

SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200

Version 1

Product Name 【PR-244147A】 Lithium ion battery

Issue Date 14-Jul-2015

Revision date 14-Jul-2015

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

Product identifier

Product Name 【PR-244147A】 Lithium ion battery
Chemical Name Lithium ion Battery

Other means of identification

Product Code Voltage: 3.7V;Watt-hour: 1.92 WH;

Recommended use of the chemical and restrictions on use

Recommended Use Power supply
Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Huizhou TCL Hyperpower Batteries Inc
Address No.3,Hechang Dongliu Rd.,Huitai Industrial Zone,Huicheng District,Huizhou City,Guangdong Province,China
Postal Code 516006
Phone +86-752-2365544
FAX +86-752-2367644
E-mail wuxf@tcl.com

Emergency telephone number

+86-752-2365544

2. HAZARDS IDENTIFICATION

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Symbols/Pictograms None
Signal word None
Hazard Statements None
Precautionary Statements
Prevention None
Response None
Storage None
Disposal None

Hazards not otherwise classified (HNOC)

No information available

Unknown acute toxicity

.?% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Mixture

Chemical Name	CAS No	Weight-%
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Lithium Cobalt Oxide (CoLiO ₂)	12190-79-3	26.38
Graphite	7782-42-5	16.8
Aluminum	7429-90-5	17.9
Phosphate(1-), hexafluoro-, lithium	21324-40-3	9.9
Copper	7440-50-8	9.1
Polypropylene	9003-07-0	14.2
Nickel	7440-02-0	0.58
Polyethylene	9002-88-4	0.44
1,4-Benzenedicarboxylic acid, polymer with [1,1'-biphenyl]-4,4'-diol, 1,2-ethanediol and 4-hydroxybenzoic acid	124417-30-7	0.23
Epoxy resin	38891-59-7	1.33
Styrene-Butadiene polymer	9003-55-8	0.95
Carbon black	1333-86-4	0.87
1,1-Difluoroethylene polymer	24937-79-9	0.62
Sodium carboxymethyl cellulose	9004-32-4	0.29
Tin	7440-31-5	0.41

4. FIRST AID MEASURES

Description of first aid measures

General advice	Remove contaminated clothing and shoes. If symptoms persist, call a physician.
Inhalation	Not an expected route of exposure. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Skin Contact	Wash hands thoroughly after handling. .
Eye contact	Not an expected route of exposure. .
Ingestion	Rinse mouth Get medical attention Never give anything by mouth to an unconscious person

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
 Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors

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

Evacuate personnel to safe areas
 Ensure adequate ventilation, especially in confined areas
 Remove all sources of ignition
 Use personal protection recommended in Section 8

Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so
Pick up and transfer to properly labeled containers

Avoid release to the environment

7. HANDLING AND STORAGE**Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practice
Ensure adequate ventilation, especially in confined areas
Avoid creating dust
Avoid contact with eyes
Wash thoroughly after handling
Use personal protection recommended in Section 8

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place
Keep away from heat

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Denmark	European Union
Lithium Cobalt Oxide (CoLiO ₂) (CAS #: 12190-79-3)	TWA: 0.02 mg/m ³ Co	-	-	TWA: 0.01 mg/m ³	-
Graphite (CAS #: 7782-42-5)	TWA: 2 mg/m ³ respirable fraction all forms except graphite fibers	-	-	TWA: 2.5 mg/m ³	-
Aluminum (CAS #: 7429-90-5)	TWA: 1 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ Al Aluminum	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust TWA: 5 mg/m ³ Al	TWA: 5 mg/m ³ TWA: 2 mg/m ³	-
Phosphate(1-), hexafluoro-, lithium (CAS #: 21324-40-3)	TWA: 2.5 mg/m ³ F	-	-	TWA: 2.5 mg/m ³	-
Copper (CAS #: 7440-50-8)	TWA: 0.2 mg/m ³ fume TWA: 1 mg/m ³ Cu dust and mist	-	-	TWA: 1.0 mg/m ³ TWA: 0.1 mg/m ³	-
Nickel (CAS #: 7440-02-0)	TWA: 1.5 mg/m ³ inhalable fraction	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 10 mg/m ³ IDLH: 10 mg/m ³ Ni TWA: 0.015 mg/m ³ TWA: 0.015 mg/m ³ except Nickel carbonyl Ni	TWA: 0.05 mg/m ³	-
Carbon black (CAS #: 1333-86-4)	TWA: 3 mg/m ³ inhalable fraction	-	-	TWA: 3.5 mg/m ³	-
Tin (CAS #: 7440-31-5)	TWA: 2 mg/m ³ TWA: 2 mg/m ³ Sn except Tin hydride	-	-	TWA: 2 mg/m ³	-

Chemical Name	Latvia	France	Finland	Germany	Italy
Aluminum (CAS #: 7429-90-5)	TWA: 2 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 1.5 mg/m ³	TWA: 4 mg/m ³ TWA: 1.5 mg/m ³	-
Nickel (CAS #: 7440-02-0)	TWA: 0.05 mg/m ³	TWA: 1 mg/m ³	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³	Skin	-

Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands
Aluminum (CAS #: 7429-90-5)	TWA: 2.5 mg/m ³ TWA: 1.2 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 3 mg/m ³	TWA: 0.05 mg/m ³
Nickel (CAS #: 7440-02-0)	TWA: 0.25 mg/m ³	TWA: 1.5 mg/m ³	TWA: 1 mg/m ³	TWA: 0.5 mg/m ³	-

Chemical Name	Norway	United Kingdom	Australia	Austria	Belgium
Lithium Cobalt Oxide (CoLiO ₂) (CAS #: 12190-79-3)	-	-	-	Skin	-
Graphite (CAS #: 7782-42-5)	-	-	3 mg/m ³	STEL 10 mg/m ³ TWA: 5 mg/m ³	-
Aluminum (CAS #: 7429-90-5)	TWA: 5 mg/m ³ STEL: 10 mg/m ³	STEL: 30 mg/m ³ STEL: 12 mg/m ³ TWA: 10 mg/m ³ TWA: 4 mg/m ³	10 mg/m ³ 5 mg/m ³	STEL 20 mg/m ³ TWA: 10 mg/m ³	-
Phosphate(1-), hexafluoro-, lithium (CAS #: 21324-40-3)	-	-	2.5 mg/m ³	-	-
Copper (CAS #: 7440-50-8)	-	-	1 mg/m ³ 0.2 mg/m ³	STEL 4 mg/m ³ STEL 0.4 mg/m ³ TWA: 1 mg/m ³ TWA: 0.1 mg/m ³	-
Nickel (CAS #: 7440-02-0)	TWA: 0.05 mg/m ³ STEL: 0.15 mg/m ³	STEL: 1.5 mg/m ³ TWA: 0.5 mg/m ³	1 mg/m ³	-	-
Carbon black (CAS #: 1333-86-4)	-	-	3 mg/m ³	-	-
Tin (CAS #: 7440-31-5)	-	-	2 mg/m ³	STEL 4 mg/m ³ TWA: 2 mg/m ³	-

Appropriate engineering controls

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

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.

Hand Protection Wear protective gloves.

Eye/face protection No special technical protective measures are necessary.

Skin and body protection Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid
Color	silver
Odor	Odorless
Odor Threshold	Not determined
pH	Not determined
Melting point/freezing point	Not determined
Boiling point / boiling range	Not determined
Flash point	Not applicable
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Flammability Limit in Air	Not determined
Vapor Pressure	Not applicable
Vapor density	Not determined
Density	Not determined
Relative density	Not determined

Bulk density	Not determined
Specific gravity	Not determined
Water solubility	Not determined
Partition coefficient (LogPow)	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined
Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Not an explosive
Oxidizing properties	Not determined

Other information

No information available

10. STABILITY AND REACTIVITY**Reactivity**

Stable under recommended storage and handling conditions (see SECTION 7, handling and storage).

Chemical stability

Stable under normal conditions

Possibility of Hazardous Reactions

None under normal processing

Conditions to avoid

Strong heating. Incompatible materials

Incompatible materials

Strong acids Strong bases Strong oxidizing agents

Hazardous Decomposition Products

None known based on information supplied

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Inhalation	Inhalation of vapors in high concentration may cause irritation of respiratory system
Eye contact	Contact with eyes may cause irritation
Skin Contact	Substance may cause slight skin irritation Ingestion may cause irritation to mucous membranes

Information on toxicological effects**Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum (CAS #: 7429-90-5)	LD50> 15900 mg/kg bw(rat)	-	LC50> 0.888 mg/L/4 h(rat)
Copper (CAS #: 7440-50-8)	> 2500 mg/kg bw(rat)	> 2000 mg/kg bw(rat)	=1.03 mg/L/4 h(rat)
Polypropylene (CAS #: 9003-07-0)	>5 g/kg	-	-
Nickel (CAS #: 7440-02-0)	> 9000 mg/kg (Rat)	-	-

Skin corrosion/irritation

Non-irritating to the skin

Serious eye damage/eye irritation

No eye irritation

Sensitization

No information available

Germ cell mutagenicity

No information available

Carcinogenicity

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

Chemical Name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (CoLiO ₂) (CAS #: 12190-79-3)	A3	-	-	-
Nickel (CAS #: 7440-02-0)	-	Group 2B	Known Reasonably Anticipated	X
Carbon black (CAS #: 1333-86-4)	A3	-	-	-

Reproductive toxicity

No information available

STOT - single exposure

No information available

STOT - repeated exposure

No information available

Aspiration hazard

No information available

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Algae/aquatic plants EC50	Fish LC50	Crustacea EC50
Lithium Cobalt Oxide (CoLiO ₂) (CAS #: 12190-79-3)	-	275 mg/L/96h (Fundulus heteroclitus)	-
Aluminum (CAS #: 7429-90-5)	-	> 50 mg/L/96h	-
Copper (CAS #: 7440-50-8)	0.031 - 0.054 mg/L/96h Pseudokirchneriella subcapitata static 0.0426 - 0.0535 mg/L/72h Pseudokirchneriella subcapitata static	-	-
Nickel (CAS #: 7440-02-0)	0.18 mg/L/72h Pseudokirchneriella subcapitata 0.174 - 0.311 mg/L/96h Pseudokirchneriella subcapitata static	100 mg/L/96h Brachydanio rerio 1.3 mg/L/96h Cyprinus carpio semi-static 10.4 mg/L/96h Cyprinus carpio static	100 mg/L/48h Daphnia magna 1 mg/L/48h Daphnia magna Static

Persistence and degradability

No information available

Bioaccumulative potential**Mobility in soil**

No information available

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated packaging Dispose of in accordance with federal, state and local regulations

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Nickel 7440-02-0	-	Included in waste streams: F006, F039	-	-
Chemical Name		California Hazardous Waste Status		
Lithium Cobalt Oxide (CoLiO2) 12190-79-3		Toxic		
Aluminum 7429-90-5		Ignitable powder		
Copper 7440-50-8		Toxic		
Nickel 7440-02-0		Toxic powder Ignitable powder		

14. TRANSPORT INFORMATION

US DOT, The batteries are not subject to the requirements of the Department of Transportation (DOT) subchapter C, Hazardous Material Regulations since each battery meets the exceptions under 173.185 (b). The batteries are exempted from the US DOT regulations as long as they are separated to prevent short circuits and packed in strong packing for conditions normally encountered in transportation.

ICAO and IATA, IMDG all batteries are regulated as Hazardous Material by the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA) and International Maritime Dangerous Goods Regulations (IMDG). The only DOT requirement for shipping these batteries is special provision 130 which states: "Batteries, dry are not subject. They must be transported according to Section 38.3 of the Fifth Revised of the Recommendations on the transport of Dangerous Goods and Drop test of Section II of Packing Instructions 968~970 of 55th DGR Manual of IATA .

The battery has passed the test UN38.3.

DOT / IMDG / IATA

UN/ID No. Not regulated
Proper shipping name Not regulated
Hazard Class Not regulated
Packing Group Not regulated
Special precautions No information available
Marine pollutant Not applicable

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	TSCA
Lithium Cobalt Oxide (CoLiO2) 12190-79-3 (15 - 40)	X	X	X	X	X	X	-	X
Graphite 7782-42-5 (10 - 30)	X	X	X	-	X	X	X	X
Aluminum 7429-90-5 (10 - 30)	X	X	X	-	X	X	X	X
Phosphate(1-), hexafluoro-, lithium 21324-40-3 (7 - 13)	X	X	X	X	X	X	X	X
Copper 7440-50-8 (7 - 13)	X	X	X	-	X	X	X	X
Polypropylene 9003-07-0 (3 - 7)	X	X	-	X	X	X	X	X
Nickel 7440-02-0 (1 - 5)	X	X	X	-	X	X	X	X
Polyethylene 9002-88-4 (1 - 5)	X	X	-	X	X	X	X	X
1,4-Benzenedicarboxylic acid, polymer with [1,1'-biphenyl]-4,4'-diol, 1,2-ethanediol and 4-hydroxybenzoic acid 124417-30-7 (1 - 5)	-	-	-	-	X	-	-	-
Styrene-Butadiene polymer 9003-55-8 (0.1 - 1)	X	X	-	X	X	X	X	X
Carbon black 1333-86-4 (0.1 - 1)	X	X	X	X	X	X	X	X
1,1-Difluoroethylene polymer 24937-79-9 (0.1 - 1)	X	X	-	X	X	X	X	X

Sodium carboxymethyl cellulose 9004-32-4 (0.1 - 1)	X	X	-	X	X	X	X	X
Tin 7440-31-5 (0.1 - 1)	X	X	X	-	X	X	X	X

"-" Not Listed

"X" Listed

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	SARA 313 - Threshold Values %
Aluminum - 7429-90-5	1.0
Nickel - 7440-02-0	0.1

SARA 311/312 Hazard Categories

Does not apply

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper 7440-50-8	-	X	X	-
Nickel 7440-02-0	-	X	X	-

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Nickel 7440-02-0	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Nickel - 7440-02-0	Carcinogen
Carbon black - 1333-86-4	Carcinogen

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Aluminum 7429-90-5	X	X	X
Nickel 7440-02-0	X	X	X

16. OTHER INFORMATION

Revision Note

Issue Date

14-Jul-2015

Revision date	14-Jul-2015
Revision Note	Not applicable

Key or legend to abbreviations and acronyms used in the safety data sheet

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

Disclaimer

The information provided in this Material 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 (0.%Hg) Button Cell SR SERIES

Document Number: SDS-SR (0.%Hg) Series ****Not for recharge**** 不可充電 (Version : 2015)

SECTION 1 – Manufacturer Information 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 – Hazardous Ingredients / Identity Information 成份表

IMPORTANT NOTE :

Use under normal conditions, the Zinc Manganese alkaline battery is hermetically sealed.

鋅錳鹼性電池在正常使用下是密封的

Ingestion: Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract. IMMEDIATELY SEE DOCTOR; Do not induce vomiting or give food or drink.

誤服：吞服電池是有害的，誤服了的電池會導致化學性燒傷，使食道嚴重灼傷，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：如眼睛不慎接觸了已開封的電池會導致眼睛刺痛

Substance Name 名稱	Chemical Identification CAS# 代號	% Weight
Zinc 鋅	7440 - 66 - 6	10%
Graphite 石墨	7782 - 42 - 5	5%
Manganese Dioxide 二氧化錳	1313 - 13 - 9	28%
Potassium Hydroxide 氫氧化鉀	1310 - 58 - 3	5%
Iron 鐵	7439 - 89 - 6	32%
Silver Oxide	20667-12-3	20%



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Document Number: SDS-SR (0.%Hg) Series **Not for recharge 不可充電** (Version : 2015)

SECTION 3 – Health Hazard Data 危害健康之數據
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 如電解液洩漏了, 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

SECTION 4 – First Aid Measures 急救處理措施
Ingestion: Do not induce vomiting or give food or drink. Seek medical attention immediately. Call National Battery Ingestion Hotline for advice. 誤服 : 不要給誤服者飲食或企圖把誤服之電池吐出, 應立即盡快找就近的醫生診斷, 聯絡國際電池熱線尋求意見
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. If a chemical burn occurs or if irritation persists, seek medical attention 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 – Control Fire Measures
In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture. Fire fighters should wear self-contained breathing apparatus. 如遇上電池所引發之火警, 可用任何認可之滅火器救火和他們的包裝材料, 請勿把破裂的電池投入火堆中, 滅火時應穿上有自動提供氧氣的滅火衣



新利達電池有限公司 NEW LEADER BATTERY LIMITED.

Safety Data Sheet for (0.%Hg) Button Cell SR SERIES

Document Number: SDS-SR (0.%Hg) Series **Not for recharge 不可充電** (Version : 2015)

SECTION 6 – Accidental Release or Spillage 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 :如發生漏液或破損,應把電池移往室內通風地方

Eye Protection: Wear safety glasses with side shields if handling an open or leaking battery
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 battery.

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

SECTION 7 – Handling and Storage

Storage : Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

存放 : 電池應存放在通風及清涼的地方,高溫存放會縮短電池之壽命

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. Batteries normally evolve hydrogen which, when combined with oxygen from the air can produce a combustible or explosive mixture unless vented. If such a mixture is present, short circuits, high temperature, or static sparks can cause an ignition.

Do not obstruct safety release vents on batteries, Encapsulation (potting) 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.電池在正常使用下會產生氫氣, 當開蓋後和空氣結合後會產生易燃或易爆的氣體, 放在通風通道例外.短路, 高溫, 靜電火花也容易產生火點

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, and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices.

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放在同一容器內,會對電池產生短路, 被破壞之池在結構內會形成短路

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.



新利達電池有限公司 NEW LEADER BATTERY LIMITED.

Safety Data Sheet for (0.%Hg) Button Cell SR SERIES

Document Number: SDS-SR (0.%Hg) Series **Not for recharge 不可充電** (Version : 2015)

SECTION 8 – Exposure Controls / Person 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

SECTION 10 – Reactivity Data 反應性數據

Stability 穩定性: stable 穩定

Conditions to Avoid 避免條件 : Stable 穩定

Hazardous Decomposition or Byproducts : 副產品或分解物是危險的

The Alkaline Button Battery do not meet any of the criteria established in 40 CFR 261.2 of reactivity

鹼性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 生態學的資料 : N.A.

SECTION 13– Disposal Method : Dispose of the batteries according to government regulations.



Safety Data Sheet for (0.%Hg) Button Cell SR SERIES

Document Number: SDS-SR (0.%Hg) Series **Not for recharge 不可充電** (Version : 2015)

SECTION 14 – Transport Information 運輸資訊

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. 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.

Alkaline battery (sometime referred to as "**Dry Cell**") are not listed as dangerous goods under the **ADR** European Agreement Concerning the International Carriage of Dangerous Goods by Road, The IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulation, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirement contained in the following special provisions. 鹼性電池(有需要時可參考"干電池", 因干電池類在 **ADR** European Agreement Concerning the International Carriage of Dangerous Goods by Road, The IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulation, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR)的危險品類別中.

此電池在下列的航運條例中也不屬於危險品:

Regulatory Parties	Special Provisions
ADR	Not Regulated
IMDG	Not Regulated
UN, ICAO	Not Regulated
US DOT	49 CFR 172.102 Provision 130
IATA,	A123,

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

總括在包裝指引(IATA 危險品條例 56 版), 在非違禁品運輸中最基本之要求如下:

****All Alkaline Batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, The IATA Dangerous Goods Regulations ICAO Technical Instructions require the words " Not Restricted" and the Special Provision No: A123 be provided on the air waybill, when an air waybill is issued.**

所有鹼性電池必需包裝在防止短路或在防止產生過熱之數量內和達到有關特別指引之要求下. 另外,有關國際危險品的規例中的 ICAO 技術指示 "Not Restricted"字眼, 在 A123 的特別條例中必須展示在空運提單中



新利達電池有限公司 NEW LEADER BATTERY LIMITED.

Safety Data Sheet for (0.%Hg) Button Cell SR SERIES

Document Number: SDS-SR (0.%Hg) Series **Not for recharge 不可充電** (Version : 2015)

SECTION 15– Regulatory Information: Batteries are not classified as dangerous goods by US Department of Transportation or the major international regulatory bodies and are therefore not regulated.
SARA/TITLE III – As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right to Know Act.

在美國運輸局和主要國際之條例中，鋅錳鹼性電池是不介定在危險品的種類內。

SARA/TITLE III – 文章中，此類電池沒有在有關急介定之項目中。

SECTION 16 – Other Information : None



Test Report

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Date: SEP 16, 2014

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NEW LEADER BATTERY LTD.
FLAT A, 4/F, BLOCK 1, CAMELPAINT BUILDING,62 HOI YUEN ROAD,KWUN TONG,KOWLOON,
HONG KONG

The following samples were submitted and identified on behalf of the client as:
MERCURY FREE SILVER OXIDE BUTTON CELL

SGS Case No. : HKHL140900048763
Style / Item No. : 1.5V 0.%HG SR 41
Model No. : 0.%HG SR44, 0.%HG SR 43, 0.%HG SR721, 0.%HG SR1130, 0.% HG
SR936, 0.%HG SR1120, 0.%HG SR927, 0.%HG SR921, 0.%HG SR754,
0.%HG SR626, 0.%HG SR726, 0.%HG SR621, 0.%HG SR521
Manufacturer : NEW LEADER
Country of Origin : CHINA
Sample Receiving Date : SEP 02, 2014
Test Performing Date : SEP 02 – 15 , 2014

Test Requested : Please refer to the result summary.

Test Method & Results : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
1. European Directive 2006/66/EC and its amendments – Lead, Cadmium and Mercury Content (Selected part as specified by client)	PASS
2. US Public Law No 104-142 (1996) Title II – Mercury-Containing Battery Management Act – Mercury Content (Selected part as specified by client)	PASS
3. Cadmium, Lead, Mercury, Hexavalent Chromium, Polybromobiphenyl (PBB) and Polybromodiphenyl ether (PBDE) content (As per client's request) (Selected part as specified by client)	PASS

Signed for and on behalf of
SGS Hong Kong Ltd.

Che Wai Leuk, Jerry
Section Manager

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Test Results :

1. European Directive 2006/66/EC and its amendments – Lead, Cadmium and Mercury Content

Method : Acid digestion followed by Atomic Absorption Spectrometry analysis.

For button cells:

Test Item	Result (%)	Reporting Limit (%)	Labelling requirement (%)	Permissible Limit (%)
	1			
Lead (Pb)	0.002	0.001	> 0.004	--
Cadmium (Cd)	ND	0.001	> 0.002	0.002
Mercury (Hg)	ND	0.0001	> 0.0005	2
Comment	PASS	--	--	--

Sample Description :

1. MERCURY FREE SILVER OXIDE BUTTON CELL (1.5V 0.%HG SR 41)

- Note :
1. % = percentage by weight
 2. > = greater than
 3. ND = Not Detected

2. US Public Law No 104-142 (1996) Title II – Mercury-Containing Battery Management Act – Mercury Content

Method : Acid digestion followed by Atomic Absorption Spectrometry analysis.

For battery except alkaline manganese button cell :

Test Item	Result (mg/kg)	Reporting Limit (mg/kg)	Requirement
	1		
Mercury (Hg)	ND	1	Prohibited
Comment	PASS	--	--

Sample Description :

1. MERCURY FREE SILVER OXIDE BUTTON CELL (1.5V 0.%HG SR 41)

- Note :
1. mg/cell = milligram per cell
 2. mg/kg = milligram per kilogram
 3. ND = Not Detected

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Test Results (Cont'd) :

3. Cadmium, Lead, Mercury, Hexavalent Chromium, Polybromobiphenyl (PBB) and Polybromodiphenyl ether (PBDE) content (As per client's request)

Method : With reference to IEC 62321:2008. Lead, Cadmium and Mercury were analyzed by Inductively Coupled Argon Plasma Spectrometry, Chromium (VI) was analyzed by UV-Visible Spectroscopy and PBB, PBDE were analyzed by Gas Chromatography – Mass Spectrometry (GC-MS).

Test Item	Result (mg/kg)		Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
	1			
Cadmium (Cd)	ND		5	100
Lead (Pb)	21		5	1000
Mercury (Hg)	ND		5	1000
Hexavalent Chromium by spot test / boiling water extraction (Cr(VI))	Negative		#	#
Sum of PBBs	ND		--	1000
Monobromobiphenyl	ND		5	--
Dibromobiphenyl	ND		5	--
Tribromobiphenyl	ND		5	--
Tetrabromobiphenyl	ND		5	--
Pentabromobiphenyl	ND		5	--
Hexabromobiphenyl	ND		5	--
Heptabromobiphenyl	ND		5	--
Octabromobiphenyl	ND		5	--
Nonabromobiphenyl	ND		5	--
Decabromobiphenyl	ND		5	--
Sum of PBDEs	ND		--	1000
Monobromodiphenyl ether	ND		5	--
Dibromodiphenyl ether	ND		5	--
Tribromodiphenyl ether	ND		5	--
Tetrabromodiphenyl ether	ND		5	--
Pentabromodiphenyl ether	ND		5	--
Hexabromodiphenyl ether	ND		5	--
Heptabromodiphenyl ether	ND		5	--
Octabromodiphenyl ether	ND		5	--
Nonabromodiphenyl ether	ND		5	--
Decabromodiphenyl ether	ND		5	--
Comment	PASS		--	--

Sample Description:
1. MERCURY FREE SILVER OXIDE BUTTON CELL (1.5V 0.0% HG SR 41)

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Test Results (Cont'd) :

Note : 1. mg/kg = milligram per kilogram
2. ND = Not Detected

Remark : 1.# = Negative means the absence of CrVI on the tested areas; Positive means the presence of CrVI on the tested areas. The detected CrVI concentration in the boiling-water-extraction solution is equal to or greater than 0.02 mg/kg with 50cm² sample surface area.



*** End of Report ***

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