Energy Device Business Division
Automotive & Industrial Systems Company
Panasonic Corporation
1-1 Matsushita, Moriguchi City, Osaka
570-8511, Japan
Tel +81-6-6991-1141
http://panasonic.net/ec/

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 Product and Manufacturer

Name of Product	: Zinc air battery (Mercury Free)
Model name	: See table
Name of Company	: Panasonic Corporation, Automotive & Industrial Systems Company
Address	: 1-1 Matsushita-cho, Moriguchi City, Osaka, 570-8511, Japan
Division	: Energy Device Business Division
Department	: Engineering Department
Telephone number	: +81-6-6994-4537

2 Hazards identification

GHS Classification : Not applicable

Hazard : The electrolyte that is contained in the battery is alkaline solution. When electrolyte touches skin, we sometimes have a chemical burn Electrolyte. Stacking or jumbling batteries may cause external short circuits, heat generation, fire or explosion.

Toxicity : The electrolyte that is contained in the battery is alkaline solution. The zinc surface is processed with the mercury.

3 Composition/Information of Ingredients

Component	Material	CAS No.	Content
Positive electrode	Manganese dioxide	1310-13-9	0.2～40wt%
Negative electrode	Zinc	7440-66-6	21～49wt%
Electrolyte	Potassium hydroxide solution	1310-58-3	5～16wt%

4 First Aid Measures

The product contains alkaline solution. In case of electrolyte leakage from the battery, actions described below are required.

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Eye contact : Flush the eyes with plenty of clean water for at least 15 minutes immediately, without rubbing. Get immediate medical treatment. If appropriate procedures are not taken, this may cause eye injury.

Skin contact : Wash the contact areas off immediately with plenty of water and soap. If appropriate procedures are not taken, this may cause sores on the skin.

Inhalation : Arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

5 Fire Fighting Measures

Extinguishing method : Since vapor, generated from burning batteries may make eyes, nose and throat irritates, be sure to extinguish the fire on the windward side. Wear the respiratory protection equipment in some cases.

Fire extinguishing agent : Dry chemical powder, carbon dioxide, a great deal of water are effective.

6 Measures for electrolyte leakage from the battery ● Take up with absorbent cloth.

- Move the battery away from the fire.

7 Handling and Storage ● 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 recharge batteries. ● Do not deform batteries.
- Do not mix different type of batteries. ● Do not solder directly onto batteries.
- 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 (in case of electrolyte leakage from the battery)

Acceptable concentration : Not specified in ACGIH.

Protective clothing : Safety goggle, and safety glove.

9 Physical and Chemical Properties

Appearance : Button shape Voltage : 1.4 volts

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10 Stability and Reactivity

When batteries are short-circuited

: There is the possibility that stacking or jumbling batteries cause short circuits, heat generation, fire or explosion.

When batteries are recharged

: Risk of swelling, fire or explosion. The safety mechanism may work and contains may be released.

When batteries are heated or disposed in fire

: Risk of fire or explosion.

When batteries are disassembled

: Risk of short circuits and generation.

11 Toxicological Information

Acute toxicity	: No information as a battery
Irritation	: No information as a battery
Mutagenicity	: No information as a battery
Chronic toxicity	: No information as a battery

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.

13 Disposal Considerations

When the battery is worn out, dispose of it under the ordinance of each local government or the law issued by relating government.

14 Transport Information

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.

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15 Regulatory Information

IATA Dangerous Goods Regulations
IMO International Maritime Dangerous Goods Code

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 (1) UN Recommendations on the Transportation of Dangerous Goods, Model Regulations
(2) IATA Dangerous Goods Regulations 57th Edition (2016)
(3) IMO International Maritime Dangerous Goods Code 2014 Edition

Table: This PSDS is applicable to the following models.

PR536	PR41	PR48	PR44
PR230	PR312	PR13	PR675
PR10			

(END)