MATERIAL SAFETY DATA SHEET

MSDS001

Ultralife Batteries, Inc.
2000 Technology Parkway
Newark, NY 14513-2175
CAGE Code: 0UU59

Emergency Telephone Number:
Chemtrec for Spills, Leaks, Fires
USA 1-800-424-9300
International 703-527-3887

SECTION I — PRODUCT IDENTIFICATION

Product Name:	Ultralife Lithium Power Cell
Size:	U9VL/U3VL (Electro)
National Stock Number:	U9VL: 6135-01-369-9792 U3VL: Not assigned
Chemistry System:	Manganese Dioxide/Lithium Metal

SECTION II — PRECAUTIONARY LABELING

Caution: May leak and/or flame if opened, recharged, connected improperly, or disposed of in fire.

SECTION III — HAZARDOUS COMPONENTS

Chemical Name	CAS #	Exposure Limits	Percent of Content
Manganese Dioxide, MnO_2	1313-13-9	None Listed	35.3 – 38.5
Lithium Metal, Li	7439-93-2	None Listed	2.7 – 3.7
Propylene Carbonate, $C_4H_6O_3$	108-32-7	None Listed	8.6 – 10.7
1,3-Dioxolane, $C_3H_6O_2$	646-06-0	None Listed	5.4 – 7.5
Lithium Hexafluoroarsenate, $LiAsF_6$	29935-35-1	As: .01 mg/m³	2.1 – 3.2

Important Note: The materials in this section may only represent a hazard if the integrity of the battery is compromised or if the battery is physically or electrically abused.

SECTION IV — PHYSICAL AND CHEMICAL PROPERTIES

N/A

A3044 9001

SECTION V — FIRE AND EXPLOSION DATA

A. **Extinguishing Media**

- Copious amounts of cold water is an effective extinguishing medium for lithium batteries. Do not use warm or hot water.
- Lith-X (Class D extinguishing media) is effective on fires involving only a few cells.
- Do not use CO_2 or Halon type extinguishing material.

B. **Fire Fighting Procedures**

- Use a positive pressure self-contained breathing apparatus if batteries are involved in a fire.
- Full protective clothing is necessary.
- During water application, caution is advised as burning pieces of lithium may be ejected from the fire.

C. **Unusual Fire and Explosion Hazards**

- Batteries may flame or leak potentially hazardous organic vapors if exposed to excessive heat or fire.
- Fire or excessive heat may produce hazardous decomposition products.
- Damaged or opened batteries can result in rapid heating and the release of flammable vapors. Vapors are heavier than air and may travel along the ground or be moved by ventilation to an ignition source and flash back.

SECTION VI — STORAGE PRECAUTIONS

- Do not store batteries in a manner that allows terminals to short circuit.
- Store batteries in a cool (below 70°F), dry area that is subject to little temperature change.
- Do not place near heating equipment, nor expose to direct sunlight for long periods. Elevated temperatures can result in reduced battery service life.