






新利達電池實業(德慶)有限公司  
New Leader Battery Industry (Deqing) Co., Ltd.

**Safety Data Sheet for (0.%Hg) Alkaline Button Cell (LR) Series**  
**29 CFR 1910.1200**



**Document Number: SDS-LR (0.%Hg) Series \*\*Not for recharge\*\* (Version: 2021)**

<b>SECTION 1 – Identification</b>			
Manufacturer's Name : New Leader Battery Industry (Deqing) Co., Ltd.			
Emergency & Information Phone No : 852 - 2790 6280			
Address : Rm A, 4/F, Block 1, Camelpaint Building, 62 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong.			
Product Name: Alkaline Manganese Button Cell (Mercury Free)			
Model No : LR521, LR621, LR736,LR41,LR626,LR754,LR921,LR927,LR1120,LR1130,LR721, LR43,LR44,LR932,LR732			
Recommended use of the chemical and restrictions on use:			
Application of the substance / the preparation : Electronic products			
Details of the supplier of the safety data sheet			
Email : newleader@newleader.com.hk			
Other US contact point : Not available			
Further information obtainable from: New Leader Battery Limited			
Emergency telephone number: USA Poison Center Tel : +1 800 222 1222			
Remark: This sample is likely to be classified as article and is out of scope of a SDS as set out in 29 CFR Part 1910.1200. This SDS is generated for client's reference Only			
<b>SECTION 2 – Hazardous Identification 危險識別</b>			
Classification of the substance or mixture : Classification according to OSHA Hazard Communication Standard (29CFR 1910.1200)			
 .GHS08 Health hazard			
Carc. 2	H351	Suspected of causing Cancer.	
STOT RE 1	H372	Causes damage to organs through prolonged or repeated exposure.	
 GHS05 Corrosion			
Skin Corr. 1A	H314	Cause severe skin burns and eye damage.	
Eye Dam. 1	H318	Cause serious eye damage.	
 GHS07			
Acute Tox. 4	H302	Harmful if swallowed.	
Acute Tox 4	H332	Harmful if inhaled	
Skin Sens 1	H317	May cause an allergic skin reaction.	



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**Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification system:**

The classification is according to the latest edition of OSHA Hazard Communication Standard (29 CFR 1910.1200), and extended by company and literature data.

**Label Elements**

**Labeling according to OSHA Hazard Communication Standard (29 CFR 1910.1200)**

**Hazard Pictograms**



GHS05



GHS07



GHS08

**Signed word** : Danger

**Hazard-determining components of labeling:**

Manganese dioxide

Potassium hydroxide

Nickle

**Hazard statements**

- |           |  |
|-----------|--|
| H302+H332 | Harmful if swallowed or if inhaled                             |
| H314      | Causes severe skin burns and eye damage                        |
| H317      | May cause an allergic skin reaction                            |
| H351      | Suspected of causing cancer                                    |
| H372      | Causes damage to organs through prolonged or repeated exposure |

**Precautionary statements**

- |                |   |
|----------------|---|
| P260           | Do not breathe dusts or mists   |
| P303+P361+P353 | If on skin/hair : Take off immediately all contaminated clothing. Rinse skin with water/shower                                  |
| P305+P351+P338 | If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do Continue rinsing. |
| P310           | Immediately call a poison center/doctor.  |
| P405           | Store locked up.  |
| P501           | Dispose of contents/container in accordance with local/regional/national/international regulations                              |

**Hazards not otherwise classified (HNOC)** No further relevant information available.



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**SECTION 3 –Composition/ information on ingredients**

**Chemical characterization** : Mixtures

Description :

Mixture of the substances listed below with nonhazardous additions.

For the wording of listed risk phrases refer to section 16

<b>Compositions</b>		
	<b>Manganese Dioxide</b>	
1313-13-9	⚠ Acute Tox.4 H302; Acute Tox.4 H332	25~30%
7439-89-6	Iron	40~48%
7440-66-6	Zinc	9~10%
7732-18-5	Water	4~6%
	<b>Potassium Hydroxide</b>	
1310-58-3	⚠ Skin Corr.1A, H314; ⚠ Acute Tox.4, H302	3~5%
7782-42-5	Graphite	3~5%
	<b>Nickel</b>	
7440-02-0	⚠ Carc 2, H351; STOT RE 1, H372: ⚠ Skin Sens.1, H317	1~1.5%
9004-34-6	Cellulose	0.3~0.85
1314-13-2	Zinc Oxide	0.35~0.65%



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**SECTION 4 – First Aid Measures**

**Description of first aid measures**

**General description:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation:**

In case of unconsciousness place patient stably in side position for transportation .

Get medical aid immediately. Remove from exposure and move to fresh air immediately. Use oxygen if available.

Use oxygen device such as mask or bag.

**After skin contact:**

Get medical aid at once. Immediately remove contaminated clothes and rinsed skin with plenty of water or shower for 15 minutes. Discard contaminated clothing in a manner which limits further exposure.

**After eye contact:**

Flush eyes with plenty of water for at least 15 minutes., occasionally lifting the upper and lower eyelids. Get medical aid.

**After swallowing :**

Drink copious amounts of water and provide fresh air. Immediately all a doctor.

Do not induce vomiting: immediately call for medical help.

**Most important symptoms and effects both acute and delayed:**

No further relevant information available.

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**SECTION 5 –Fire-fighting measures**

**Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture:** No further relevant information available.

**Special protective equipment and precautions for firefighters**

**Protective equipment:** Mouth respiratory protective device.



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**SECTION 6 – Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**  
Wear protective equipment. Keep unprotected persons away.

**Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewer/surface or ground water.

**Methods and material for containment and cleaning up:**  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

**SECTION 7 – Handling and Storage**

**Precautions for sales handling:**  
Through dedusting  
Ensure good ventilation/exhaustion at the workplace.  
For the general occupational hygienic measures refer to Section 8.

**Information about protection against explosions and fires:** No special measures required

**Conditions for safe storage, including any incompatibilities**

**Requirements to be met by storerooms and receptacles:** No special requirement.

**Information about storage in one common storage facility:** No required

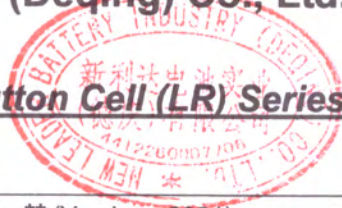
**Further information about storage conditions:** Keep receptacle tightly sealed.

**SECTION 8 – Exposure Controls / Person Protection**

**Components with limit values that require monitoring at the workplace:**

**1313-13-9 Manganese Dioxide (25~30%)**

PEL (USA)	Ceiling limit value: 5mg/m <sup>3</sup> as Mn
REL (USA)	Short-term: 3mg/m <sup>3</sup> Long-term : 1mg/m <sup>3</sup>
TLV (USA)	Long-term : 0.2*0.1*mg/m <sup>3</sup> as Mn; *respirable **inhalable fraction



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<b>1310-58-3 Potassium Hydroxide (3~5%)</b>	
REL (USA)	Ceiling limit value : 2mg/m <sup>3</sup>
TLV (USA)	Ceiling limit value : 2mg/m <sup>3</sup>
<b>7782-42-5 Graphite (3~5%)</b>	
PEL (USA)	Long-term value: 15mppcf*mg/m <sup>3</sup> *impinge samples counted by light field techn.
REL (USA)	Long-term value: 2.5mg/m <sup>3</sup> *repirable dust
TLV (USA)	Long-term value: 2*mg/m <sup>3</sup> All forms except graphite fibers;*resp. fraction
<b>7440-02-0 Nickle (1~1.5%)</b>	
PEL (USA)	Long-term value: 1mg/m <sup>3</sup>
REL (USA)	Long-term value: 0.015mg/m <sup>3</sup> As Ni; See Pocket Guide App.A
TLV (USA)	Long-term value: 1.5mg/m <sup>3</sup> Elemental , *inhalable fraction
<b>9004-34-6 Cellulose (0.3~0.85%)</b>	
PEL (USA)	Long-term value: 15*5**mg/m <sup>3</sup> *total dust **respirable fraction
REL (USA)	Long-term value: 10*5**mg/m <sup>3</sup> *total dust **respirable fraction
TLV (USA)	Long-term value: 10mg/m <sup>3</sup>
<b>1314-13-2 Zinc Oxide (0.35~0.65%)</b>	
PEL (USA)	Long-term value: 15*5**mg/m <sup>3</sup> *total dust **respirable fraction and fume
REL (USA)	Short-term value: 10**mg/m <sup>3</sup> Long-term value: 5*5**mg/m <sup>3</sup> Ceiling limit value : 15mg/m <sup>3</sup> *dust only **fume
TLV (USA)	Short-term value: 10*mg/m <sup>3</sup> Long-term value: 2*mg/m <sup>3</sup> *as respirable fraction



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**Additional information :** The lists that were valid during the creation were used as basis.

**Based on the composition shown in Section 3, the following measures are suggested for occupational safety measure.**

**Appropriate engineering controls:**

Keep away from foodstuffs beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of works

Avoid contact with the eyes and skin

See Section 7 for information about design of technical facilities.

**Personal protective equipment:**

**Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

**Protection of hands:**



**Protective gloves**

The glove material has to be impermeable and resistant to the product/the substance/the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/the preparation/the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**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 cannot be calculated in advance and has therefore to be checked prior the application.

**Penetration time of glove material:**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eyes protection:**



Tightly sealed goggles



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<b>SECTION 9 Physical and Chemical properties</b>	
<b>General Information</b>	
<b>Appearance:</b>	
Form:	Solid, button cell
Color:	Silvery
Odor:	Odorless
Odour threshold	Not available
pH-value:	Not applicable Not available
<b>Change in condition</b>	
Melting point/melting range	Not available
Freezing point	Not available
Boiling point/Boiling range:	Not available
Flash point:	Not available
Flammability (solid,gaseous):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
<b>Explosion limits:</b>	
Lower:	Not available
Upper:	Not available
Vapor pressure:	Not available
Density:	Not available
Relative density:	Not available
Vapour density:	Not available
Evaporation rate:	Not available
Solubility in/Miscibility with Water	Not available
Partition coefficient (n-octanol/water)	Not available
<b>Viscosity:</b>	
Dynamic:	Not available
Kinematic:	Not available
Other information	Voltage: 1.5V





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<p><b>SECTION 10 Stability and reactivity</b></p> <p><b>Reactivity :</b> Data not available</p> <p><b>Chemical stability:</b> Stable under normal operation and storage conditions.</p> <p><b>Possibility of hazardous reactions:</b> No dangerous reactions known.</p> <p><b>Conditions to avoid:</b> No further relevant information available</p> <p><b>Incompatible materials :</b> No further relevant information available</p> <p><b>Hazardous decomposition products :</b> No dangerous decomposition products known.</p>
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**SECTION 11 Toxicological information**

**Acute toxicity:**

<b>LD/LC50 values that are relevant for classification:</b>		
<b>1310-58-3 Potassium hydroxide</b>		
Oral	LD50	372 mg/kg (rat)
<b>7439-89-6 Iron</b>		
Oral	LD50	30000 mg/kg (rat)
<b>9004-34-6 Cellulose</b>		
Oral	LD50	5000 mg/kg (rat)

**Skin corrosion /irritation:** Caustic effect on shin and mucous membrane

**Serious eye damage/irritation:** Strong caustic effect.

**Respiratory or skin sensitization:** Sensitizing possible through skin contact

**Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.



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**Carcinogenic categories**

<b>IARC (International Agency for Research on Cancer)</b>		
7440-02-0	Nickel	1
7789-23-3	Potassium fluoride	3
<b>NTP (National Toxicology Program)</b>		
7440-02-0	Nickel	R
<b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>		
None of the ingredients is listed.		

**SECTION 12– Ecological Information**  
**Toxicity**  
**Aquatic 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.  
**Other adverse effects:** No further relevant information available.

**SECTION 13–Disposal considerations :**  
**Water treatment methods**  
**Recommendation:**  
 Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
**Uncleaned packagings:**  
**Recommendation:** Disposal must be made according to official regulations

**SECTION 14 – Transport Information**  
 Alkaline Manganese Button Cell (Mercury Free ) is exempt from dangerous goods It is considered non – Dangerous goods by the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), International Martine Dangerous Goods regulations (IMDG) the <<recommendations on the Transport of Dangerous Goods Model Regulations>> (19<sup>th</sup>)and also is not classified as dangerous goods under the 62<sup>nd</sup> Edition of the IATA Dangerous Goods Regulation 2021 Special Provision A123.  
 Separate batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport . Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles and wet by rain.  
 Transport Fashion: By air, By sea , By road



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**SECTION 15 – Regulatory information**

Safety, health and environmental regulations/legislation specific for the substance or mixture

Sara

<b>Section 335 (extremely hazardous substances)</b>	
None of the ingredients is listed	
<b>Section 313 (specific toxic chemical listings):</b>	
1313-13-9	Manganese Dioxide
7440-02-0	Nickel
1314-13-2	Zinc Oxide
<b>TSCA (Toxic Substances Control Act):</b>	
7439-89-6	Iron
1313-13-9	Manganese Dioxide
1310-58-3	Potassium Hydroxide
7782-42-5	Graphite
7440-02-0	Nickel
9004-34-6	Cellulose
1314-13-2	Zinc Oxide
7732-18-5	Water

**Proposition 65**

<b>Chemical known to cause cancer:</b>	
7440-02-0	Nickel
<b>Chemicals known to cause reproductive toxicity for females:</b>	
None of the ingredients is listed	
<b>Chemicals known to cause reproductive toxicity for males:</b>	
None of the ingredients is listed	
<b>Chemicals known to cause developmental toxicity</b>	
None of the ingredients is listed	

**Carcinogeny categories**

<b>EPA (Environmental Protection Agency)</b>		
1313-13-9	Manganese Dioxide	D
7440-66-6	Zinc	II
1314-13-2	Zinc Oxide	D, I, II



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<b>TLV (Threshold Limit Value established by ACGIH)</b>		
7440-02-0	Nickel	<b>A5</b>
<b>NIOSH-CA (National Institution for Occupational Safety &amp; Health)</b>		
7440-02-0	Nickel	

**SECTION 16 – Other information**

**Relevant phrases**

- H301 Toxic if swallowed
- H302 Harmful if swallowed
- H311 Toxic in contact with skin
- H314 Causes severe skin burns and eye damage
- H317 May cause an allergic skin reaction
- H331 Toxic if inhaled
- H332 Harmful if inhales
- H351 Suspected of causing cancer
- H372 Cause damage to organs through prolonged or repeated exposure.

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The contents and format of this SDS are in accordance with 29 CFR 1910.1200 (g)

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