

# MATERIAL SAFETY DATA SHEET

## 1. IDENTIFICATION

**PRODUCT NAME:** Li-ion Rechargeable Battery

**SIZE:** All

**EDITION DATE:** January 31, 2009

## 2. INGREDIENTS

INGREDIENT NAME	Quantity (%)	Density
Lithium Cobalt oxide (LiCoO <sub>2</sub> )	<35	2g/cm <sup>3</sup>
Graphite	25~30	2 g/cm <sup>3</sup>
Copper	2~10	8.92 mg/m <sup>3</sup>
Aluminum	2~5	2.70mg/m <sup>3</sup>
EC , DMC , EMC and Lithium Hexafluorophosphate and so on	1-5	2.5 mg/m <sup>3</sup>
High polymers thing (SBR, CMC, PVDF)	<20	--

3. \*Source: Materials Department.

## 4. PHYSICAL DATA

Boiling Point@760mmHg(°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(Buty Acetate=1)	NA
Physical State:	NA
Solubility in Water(%by Weight):	NA
pH:	NA
Appearance and Odor	Geometric solid object

## 5. FIRE & EXPLOSION HAZARD DATE

**FLASH POINT:** NA **LOWER(LEL):** NA

**FLAMMABLE LIMITS IN AIB(%):** NA **UPPER(UEL):** NA

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

AUTO-IGNITION: NA

SPECIAL FIRE FIGHTING PROCEDURES: As with ant fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products (See section2).

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.

6. HEALTH HAZARD DATE

THRESHOLD LIMIT VALUE (TLV) AND SOURCE:NA

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

EMERGENCY FIRST AID PROCDURES:

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/index\\_nema.cfm/666](http://www.nema.org/index_nema.cfm/666)

7. REACTIVITY DA

STABLE OR UNSTABLE: Stable

INCOMPATIBILITY (MATERIALS TO AVOID): NA

HAZARDOUS DECOMPOSITION PRODUCTS: NA

DECOMPOSITION TEMPERATURE (0<sup>0</sup>F): NA

HAZARDOUS POL YMERIZATION: Will Not Occur

CONDITIONS TO AVOID: Avoid electrical shorting.

8. SPILL OR LEAK PROCEDURES

**PROCEDURES TO CONTAIN AND CLEAN 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:** Waste Lithium Ion Batteries are NOT considered a USEPA Hazardous Waste (at this time). Their collection and recycling are not required under US Federal Law. Contact your battery distributor for details regarding recycling options or visit:<http://www.rbrc.org>. For additional information on disposal or recycling options, visit: [http://www.rayovac.com/about/environmental/e\\_faq.shtml](http://www.rayovac.com/about/environmental/e_faq.shtml).

For more information, visit:[http://www.nema.org/index\\_nema.cfm/666](http://www.nema.org/index_nema.cfm/666).

9. PROTECTION INFORMATION

**RESPIRATORY PROTECTION (SPECIFY TYPE):** NA

<b>VENTILATION:</b>	Local Exhaust:	NA
	Mechanical (General):	NA
	Special:	NA
	Other:	NA

**PROTECTIVE GLOVES:** NA

**EYE PROTECTION:** NA

**OTHER PROTECTIVE CLOTHING:** NA

10. 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 (International) requirements. Batteries tested and found in compliance with UN Chapter 38.3 requirements can be shipped without designation as “Class9” hazardous material if all other marking, labeling, packing, and unit volumes are met. For International Air Transport Association (IATA) 45th Edition, Dangerous Goods

transportation, or 49CFR Transportation regulations for further details to your shipping situation. For specific details, please visit: [http://www.rayovac.com/about/environmental/e\\_faq6.shtml](http://www.rayovac.com/about/environmental/e_faq6.shtml).

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#### 11. SARA313

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.

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