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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.
2. THESE BATTERIES MAY NOT BE SUITABLE FOR LANDFILL DISPOSAL (SEE SECTION 7).

1. IDENTIFICATION

PRODUCT NAME: **Lithium Iron Disulfide Batteries** (FR)

SIZES: AAA, AA and D (GP Type)

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

Environmental Health & Safety Information: 1-800-237-7000

EDITION DATE: 09-16-2011 APPROVED BY: Kevin J. Domack

2. INGREDIENTS

INGREDIENT NAME	CAS #	%	TLV/TWA
Iron Disulfide	12068-85-8	30-40	None established
Steel as metal	--	35-45	None established
Carbon Black	1333-86-4	1-3	3.5 mg/m3 TWA
Graphite	7782-42-5	1-3	2.0 mg/m3 (TWA respirable)
Lithium Bis(trifluoromethane)Sulfonamide	90076-65-6	<1	None Established
Lithium Iodide	10377-51-2	0.5 - 2	None established
Dimethoxyethane (1,2)	110-71-4	2 - 4	None Established
Lithium	7439-93-2	1 - 3	None Established
1,3 Dioxolane	646-06-0	5-9	20 ppm TWA**

**Source: OSHA 29 CFR 1910.1000 Table Z-1, 2 or 3 7-08-2010 **ACGIH*

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:	cylindrical solid product – AA, AAA and D sizes

4. FIRE & EXPLOSION HAZARD DATA

FLASH POINT:	NA	LOWER (LEL):	NA
FLAMMABLE LIMITS IN AIR (%):	NA	UPPER (UEL):	NA

EXTINGUISHING MEDIA: Use foam, dry powder, Lithex (or water*) 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). Water will cool the fire but may react with available lithium in the batteries producing hydrogen. Use fire fighting materials and techniques appropriate to the specific fire situation.

*__Do not use water on these batteries if fire fighting within an enclosed area__. Evolving hydrogen may build up and autoignite.

SPECIAL FIRE OR EXPLOSION HAZARDS: DO NOT RECHARGE. As a typical sealed battery they may rupture when exposed to excessive heat. Rupture may expose lithium that will react or release flammable or corrosive materials. Batteries in fire may produce sulfur dioxide gas or lithium hydroxide fumes.

5. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV) AND SOURCE: NA

EFFECTS OF OVEREXPOSURE: None in normal use

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 when eyes may have been exposed to contents.

Swallowing:

LITHIUM COIN CELL SAFETY NOTICE: Keep small lithium batteries out of the reach of small children; coin cell batteries can be accidentally ingested. If ingested, these batteries may leak harmful contents causing chemical burns, perforation of soft tissue, and in severe cases may cause death. Lithium coin batteries must be removed immediately if swallowed. Seek medical attention immediately. 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

6. REACTIVITY DATA

STABLE OR UNSTABLE:	Stable	INCOMPATIBILITY (MATERIALS TO AVOID):	NA
HAZARDOUS DECOMPOSITION PRODUCTS:	NA	DECOMPOSITION TEMP.(0°F):	NA

HAZARDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: Avoid electrical shorting or rupturing the battery.

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: Always comply with Federal, state or local requirements. Hazardous waste generators should check with the USEPA or their state authorized agency for guidance. For a list of facilities that may recycle or treat quantities of waste lithium batteries 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 with other combustible materials could result in cell shorting and fire. Do not recharge. Do not puncture or abuse.

TRANSPORTATION-SHIPPING: These are lithium metal batteries and cells, also known as primary or non-rechargeable lithium. These batteries, unless exempted, are regulated as Class 9, UN3090. Our batteries meet the requirements listed in the provisions and when in our original packaging meet the packing instructions noted below and may be classified as non-dangerous goods for transportation.
USDOT – See Special provision 188.
IMDG/Ocean – See Special provision 188.
ICAO/Air – See packing instruction 968. (Note for lithium metal batteries packed with equipment use packing instruction 969 instead and for lithium metal batteries packed in equipment use packing instruction 970.).

For more information, visit: www.rayovac.com/technical/index.htm

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 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. Rayovac Corporation makes no warranty expressed or implied.