

Products Information Data Sheet

These products are hermetically sealed state in a vessel, and are exempted from Safety Data Sheet regulations. However, this manual provides you with referential information to safety use the products.

Section 1 - Products and Company Identification

Products name : Alkaline Dry Batteries (Primary Battery)
 Products sizes : LR20, LR14, LR6, LR03, LR1, 6LF22, 6LR61
 Company : TOSHIBA LIFESTYLE PRODUCTS & SERVICES CORPORATION
 Address : 25-1, Ekimae-honcho, Kawasaki-ku, Kawasaki,
 Kanagawa 210-8543, Japan
 Telephone : +81-44-577-0142
 Fax : +81-44-222-6264

Section 2 - Hazards Identification

GHS Classification : Not applicable
 Toxicity : When the electrolyte leaked from the cell/battery adheres to the skin, it may cause damage to the skin. In addition, When it is gotten in the eyes, it may cause damage to the eyes such as losing sight.
 Hazard : There is a risk of explosion if cells/batteries are thrown into fire or heated. When stacking or jumbling cells/batteries may cause heat generation and explosion by external short circuits.

Section 3 - Composition/ Information on Ingredients

Ingredients	CAS#	PRTR	Weight/Content
Manganese dioxide (MnO ₂)	1313-13-9	1-412	25~45wt%
Graphite (C)	7782-42-5	Not regulated	1~6wt%
Potassium hydroxide (KOH)	1310-58-3	Not regulated	4~15wt%
Zinc (Zn)	7440-66-6	Not regulated	5~25wt%

Section 4 - First Aid Measures (In case of electrolyte leakage from the cell/battery)

Inhalation of electrolyte fume : If a person inhaled steam, move to the place where air is fresh immediately. If you feel unwell, immediately seek medical attention.
 Skin contact by electrolyte : If the content adheres to skin, immediately wash it with a large amount of clean water and soap promptly. If you have pain, immediately seek medical attention.
 Eyes contact by electrolyte : If the content enters eyes, rinse eyes with a large amount of clean water for more than 15 minutes, and immediately seek medical attention.
 Ingestion of electrolyte : If a cell/battery is swallowed, immediately seek medical attention.

Section 5 - Fire Fighting Measures

Fire extinguishers : Powder extinguisher, foam extinguisher, carbon dioxide gas extinguisher, large amount of dry sand

- Specific firefighting method : In the initial state of a fire, move cells/batteries from near the fire source, to a safe location. At that time, work at a windward location, as far as possible, and be sure to wear the protective equipment. (fireproof gloves, protective mask, protective eyewear, protective clothing)
- Protection of firefighting personnel : Be wear protective equipment (fireproof gloves, protective mask, protective eyewear, protective clothing) for the keeping safe. (If possible, use atmosphere-supplying respirator)

Section 6 - Accidental Removing Measures

The cell/battery hermetically contains constituents in a vessel, so contents normally may not leak out. However, if the contents leaks because of a mechanical or electrical stress, wipe with liquid-boric to absorb it, and collect in a vessel. After that, flush the site with a large amount of water. At that time, be sure to wear protective gloves and protective eyewear.

Section 7 - Handling and Storage

- Handling : Do not solder a cell/battery body.
Do not contact cell/battery terminals between each other, or with another conductor. Do not throws into fire, disassemble, heat, dent, deform, charge nor drop a battery. Do not dip a cell/battery in water or seawater.
- Storage : Store cells/batteries without direct sunlight, high temperature, high humidity, rain, dew, etc., and select a storage location with a temperature as low as possible (preferable temperature 10-25°C and relative humidity 70% or less). In addition, keep cells away from dangerous matter such as combustible or ignitable materials. Absolutely never place a cell/battery in contact with a combustible or conductive substance. Prepare appropriate firefighting equipment.
- Note : See handling and storing precautions described in the product catalog, specification, etc.

Section 8 - Exposure Controls/Personal Protection

- Protection of respiratory organs : Not required in a normal operating state
- Protection of eyes : Not required in a normal operating state
- Other protective tools etc. : Not required in a normal operating state

Section 9 - Physical and Chemical Properties

- Shape : Cylindrical.
Contents are sealed in a stiff stainless steel vessel.
- PH : Not applicable because a cell/battery is not soluble with water.
- Boiling point/boiling range : No information
- Melting point : No information
- Decomposition temperature : No information
- Flash point : No information

Section 10 - Stability and Reactivity

If a number of cells/batteries are jumbled without insulating terminals, they may short and possibly electrolyte leakage, generate heat, and rupture. When the cell/battery is charged, the electrolytic solution or the like may suddenly spurt out due to the generation of gas from the inside of the cell/battery. There is also the possibility of rupture. If the cell/battery is heated or thrown into a fire, it may explode and splash the electrolyte. If the cell/battery is disassembled, it may short and possibly electrolyte leakage, generate heat, and rupture.

Section 11 - Toxicological Information

There is no toxicity because chemical substances are hermetically sealed in a metal vessel.

Section 12 - Ecological Information

No information as the cells/batteries.

Section 13 - Disposal Considerations

Disposal of the substance should be done according to the laws and regulations.

Although used cells/batteries can be discarded basically as "Non burnable rubbish" some local governments sort and collect them at their own discretion. Therefore, observe instructions of the government you belong to, to dispose of the substance.

Keep the following discarding precautions :

- Even a used cell/battery sometimes stores electric energy. Therefore, to prevent the cell/battery from short-circuit, isolate cells/batteries from each other by a method such as taping +, - terminals of cells/batteries, or using the individual housing case of a cell/battery.
- Packing cells/batteries so that they are not shorted, and prevent the package from being wetted.
- If cells/batteries must be discarded in a country other than Japan, observe the instructions of the country and local government.
- The user as business entity must contract with a firm of disposing of industrial waste, and appropriately discard the substance.

Section 14 - Transportation Information

Handling :

When transporting cells/batteries, avoid high temperatures, high humidity and condensation. Pack the cell/battery so that it does not short-circuit, and fix it so that the load does not collapse.

Cell/Batteries should be stored at room temperature (45 ° C or less: 10-25 ° C recommended) with low temperature changes and a relative humidity of 70% or less. Handle the container with care and do not subject it to shocks that could leave dents in the cell/battery.

UN Number and UN Class :

Not applicable (Not Dangerous Goods)

Section 15 - Regulatory Information

The laws and ordinances about the cell/battery shall obey the latest laws and ordinances.

- EU Battery Directive (2006/66/EC, 2013/56/EU) (Europe)
- Regulation (EC)No.1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) (Europe)
- Act on Preventing Environmental Pollution of Mercury (Japan)

Section 16 - Other Information

The cells/batteries fall in the category of "Article" defined by EPA (U.S. Environment Protection Agency), and chemical substances used in a cell/battery satisfy the application exemption conditions as part of "Article," so the cells/batteries are not regulated by TSCA.

Please take appropriate measures according to individual conditions, uses, and usages before using. In addition, the contents of this description were created based on the materials and information available to us at the time of creation, and may be revised to new information.

Preparation This Sheet : TOSHIBA LIFESTYLE PRODUCTS & SERVICES CORPORATION
Engineering Group
Planning & Procurement Dept.
Battery Business Div.

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 LR20, LR14, LR6, LR03, LR1, 6LR61
 Name of Company : Panasonic Corporation
 Address : 1-1 Matsushita-cho, Moriguchi-city, Osaka, 570-8511, Japan
 Emergency Contact : +81-6-6994-4560 (Working hours)
 +81-6-6991-1141 (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. When it is gotten in eye, it may cause the damage of eye such as losing sight.
 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

Component	Material	CAS No.	Content (%)
Positive electrode	Manganese dioxide	1313 - 13 - 9	30 - 46
	Graphite	7782 - 42 - 5	2 - 4
Negative electrode	Zinc	7440 - 66 - 6	10 - 17
Electrolyte	Potassium Hydroxide	1310 - 58 - 3	4 - 7
	Water	-	7 - 13
Component parts (Nonhazardous)	Steel	7439 - 89 - 6	12 - 34
	Plastic, etc.	-	3 - 11

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. It may cause such as losing sight when the right procedure is not taken.
- 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.
Arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.
- 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 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 from 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

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 (LR20, LR14, LR6, LR03, LR1)
Prismatic shape (6LR61)
Nominal Voltage : 1.5 V (LR20, LR14, LR6, LR03, LR1)
9 V (6LR61)

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. However, there is no environmental impact 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, the words "Not Restricted, as per Special Provision A123" must be included in the description of the substance on the Air Waybill, when an Air Waybill is issued.

15. Regulatory information

- EU Battery Directive (2006/66/EC, 2013/56/EU)
- Regulation (EC) No. 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)
- Act on Preventing Environmental Pollution of Mercury (Japan)

16. Other information

This PSDS 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 Edition 62 (IATA DGR)
- IMO International Maritime Dangerous Goods Code 2018 Edition (IMDG Code)

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