This product 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	:	Zinc Carbon Battery R20, R14, R6, R03, 6F22
Name of Company	:	Panasonic Energy Co., Ltd.
Address	:	1-1 Matsushita-cho, Moriguchi-city, Osaka, 570-8511, Japan
Emergency Contact	:	+81-80-9932-3190 (JST Working hours) +81-6-6991-1141 (Holiday)

2 Hazards identification

GHS Classification	:	No 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

Component	Material	CAS RN	Content (%)
Positive electrode	Manganese dioxide	1313 - 13 - 9	20 - 35
	Acetylene Black	1333 - 86 - 4	4 - 8
Negative electrode	Zinc	7440 - 66 - 6	5 - 22
Electrolyte	Zinc Chloride	7646 - 85 - 7	3 -10
	Ammonium chloride	12125 - 02 - 9	0.05 - 0.5
	Water	-	9 - 20

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 appropriates 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 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

8. Exposure controls and personal protection

Acceptable concentration	:	Not specified about Zinc Carbon 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 (R20, R14, R6, R03) Prismatic shape (6F22)
Nominal Voltage	:	1.5 V (R20, R14, R6, R03) 9 V (6F22)

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 63 (IATA DGR)
- IMO International Maritime Dangerous Goods Code 2020 Edition (IMDG Code)

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