

MATERIAL SAFETY DATA SHEET

MSDS041

**Ultralife Batteries, Inc.
2000 Technology Parkway
Newark, NY 14513-2175**

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

SECTION I

PRODUCT IDENTIFICATION

Product Name: Ultralife Li-Ion UBBL02 / UBI-2590 Battery
Size: UBBL02 / UBI-2590 Battery - Lithium Ion Battery Pack, 15.2v nominal voltage, with 6.0 Ahr of capacity at nominal voltage
Chemistry System: Lithium Cobalt Oxide

SECTION II

PRECAUTIONARY LABELING

Caution: Do not open or disassemble.

Do not expose to fire or open flame. Do not short circuit. Do not mix with batteries of varying sizes, chemistries or types. Do not puncture, deform, incinerate or heat above 85° C.

SECTION III

HAZARDOUS COMPONENTS

IMPORTANT NOTE: Do not expose contents to water.

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 III**HAZARDOUS COMPONENTS (*cont'd*)**

	<u>Approximate percent of total weight</u>	<u>ACGIH TLV</u>	<u>CAS #</u>
Lithium Cobalt Oxide	25 – 35%	0.02 mg/m ³ as Co	12190-79-3
Carbon, various forms	10-30%	3.5 mg/m ³	7440-44-0
Polymer	0.1 – 1 %	--	
Copper	0.1-1%	1.0 mg/m ³ (dust)	7440-50-8
Aluminum	0.1-1%	10.0 mg/m ³ (dust)	7429-90-5
Biphenyl	0.1 – 0.3	1.3 mg/m ³ TWA 0.2 ppm TWA	92-52-4
Organic Carbonates	5-20%	--	
Lithium Salts	1- 6%	--	
Steel, nickel and inert components	Balance	--	

ACGIH: American Council of Governmental Industrial Hygienists

TLV: Threshold Limit Value are personal exposure limits determined by ACGIH.

SECTION IV**PHYSICAL AND CHEMICAL PROPERTIES**

A. N/A

SECTION V**FIRE AND EXPLOSION DATA**

A. Extinguishing Media

- Dry chemical type extinguishers or water are the most effective means to extinguish a cell or battery fire.

B. Fire Fighting Procedures

- Use a positive pressure self-contained breathing apparatus if cells or batteries are involved in a fire.
- Full protective clothing is necessary.

SECTION V**FIRE AND EXPLOSION DATA (cont'd)**

C. Unusual Fire and Explosion Hazards

- Cells or Batteries may flame or leak potentially hazardous organic vapors if exposed to excessive heat, fire or over voltage conditions. Fire, excessive heat or over voltage conditions may produce hazardous decomposition products. Damaged or opened cells or batteries can result in rapid heating and the release of flammable vapors.
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SECTION VI**STORAGE PRECAUTIONS**

- Do not store batteries in a manner that allows terminals to short circuit.
 - Store batteries below 140°F (60°C), in a 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.
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SECTION VII**HANDLING/USE PRECAUTIONS**

A. Battery Charging

- Cells and batteries are designed to be recharged. However, improperly charging a cell or battery may cause the cell or battery to flame. Use only approved chargers and procedures.

B. Battery Disassembly

- Never disassemble a battery.
- Should a battery unintentionally be crushed, thus releasing its contents, rubber gloves must be used to handle all battery components. Avoid inhalation of any vapors that may be emitted.

C. Battery Short Circuit

- A battery is a source of energy. A short circuit can result in over heating of the terminals and provide an ignition source.
- More than a momentary short circuit will generally reduce the cell or battery service life and can lead to ignition of surrounding materials or materials within the cell or battery if the seal integrity is compromised.

SECTION VII**HANDLING/USE PRECAUTIONS (cont'd)**

- Extended short-circuiting creates high temperatures in the cell and at the terminals. Physical contact to high temperatures can cause skin burns. In addition, extended short-circuiting can cause the cell to flame.
- Avoid reversing cell polarity within a battery assembly. To do so may cause the cell or battery to flame or to emit gases.

D. Mixed Batteries and Types

- The use of old and new cells or cells of varying sizes; chemistries or types in the same battery assembly should be avoided. The cells' electrical characteristics and capabilities vary and damage may result to batteries or electrical equipment in which cells of different types, size or condition are combined in an electrical circuit.
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SECTION VIII**FIRST AID INFORMATION**

If materials from a ruptured or otherwise damaged cell or battery contact skin, flush immediately with water and wash affected area with soap and water. For eye contact, flush with copious amounts of water for 15 minutes and see physician at once. Avoid inhaling any vented gases. If irritation persists, seek medical assistance.

SECTION IX**DISPOSAL PROCEDURES**

Ultralife rechargeable lithium ion cells and batteries contain no toxic metals, only naturally occurring trace elements. Lithium Cells and batteries are exempted from hazardous waste disposal standards under the Universal Waste Regulations, therefore, it is advisable to consult with local, state or federal authorities as disposal regulations may vary dependent on location.

SECTION X**TRANSPORTATION**

This battery has been tested to Section 38.3 of 'UN Manual of Tests and Criteria' and has passed. The individual cells were tested and passed T1 through T8. Due to the amount of Lithium contained in the Ultralife Lithium Ion Battery it must be shipped as follows: Lithium Batteries, Class 9, UN3090, PGII.

SECTION XI**OTHER INFORMATION**

The information contained herein is furnished without warranty of any kind. Users should consider this data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.