This product is a consumer product which is used in a hermetically sealed state. So, it is not an object of the SDS system. This document is provided to customers as reference information for the safe handling of the product. The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Panasonic Corporation makes no warranty expressed or implied.

PRODUCT SAFETY DATA SHEET

1 Chemical product and company identification

Name of Product : Alkaline Battery LR03, LR6, LR14, LR20
Name of Company : Panasonic Energy (Shanghai) Co., Ltd.
Address : No.5033, Luoshan Road, Pudong New District, Shanghai, 201204, P. R. CHINA
Tel : +86-21-3390-7021(Working hours)
Emergency Tel : +86-21-3390-6661(Holiday)

2 Hazards identification

GHS Classification : Not applicable
Toxicity : When the leaked liquid adheres to the skin, it may cause the damage of the skin.
Hazard : There is the risk of explosion if batteries are disposed in fire, heated above 100 degree C. Stacking or jumbling batteries may cause external short circuits, heat generation and explosion.

3 Composition/information of ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
<th>CAS No.</th>
<th>Content (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive electrode</td>
<td>Manganese dioxide</td>
<td>1313-13-9</td>
<td>30-46</td>
</tr>
<tr>
<td></td>
<td>Graphite</td>
<td>7782-42-5</td>
<td>2-6</td>
</tr>
<tr>
<td>Negative electrode</td>
<td>Zinc</td>
<td>7440-66-6</td>
<td>10-25</td>
</tr>
<tr>
<td>Electrolyte</td>
<td>Potassium Hydroxide</td>
<td>1310-58-3</td>
<td>4-9</td>
</tr>
<tr>
<td>Case</td>
<td>Steel</td>
<td>7439-89-6</td>
<td>11-34</td>
</tr>
</tbody>
</table>

4 First aid measures (in case of electrolyte leakage from the battery)

Eye contact by electrolyte : Do not rub eyes. Wash immediately with large amount of clean water such as tap water 15 minutes or more then receive the ophthalmologist's treatment promptly. Take medical treatment, if appropriate procedures are not taken, this may cause eye irritation.

Skin contact by electrolyte : Wash the affected area under tepid running water using a mild soap. If appropriate procedures are not taken, this may cause
sores on the skin. Get medical attention if irritation develops or persists.

Ingestion of electrolyte: Wash in the mouth immediately with large amount of clean water and make the sufferer drink a lot of water.

Inhalation of electrolyte fume: Remove to fresh air immediately. Take a medical treatment.

5 Firefighting measures
Extinguishing Media: Dry chemical, carbon dioxide, great deal of water.
Specific Fire-Fighting Methods: Be sure on the windward to extinguish the fire, since vapor from burning batteries may make eyes, nose and throat irritate, Wear the respiratory protection equipment in some cases.

6 Accidental release measures (in case of electrolyte leakage from the battery)
• Health Considerations and Protective Equipment
  Wear proper protective equipment.
• Environmental Precautions
  Prevent spills form entering sewers, watercourses.
• Spill Clean-Up Procedures
  Collect material to minimize dust generation: use wet mop, damp sponge.
  Place collected material into a suitable container for disposal.

7 Handling and storage
Handling
• When packing the batteries, do not allow battery terminals to contact each other, or contact with other metals. Be sure to pack batteries by providing partitions in the packaging box, or in a separate plastic bag so that the single batteries are not mixed together.
• Use strong material for packaging boxes so that they will not be damaged by vibration, impact, dropping and stacking during their transportation.
• Do not short-circuit, recharge, deform, throw into fire or disassemble.
• Do not mix different type of batteries.
• Do not solder directly onto batteries.
• Insert the battery correctly in electrical equipment.

Storage
• Do not let water penetrate into packaging boxes during their storage and transportation.
• Do not store the battery in places of the high temperature or under direct sunlight.
• Please also avoid the places of high humidity. Be sure not to expose the battery to condensation, rain or frozen condition.
• For normal storage, the temperature should be between +10°C and +25°C and never
exceed +30°C.
- Extremes of humidity (over 95% and below 40% relative humidity) for sustained periods should be avoided since they are detrimental to both batteries and packaging.
- Batteries should therefore not be stored next to radiators or boilers, nor in direct sunlight.
- The above recommendations are equally valid for storage conditions during prolonged transit. Thus, batteries shall be stowed away from ships’ engines and not left for long periods in unventilated metal box cars (containers) during summer.

8. Exposure controls and personal protection
   Acceptable concentration : Not specified about Alkaline Battery.
   Facilities : Nothing in particular.

   Protective Equipment (in case of electrolyte leakage from the battery)
   Respiratory Protection : For most condition no respiratory protection.
   Hand Protection : Safety gloves.
   Eye Protection : Safety glasses must be worn when handling this product.
   Skin and Body Protection : To prevent any contact, wear impervious clothing such as boots or whole body suits as appropriate.

9. Physical and chemical properties
   Appearance : Cylindrical shape.
   Voltage : 1.5 V

10. Stability and reactivity
    Since batteries utilize a chemical reaction they are actually considered a chemical product. As such, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, the various usage conditions such as discharge, ambient temperature, etc. are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage.

11. Toxicological information
    Battery is not harmful as its ingredients are in a hermetically sealed state.

12. Ecological information
    In case of the worn out battery was disposed in land, the battery case may be corroded, and leak electrolyte. But, we have no ecological information.
    Mercury (Hg), Cadmium (Cd) and Lead (Pb) are not used in cell.

13. Disposal considerations
    When the battery is worn out, dispose of it under the ordinance of each local government.

14. Transport information
    Handling
During the transportation of a large amount of batteries by ship, trailer or railway, do not leave them in the places of high temperatures and do not allow them to be exposed to condensation.
During the transportation do not allow packages to be dropped or damaged.

UN Number and UN Class
Not applicable
Not dangerous goods for air transportation and sea transportation.
IATA DGR (62nd Edition): Not restricted to IATA DGR according to special provision A123

15. Regulatory information
- Act on Preventing Environmental Pollution of Mercury (Japan)

16. Other information
This PDS is provided to customers as reference information in order to handle batteries safely. It is necessary for the customer to take appropriate measures depending on the actual situation such as the individual handling, based on this information.
References
- IATA Dangerous Goods Regulations 62nd Edition (IATA DGR)