品之聲明文件
4. The Original package (NL) must be capable of with standard a 1.2m drop test.
原廠新利達之包裝是可通過 1.2 米高之跌落測試

Lithium Content 鋰含量

Model No	Lithium / g	Model No:	Lithium / g
CR2450	Less than 0.496	CR2430	Less than 0.336
CR2330	Less than 0.320	CR2320	Less than 0.240
CR2032	Less than 0.248	CR2025	Less than 0.200
CR2016	Less than 0.144	CR1620	Less than 0.104
CR1616	Less than 0.096	CR1225	Less than 0.080
CR1220	Less than 0.072	CR1216	Less than 0.056
CR927	Less than 0.040		

SECTION 15 – Regulatory information 管理的資訊: Special requirement be according to the local regulations. 特別之要求請參照當地政府之規例

SECTION 16 – Other information 其他資訊 : None