# LR44

Calculator Battery

# Product Safety Data Sheet

**Disclaimer:**
**The batteries are exempt articles and are not subject to hazard Communication Standard Requirement. This sheet is provided as technical information only. The information contained in this Product Safety Data Sheet has been established to the best of RENATA SA's knowledge and belief. RENATA SA makes no representation and provides no warranty or guarantee regarding the contents of this Product Safety Data Sheet and excludes its liability, express or implied.**

## *Section 1 – Product & Company Information*

| | |
|---|---|
| Product Name: | **Primary ALKALINE BUTTON Batteries** |
| Nominal Voltage: | 1.50V |
| Electrochemical System: | Zinc/KOH Electrolyte/Manganese dioxide |
| Sizes / Models: | See section 2 |
| Date of Preparation: | Mai 2016 |
| Company: | RENATA SA |
| Telephone Number: | +41 61 975 75 75 |
| Address: | CH 4452 Itingen, Switzerland |
| Fax Number: | +41 61 975 75 95 |

## *Section 2 – Composition/Information on Ingredients*

| | |
|---|---|
| Chemical System | $MnO_2$ / Zn |
| Nominal Voltage | 1.5 V |
| Dimensions (D x H) | 11.6 x 5.4 mm |
| Approximate Weight | ~ 1.9 g |
| Capacity | 110 mAh |

## Ingredients (new battery)

| Hazardous Ingredients | CAS Nr. | Content % of Total Weight |
|---|---|---|
| Manganese dioxide ($MnO_2$) | 1313-13-9 | ~ 30 |
| Zink powder (Zn) | 7440-66-6 | ~ 11 |
| Potassium hydroxide (KOH) | 1310-58-3 | ~ 4 |
| Graphite (C) | 7782-42-5 | ~ 3 |
| Cadmium (Cd) | 7440-43-9 | <0.0005 % |
| Mercury (Hg) | 7439-97-6 | <0.0001 % |
| Lead (Pb) | 7439-92-1 | 0.002% |
| Water (H2O) | 7439-89-6 | |
| Ferrum (Fe) | 7732-18-5 | |



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***Section 3 – Hazardous identification***

These chemicals are contained in a sealed can.

Risk of exposure occurs, only if battery is mechanically, thermally or electrically abused, skin or eye contact with the contents of an opened battery should be avoided.

Skin contact with the contents of an opened battery can cause irritation and/or chemical burns.

Eye contact with the contents of an opened battery can cause severe irritation and chemical burns.

Ingestion of a battery can be harmful.

Please strictly observe safety instructions.

***Section 4 – First Aid Measure***

**None** unless internal material exposure.

If contact with internal components, observe following instructions

Swallowing:

Ingestion of a battery can be harmful. Contents of an opened battery can cause serious chemical burns of mouth, oesophagus, and gastrointestinal tract. Drink a plenty of water. Do not induce vomiting. Consult a physician immediately.

Inhalation: Fumes of alkaline solution can cause respiratory irritation. Provide fresh air and consult a physician.

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

Eye Contact: Contents of an opened battery can cause severe irritation and chemical burns. Immediately flush eyes thoroughly with water for at least 15 minutes. Consult a physician immediately.

***Section 5 – Fire Fighting Measures***

When exposed to fire, battery may emit hazardous fumes of alkaline.

Refer to "inhalation" in section 4.

Extinguishing Media:

Any class of extinguisher is effective.

Fire fighting procedure:

Use self-contained breathing apparatus and full gear not to inhale or that eyes or skin come in contact with harmful alkaline mist.

***Section 6 – Accidental Release Measures***

Damaged Battery should be handled with rubber gloves, avoid direct contact with internal components.

***Section 7 – Handling and Storage***

Handling:

Avoid mechanical, thermal or electrical abuse.

Keep out the reach of children, never swallow.

Never touch the liquid leaked out battery.

Never short-circuit, force discharge, charge, overheat, dispose in fire, deform, dismantle; the battery may vent, explode or leak.

Storage:

Never store the battery in hot and high humid place. Avoid direct solar radiation, do not store next to heaters. Never let the battery contact with water. Do not store in disorderly fashion or allow metal parts to be mixed with stored batteries.



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***Section 8 – Exposure Controls, Personal Protection***

| | |
|---|---|
| Respiratory Protection: | NA |
| Ventilation Local Exhaust / Mechanical / Special / Other: | NA |
| Eye Protection: | NA |
| Protective Gloves: | NA |
| Other Protective Clothing: | NA |

***Section 9 – Physical / Chemical Characteristics***

NA if the battery is not opened

***Section 10 – Stability and Reactivity***

| | |
|---|---|
| Stability: | Stable |
| Incompatibility: | NA |
| Hazardous Polymerization: | NA |
| Condition to Avoid: | See section 7 |
| Hazardous Decomposition or Byproducts: | NA |

***Section 11 – Toxicological Information***

NA

***Section 12 – Ecological Information***

NA

***Section 13 – Disposal Condition***

Be sure to comply with your federal, state and local regulation regarding disposal of used batteries. Please follow the instructions of proper regulation.
As electric capacity can be left in a discarded battery and it comes into contact with other metals, it could lead to distortion, leakage, overheating, or rupture, so make sure to cover the (+) or (-) terminals with electrical or adhesive tape or some other insulator before disposal.



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## ***Section 14 – Transportation Information***

LR44 ALKALINE BUTTON Batteries are considered to be “dry cell” batteries and are not listed as dangerous goods under below regulations:

In general, all batteries in all forms of transportation (ground, air, or ocean) 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 outer packaging” that prevents spillage of contents. All original packaging for RENATA silver oxide batteries has been designed to be compliant with these regulatory concerns.
Silver oxide batteries (sometimes referred to as “Dry cell” batteries) are not listed as dangerous goods under the IATA Dangerous Goods Regulations, 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 requirements contained in the following special provisions.

| Regulatory Body | Packing Instruction and Special Provisions |
|---|---|
| ICAO TI 2019-2020 related to:<br>**IATA Dangerous Goods Regulations 2019**<br>(60th Edition) | Special Provision A123 |
| **International Maritime Dangerous Goods (IMDG)**<br>IMDG Code 2019 (amdt 39-18) | Special Provision A304 |

All RENATA 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 and ICAO Technical Instructions require the words “not restricted” and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

## ***Section 15 – Regulatory Information***

The batteries are in accordance with the directive 2006/66/EC

## ***Section 16 – Other Information***

If you need further information, please contact (Renata) sales representative.



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