



MATERIAL SAFETY DATA SHEET

1. We would like to inform our customers that these batteries are exempt articles and are not subject to the 29 CFR 1910.1200 OSHA requirement, or to the Canadian WHMIS requirements and the sheets are supplied as a service to you. For other MSDSs and related information, visit: <http://www.rayovac.com/technical/msds.htm>.

1. IDENTIFICATION

PRODUCT NAME: Zinc Air Batteries

SIZES: All

EMERGENCY TELEPHONE NUMBER: 800-424-9300 (24 hr, Chemtrec)

Environmental Health & Safety Information: 608-275-2482

EDITION DATE: 03/05/2007

APPROVED BY: Kevin J. Domack

2. INGREDIENTS

INGREDIENT NAME	CAS #	%	TLV*
Zinc	7440-66-6	30 - 40	5.0 mg/m ³ (ZnO, Fume, TWA)
Steel	7439-89-6	30 - 40	---
Nickel	7440-02-0	3 - 7	1.0 mg/m ³ (Elemental, TWA)
Copper	7440-50-8	1 - 5	1 mg/m ³ (TWA)
Chromium	7440-47-3	1 - 5	0.5 ug/m ³ (Metal, TWA)
Graphite	7782-42-5	1 - 3	15 mppcf (TWA)
Potassium Hydroxide	1310-58-3	1 - 3	Not Listed
Mercury	7439-97-6	< 1**	0.025 mg/m ³ (Inorganic, TWA)
Water, paper, plastic, other	---	Balance	---

*Source: OSHA 29 CFR 1910.1000 Table Z-1 3-01-07; OSHA 29 CFR 1910.102.6 App. A

** Zinc Air Batteries contain less than 25 mg/cell of mercury.

3. PHYSICAL DATA

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

4. FIRE & EXPLOSION HAZARD DATA

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

5. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV) AND SOURCE: NA

EFFECTS OF OVEREXPOSURE: None. (In fire or rupture situation see section 2 and section 4)

EMERGENCY FIRST AID PROCEDURES:

Skin and Eyes:

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

Swallowing:

Ingestion of a battery can be harmful. Call The National Capital Poison Center (800-222-1222), day or night, for advice and follow-up.

For more information, visit: <http://www.nema.org/gov/ehs/committees/drybat/>.

6. REACTIVITY DATA

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.

7. SPILL OR LEAK PROCEDURES

PROCEDURES 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.

WASTE DISPOSAL METHOD: Comply with all Federal, state and local regulations. Some state or local rules may require specific waste management methods. Collection is required in European Union Countries. For additional information on disposal/reclaim options, visit:

<http://www.nema.org/gov/ehs/committees/drybat/>.

8. PROTECTION INFORMATION

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

9. SPECIAL PRECAUTIONS

HANDLING AND STORAGE: Store in a dry place. Storing unpackaged cells together could result in cell shorting and heat build-up.

TRANSPORTATION-SHIPPING: These are "batteries, dry" and are not considered to be a "hazardous material" per the Dept. of Transportation (USDOT) regulations or "dangerous goods" per the International Air Transport Association (IATA) regulations. Shipments must comply with the general duty clause of USDOT 49 CFR 172.102 (a) (1) special provision 130, "to prevent shorting potential while transporting."

10. 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 processing or use.

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