



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 requirements, 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: Lithium Ion Batteries

SIZES: All

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

Environmental Health & Safety Information: 608-275-2482

EDITION DATE: 07/19/2010

APPROVED BY: Kevin J. Domack

2. INGREDIENTS

INGREDIENT NAME	CAS #	%	TLV*
Steel	7439-89-6	15-30	Not Listed
Lithium Cobalt Nickel Dioxide	12031-55-1 12031-65-1	<25	0.1 mg/m ³ (Co) 1.0 mg/m ³ (Ni, Soluble Compounds)
Lithiated Manganese Dioxide	12057-17-9	<25	5.0 mg/m ³ (Mn)
Graphite	7782-42-5	3 - 5	15 mppcf
Copper	7440-50-8	5-15	0.1 mg/m ³ (Fume,
Aluminum	7429-90-5	2-8	15 mg/m ³ (Total Dust)
Nickel	7440-02-0	2-5	1.0 mg/m ³ (Elemental)
Lithium Hexafluorophosphate	21324-40-3	1-5	Not Listed
Ethylene Carbonate	96-49-1	<15	None Established
Methyl Ethyl Carbonate	623-53-0	<15	None Established
Dimethyl Carbonate	616-38-6	<15	None Established
Diethyl Carbonate	105-58-8	<15	None Established
Methyl Acetate	79-20-9	<15	200 ppm
Plastic, Ceramic, Other	--	<20	--

*Source: OSHA CFR 29 1910.1000 Table Z-1, 2 or 3 3-01-2010

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 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.

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

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, 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: Manage in accordance with Federal, State and local requirements. Contact your battery distributor for details regarding recycling options or visit: <http://www.rbr.org>. For additional information on disposal 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. Keep battery terminals insulated when in storage or transportation.

TRANSPORTATION-SHIPPING: Lithium Ion rechargeable batteries are regulated during shipment by the Dept. of Transportation (USDOT) and United Nation's (International) requirements.

For USDOT regulations-see 49 CFR 173.185 and special provision 188,

For IATA requirements-see packaging instruction 968 for battery shipments or 969 for batteries packaged with equipment or 970 for batteries packaged in equipment.

For IMO requirements- see special provisions 188 and 230

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

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.