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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:	January 2014
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.

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:

1. Batteries, dry fulfils the requirement of U.S. Department of Transportation (DOT), Special Provision 130, i.e. they are offered for transportation in a manner that prevents the dangerous volution of heat (for example, by the effective insulation of exposed terminals or batteries to be packed in such a way to prevent short circuits or generation of a dangerous quantity of heat.)”.
2. International Civil Aviation Administration (ICAO) and International Air Transport Association (IATA), Special Provision A123, i.e. “An electrical battery or battery powered device having the potential of dangerous evolutions of heat that is not prepared so as to prevent a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or in the case of equipment, by disconnection of the battery and protection of exposed terminals or batteries to be packed in such a way to prevent short circuits or generation of a dangerous quantity of heat.) is forbidden from transportation.”

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3. International Maritime Dangerous Goods Regulations (IMDG), Special Provision 304, 2010 edition does not regulate these batteries, i.e. "This entry may only be used for the transport of non-activated batteries which contain dry potassium hydroxide and which are intended to be activated prior to use by the addition of an appropriate amount of water to the individual cells."

Regulatory Body	Packing Instruction and Special Provisions
ICAO/TI 2013-2014 or IATA/DGR 2014 (55 Edition)	Special Provision A123

All RENATA 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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