

# Product Safety Data Sheet

The batteries are exempt articles and are not subject to the OSHA Hazard Communication Standard Requirement. This sheet is provided as technical information only. The information and recommendations set forth are made in good faith and are believed to be accurate as of the date of preparation. However, **Maxell makes no warranty expressed or implied.**

## Section 1 - Product and Company Identification

|                                                                                                             |                                         |                                      |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------|
| Product Name:<br>Alkaline Battery (LR)                                                                      | Sizes:<br>All                           | Date of preparation:<br>Jan. 1, 2012 |
| Company:<br>Hitachi Maxell Energy, Ltd.                                                                     | Telephone Numbers:<br>81-(0)72-623-8118 |                                      |
| Address (Number, Street, City, State, and ZIP Code):<br>1-1-88 Ushitora, Ibaraki-shi, Osaka 567-8567, Japan | Fax Numbers:<br>81-(0)72-623-5499       |                                      |

## Section 2 - Composition/Information on Ingredients

| Ingredient                            | CAS#      | Content (wt%)   |
|---------------------------------------|-----------|-----------------|
| Manganese Dioxide (MnO <sub>2</sub> ) | 1313-13-9 | 35 to 45        |
| Potassium Hydroxide (KOH)             | 1310-58-3 | 5 to 15         |
| Graphite (C)                          | 7782-42-5 | 1 to 5          |
| Zinc (Zn)                             | 7440-66-6 | 10 to 20        |
| Mercury (Hg)                          | 7439-97-6 | Less than 1 ppm |
| Cadmium (Cd)                          | 7440-43-9 | Less than 5 ppm |
| Lead (Pb)                             | 7439-92-1 | Less than 5 ppm |

## Section 3 - Hazards Identification

Improper handling of the battery could lead to distortion, leakage\*, overheating, or explosion and cause human injury or equipment trouble. Especially touch with liquid leaked out of battery could cause injury like a loss of eyesight. Please strictly observe safety instructions.

(\* Leakage is defined as an unintended escape of liquid from a battery.)

## Section 4 - First Aid Measures

None unless internal materials exposure. If contents are leaked out, observe following instructions.

|            |                                                                                                                                                         |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation | Explosion may make fumes of alkaline solution and the fumes could cause respiratory irritation. Rinse by plenty of water and consult a physician.       |
| Skin       | Immediately flush skin with plenty of water. If itch or irritation by chemical burn persists, consult a physician.                                      |
| Eyes       | Immediately flush eye with plenty of water for at least 15 minutes. Consult a physician immediately.                                                    |
| Ingestion  | If swallowing a battery, consult a physician immediately.<br>If contents come into mouth, immediately rinse by plenty of water and consult a physician. |



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## Section 5 - Fire Fighting Measures

Extinguishing Media Any class of extinguisher is effective.

Fire fighting procedure The batteries could be exploded by heat of fire and alkaline solution could disperse. Use self-contained breathing apparatus and full gear not to inhale or not to come into eyes or skin with harmful alkaline mist.

## Section 6 - Accidental Release Measures

NA

## Section 7 - Handling and Storage

### 1) Handling

Never swallow. Never touch the liquid leaked out of battery. Never short-circuit the battery.  
Never charge. Never expose to open flame. Never heat. Never disassemble or deform.

### 2) Storage

Never store the battery in hot and high humid place. Never let the battery contact with water.

## Section 8 - Exposure Controls, Personal Protection

Respiratory Protection NA

Ventilation Local Exhaust NA

Mechanical NA

Special NA

Other NA

Eye Protection NA

Protective Gloves NA

Other protective clothing NA

## Section 9 - Physical/Chemical Characteristics

NA

## 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

The battery may be regulated by national or local regulation. Please follow the instructions of proper regulation. As electric capacity is left in a discarded battery and it comes into contact with other metals, it could lead to distortion, leakage, overheating, or explosion, so make sure to cover the (+) and (-) terminals with friction tape or some other insulator before disposal.

**Section 14 - Transportation Information**

I hereby certify that the above captioned goods are non-dangerous and non-hazardous materials for air transport in any nature. The consignment is fully described by Proper Shipping Name and packed (short-circuit prevented), marked and in proper condition for carriage by air. I further hereby certify that the consignment is not classified as dangerous under the current edition of IATA Dangerous Goods Regulations (53rd Edition), with complying to the special provision A123, and all applicable carrier and governmental regulations.

**Section 15 - Regulatory Information**

NA

**Section 16 - Other Information**

If you want further information, please contact your local sales representative.

NA=Not Applicable