



## SAFETY DATA SHEET

The Safety Data Sheet is supplied as a service to you. For other related information, please visit:

<http://www.rayovac.com>

### 1. IDENTIFICATION

PRODUCT NAME: Zinc Air Battery  
SIZES: All button sizes  
EMERGENCY HOTLINE: 800-424-9300 (24 hr, Chemtrec)  
EDITION DATE: 08/11/2014

### 2. HAZARD IDENTIFICATION

We would like to inform our customers that these batteries are exempt articles and are not subject to the 29 CFR 1910.1200 OSHA requirements, Canadian WHMIS requirements or GHS requirements.

#### Emergency Overview

OSHA Hazards-not applicable  
Target Organs-not applicable  
GHS Classification-not applicable  
GHS Label Elements, including precautionary Statement-not applicable  
Pictogram-not applicable  
Signal words-not applicable  
Hazard statements-not applicable  
Precautionary statements-not applicable

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| INGREDIENT NAME              | CAS #     | %       | TLV**/TWA                              |
|------------------------------|-----------|---------|----------------------------------------|
| Zinc                         | 7440-66-6 | 30-40   | 5.0 mg/m <sup>3</sup> (ZnO as Fume)    |
| Steel                        | 7439-89-6 | 30-40   | ---                                    |
| Nickel                       | 7440-02-0 | 3-7     | 1.0 mg/m <sup>3</sup> (Elemental, TWA) |
| Copper                       | 7440-50-8 | 1-5     | 1 mg/m <sup>3</sup> (TWA)              |
| Chromium                     | 7440-47-3 | 1-5     | 0.5 ug/m <sup>3</sup> (Metal, TWA)     |
| Graphite                     | 7782-42-5 | 1-3     | 15 mppcf (TWA)                         |
| Potassium Hydroxide          | 1310-58-3 | 1-3     | Solution Not Listed                    |
| Mercury                      | 7439-97-6 | <1**    | 1 mg/10mg <sup>3</sup> Ceiling         |
| Water, paper, plastic, other | ---       | Balance | ---                                    |

\*Source: OSHA 29 CFR 1910.1000 Table Z-1, OSHA 29 CFR 1910.1026 App A 11-01-2012

\*\* These Zinc Air Batteries contain less than 25 mg/cell of Mercury

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## 4. FIRST AID INFORMATION

THRESHOLD LIMIT VALUE (TLV) AND SOURCE: NA

EFFECTS OF OVEREXPOSURE: None (see section 2 and 4 for fire or rupture situations)

EMERGENCY FIRST AID PROCEDURES:

### Skin and Eyes:

In the event that battery ruptures, flush exposed skin with flowing lukewarm water for a minimum of 15 minutes. Get immediate medical attention for eyes. Wash skin with soap and water.

### Swallowing:

*If you or your doctor suspects that a battery has been ingested-for assistance in the US call the NATIONAL BATTERY INGESTION HOTLINE any time at (202) 625-3333; in Canada call 416-813-5900.*

For more information, please visit:

<http://www.nema.org/Policy/Environmental-Stewardship/Documents/batteryingest.pdf>

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## 5. FIRE FIGHTING MEASURES

FLASH POINT: NA

LOWER (LEL): NA

FLAMMABLE LIMITS IN AIR (%): NA

UPPER (UEL): NA

EXTINGUISHING MEDIA: Use water, foam, or dry powder as appropriate.

AUTO-IGNITION: NA

**SPECIAL FIRE FIGHTING PROCEDURES:** As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products (See section 2).

**SPECIAL FIRE OR EXPLOSION HAZARDS:** Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of corrosive materials.

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## 6. ACCIDENTAL RELEASE MEASURES

**TO CONTAIN AND CLEAN UP LEAKS OR SPILLS:** In the event of a battery rupture, prevent skin contact and collect all released material in a plastic lined metal container.

**REPORTING PROCEDURE:** Report all spills in accordance with Federal, State and Local reporting requirements.

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## 7. HANDLING AND STORAGE

Store batteries in a dry place. Storing unpackaged cells together could result in cell shorting and heat build-up. Do not recharge. Do not puncture or abuse.

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## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE): NA  
VENTILATION: Local Exhaust: NA  
Mechanical (General): NA  
Special: NA  
Other: NA  
PROTECTIVE GLOVES: NA  
EYE PROTECTION: NA  
OTHER PROTECTIVE CLOTHING: NA

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                 |                                                                   |                                       |    |
|---------------------------------|-------------------------------------------------------------------|---------------------------------------|----|
| Boiling Point @ 760 mm Hg (°C): | NA                                                                | Percent Volatile by Volume (%):       | NA |
| Vapor Pressure (mm Hg @ 25°C):  | NA                                                                | Evaporation Rate (Butyl Acetate = 1): | NA |
| Vapor Density (Air = 1):        | NA                                                                | Physical State:                       | NA |
| Density (grams/cc):             | NA                                                                | Solubility in Water (% by Weight):    | NA |
| pH:                             | NA                                                                |                                       |    |
| Appearance and Odor:            | Geometric solid object with several holes in the positive (+) end |                                       |    |

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## 10. STABILITY AND REACTIVITY

STABLE OR UNSTABLE: Stable  
INCOMPATIBILITY (MATERIALS TO AVOID): NA  
HAZARDOUS DECOMPOSITION PRODUCTS: NA  
DECOMPOSITION TEMPERATURE (0°F): NA  
HAZARDOUS POLYMERIZATION: Will Not Occur  
CONDITIONS TO AVOID: Avoid electrical shorting, puncturing or deforming

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## 11. TOXICOLOGICAL INFORMATION

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|                              |     |         |     |
|------------------------------|-----|---------|-----|
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## 12. ECOLOGICAL INFORMATION

Zinc air batteries can release small amounts of zinc oxide and mercury to the environment if abused and disposed of improperly. Small amounts of zinc could enter the storm water and affect gill breathing animals if a large quantity of damaged batteries were released. Mercury is bio-accumulative. Small button cells can be swallowed. At higher risk are children, elderly or pets. Do not place in fire. Dispose of properly when discharged. Use a recycling outlet if available. Those collecting batteries should follow state and federal regulations.

Partially discharged damaged batteries can overheat and cause fires in the presence of other combustible materials.

## 13. DISPOSAL CONSIDERATIONS

Always comply with Federal, state or local requirements. For additional information on disposal/reclaim options, visit:

<http://www.nema.org/Policy/Environmental-Stewardship/Documents/Companies%20Claiming%20to%20Recycle.MARCH2005.pdf>

## 14. TRANSPORTATION INFORMATION

TRANSPORTATION-SHIPPING: These are considered dry-cell batteries and they are non-dangerous goods for transportation. These batteries must be packed in a way to prevent short circuits or generation of a dangerous quantity of heat.

USDOT – See Special Provision 130.

IMDG/Ocean – Not Listed.

ICAO/IATA – See Special Provision A123. This special provision also states to put the words “not restricted” and “special provision A123” on the air waybill when an air waybill is issued.

## 15. REGULATORY INFORMATION

**SARA 313:** Notification is not required because these products are article(s) that do not release a covered toxic chemical under the normal conditions of storage, use, or handling.

NOTICE: The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Spectrum Brands Inc. (Rayovac) makes no warranty expressed or implied.