

MATERIAL SAFETY DATA SHEET

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>.

1. IDENTIFICATION

PRODUCT NAME: LITHIUM MANGANESE DIOXIDE BATTERIES

SIZES: ALL

EMERGENCY TELEPHONE NUMBER: 608-275-4735 or 800-255-3924 (24 hr)

EDITION DATE: 08/01/2000

APPROVED BY: Timothy J. Anderson

2. INGREDIENTS

INGREDIENT NAME	CAS #	%	*TLV & SOURCE (UNITS)
Stainless Steel	--	40-50	--
Manganese Dioxide	1313-13-9	30-40	0.2mg/M3
Dimethoxyether	110-71-4	4-8	No TLV established
Graphite	7782-42-5	1 - 3	2 mg/M ³
Teflon		1-2	No TLV established
Lithium Trifluoromethane Sulfonate		< 1.5	No TLV established
Lithium	7439-93-2	1 - 4	No TLV established
Propylene Carbonate	108-32-7	2 - 6	No TLV established

*ACGIH Threshold Limit Values for Chemical Substances and Physical Agents, 1999.

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

4. FIRE & EXPLOSION HAZARD DATA

<u>FLASH POINT:</u>	NA	<u>LOWER (LEL):</u>	NA
<u>FLAMMABLE LIMITS IN AIR (%):</u>	NA	<u>UPPER (UEL):</u>	NA
<u>EXTINGUISHING MEDIA:</u>	Use water, foam or dry powder, as appropriate.		
<u>AUTO-IGNITION:</u>	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 with copious quantities of water. Get immediate medical attention for eyes. Wash skin with soap and water.

Swallowing:

Ingestion of a battery can be harmful. Call The National Battery Ingestion Hotline (202-625-3333) - COLLECT, day or night - for advice and follow-up.

6. REACTIVITY DATA

<u>STABLE OR UNSTABLE:</u>	Stable
<u>INCOMPATIBILITY (MATERIALS TO AVOID):</u>	NA
<u>HAZARDOUS DECOMPOSITION PRODUCTS:</u>	NA
<u>DECOMPOSITION TEMPERATURE (0°F):</u>	NA
<u>HAZARDOUS POLYMERIZATION:</u>	Will Not Occur
<u>CONDITIONS TO AVOID:</u>	Avoid electrical shorting.

7. SPILL OR LEAK PROCEDURES

PROCEDURES TO CONTAIN AND CLEAN UP LEAKS OR SPILLS: In the event of a battery rupture, 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: When completely discharged this type of lithium cell is Non-Hazardous per USEPA Criteria. Dispose of according to appropriate Local, State and Federal waste regulations. Batteries with unreacted Lithium Metal remaining in them are considered Reactive Hazardous waste under 40 CFR 261. Methods for eliminating or treating this characteristic are discussed in Rayovac's "*Lithium Batteries Product Guide*" available by calling (608) 275-4735 or contacting the web site <http://www.rayovac.com>. Look for the Lithium Product guide under "OEM Industrial"/"OEM Engineering." For additional information on disposal or recycling options, visit our website at <http://www.rayovac.com>.

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 U.S. DOT (Dept. of Transportation) regulations or "dangerous goods" per IATA (International Air Transport Association) regulations.

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.