defibtech
Life-Saving Technology Within Reach

Technical Note

Summary

This Technical Note provides the safety data sheet for the following batteries:

Defibtech Product / Description		*Defibtech P/N*	*Manufacturer P/N*
DBP-1400	Non-Rechargeable Battery Pack (5 year)	B-000003	Duracell DL123A
DBP-2800	Non-Rechargeable Battery Pack (7 year)	B-000003	Duracell DL123A

These batteries are used in Defibtech DDU-100 Series AEDs, along with a DAC-410 9V Battery. These combinations are available as kits:

Defibtech Product / Description		*Defibtech P/N*	*Manufacturer P/N*
DCF-200	DBP-1400 plus DAC-410 9Volt Battery	B-000003	Duracell DL123A
		DAC-410	Ultralife U9VL-JP10
DCF-210	DBP-2800 plus DAC-410 9Volt Battery	B-000003	Duracell DL123A
		DAC-410	Ultralife U9VL-JP10

DURACELL

Article Information Sheet (AIS)

This Article Information Sheet (AIS) provides relevant battery information to retailers, consumers, OEMs and others users requesting a GHS-compliant SDS. Articles, such as batteries, are exempt from GHS SDS classification criteria. The GHS criteria is not designed or intended to be used to classify the physical, health and environmental hazards of an article. Branded consumer batteries are defined as electro-technical devices. The design, safety, manufacture, and qualification of branded consumer batteries follow ANSI and IEC battery standards. This document is based on principles set forth in the following hazard communication approaches: ANSI Z-400.1, GHS, JAMP AIS, and IEC 62474.

1. Document Information	
Document Name	**Duracell Lithium HPL Cells and Batteries (primary lithium metal cells and batteries)**
Document ID	AIS-Li HPL
Issue Date	8-Dec-15
Version	2a
Preparer	Global Product Stewardship
Last Revision	1/22/2016
Information Contact	benoit.sa@duracell.com
2. Company Information	
Name & Address	Duracell Global Business Unit, 14 Research Drive, Bethel, CT USA 06801
Telephone	(203) 796-4000
Website	www.duracell. com
Consumer Relations	North America: 1-800-551-2355 (9:00 AM - 5:00 PM EST)
3. Article Information	
Description	Duracell branded consumer lithium battery
Product Category	Electro-technical device
Use	Portable power source for electronic devices
Global sub-brands (Retail)	Duracell, Ultra
Global sub-brands (B2B)	Bulk
Sizes	DLCR-2, DLCR-V3, DL1/3N, DL123(DL123A; DL2/3A), DL223 (DL223A), DL245, DL1604, PL123, PX28L
IEC Designation (IEC-60086-2; Annex D)	CR-P2, 2CR5, CR15H270, CR11108, 2CR13252, CR17345
Principles of Operation	A battery powers a device by converting stored chemical energy into electrical energy.
Representative Product Images	
4. Article Construction	
Applicable Battery Industry Standards	ANSI C18.3M Part 1, ANSI C18.3M Part 2, ANSI C18.4, IEC 60086,1, IEC 60086-2, IEC 60086-4
Electro-technical System	Lithium Manganese Dioxide
Electrode - Negative	Lithium Alloy (CAS # 7439-93-2)
Electrode - Positive	Manganese Dioxide (CAS # 1313-13-9)
Electrolyte	Propylene Carbonate Solvent (CAS # 108-32-7)
Electrolyte	1,2-Dimethoxyethane Solvent (CAS # 110-71-4)
Materials of Construction - Can	Steel (CAS # 110-71-4)
Declarable Substances (IEC 62474 Criteria 1)	1-2-Dimethoxyethane (CAS # 110-71-4)
Mercury Free Battery (ANSI C18.4M <5ppm)	Yes
Small Cell or Battery (ANSI C18.1M Part 2; IEC 60086-5)	Sizes 1/3N, 123, 28L, CR2 fit inside a specially designed test cylinder 2.25 inches (57.1 mm) long by 1.25 inches (31.70 mm) wide.
5. Health & Safety	

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Ingestion	Required for sizes 1/3N, 123, 28L, CR2: Keep away from children. If swallowed, consult a physician immediately.
Normal Conditions of Use	Exposure to contents inside the sealed battery will not occur unless the battery leaks, is exposed to high temperatures, or is mechanically abused.
Note to Physician	Cell Ingestion: Batteries lodged in the esophagus should be removed immediately since leakage, caustic burns and perforation can occur as soon as two hours after ingestion. Irritation to the internal/external mouth areas may occur following exposure to a leaking battery. Published reports recommend removal from the esophagus should be done endoscopically (under direct visualization). Batteries beyond the esophagus need not be retrieved unless there are signs of injury to the GI tract or a large diameter battery fails to pass the pylorus. If asymptomatic, follow-up x-rays are necessary only to confirm the passage of larger batteries. Confirmation by stool inspection is preferable under most circumstances. For information on treatment, call the NATIONAL BATTERY INGESTION HOTLINE @ (202) 625-3333 collect, day or night (USA calls only).
First Aid - If swallowed	DO NOT GIVE IPECAC. Do not induce vomiting. Seek medical attention immediately. USA: CALL NATIONAL BATTERY INGESTION HOTLINE @ (202) 625-3333 COLLECT, DAY OR NIGHT. If mouth area irritation or burning has occurred, rinse mouth and surrounding area with tepdi water for at least 15 minutes..
First Aid - Eye Contact	Flush with running water for at least 30 minutes. Seek medical attention immediately.
First Aid - Skin Contact	Remove contaminated clothing and flush skin with running water for at least 15 minutes. Seek medical attention if irritation persists.
First Aid - Inhalation	Contents of leaking battery may be irritating to respiratory passages. Move to fresh air. Seek medical attention if irritation persists.
Battery Safety Standards & Testing	Duracell lithium metal batteries meet the requirements of ANSI C18. 3M Part 2 and IEC 60086-4. These standards specify tests and requirements for lithium batteries to ensure safe operation under normal use and reasonably foreseeable misuse. The test regimes assess three conditions of safety. These are: **1-Intended use simulation:** Partial use, vibration, thermal shock, and mechanical shock **2-Reasonably foreseeable misuse:** Incorrect installation, external short-circuit, free fall (user-drop), over-discharge, and crush **3-Design consideration:** Thermal abuse, mold stress
Precautionary Statements	CAUTION: Keep batteries away from children. If swallowed, consult a physician at once. For information on treatment, within North America call (202) 625-3333 collect. Ingestion may lead to serious injury or death. Cell can explode or leak if heated, disassembled, shorted, recharged, exposed to fire or high temperature or inserted incorrectly. Keep in original package until ready to use. Do not carry batteries loose in your pocket or purse.
6. Fire Hazard & Firefighting	
Fire Hazard	Batteries may rupture or leak if involved in a fire.
Extinguishing Media	Use any extinguishing media appropriate for the surrounding area. For incipient (beginning) fires, carbon dioxide extinguishers or copious amounts of water are effective in cooling burning lithium metal batteries. If fire progresses to where lithium metal is exposed (deep red flames), use a Class D extinguisher suitable for lithium metal.

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Fires Involving Large Quantities of Batteries	Large quantities of batteries involved in a fire will rupture and release irritating fumes from thermal degradation Use a Class "D" fire extinguisher or other smothering agent such as Lith-X, copper powder or dry sand. If using water, use enough to smother the fire. Using an insufficient amount of water will make the fire worse. Cooling exterior of batteries will help prevent rupturing. Burning batteries generate toxic and corrosive lithium hydroxide fumes. Firefighters should wear self-contained breathing apparatus. Detailed information on fighting a lithium metal battery fire can be found in US DOT Emergency Response Guide 138 (Substances–Water–Reactive).
7. Handling & Storage	
Handling Precautions	Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly. Batteries may rupture or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions.
Storage Precautions	Store batteries in a dry place at normal room temperature. Refrigeration does not make them last longer.
Spills of Large Quantities of Loose Batteries (unpackaged)	Notify spill personnel of large spills. Irritating and flammable vapors may be released from leaking or ruptured batteries. Spread batteries apart to stop shorting. Eliminate all ignition sources. Evacuate area and allow vapors to dissipate. Clean-up personnel should wear appropriate personal protective equipment to avoid eye and skin contact and inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in appropriate container for disposal. Remove any spilled liquid with absorbent material and contain for disposal.
8. Disposal Considerations (GHS Section 13)	
Collection & Proper Disposal	Dispose of used (or excess) batteries in compliance with federal, state/provincial and local regulations. Do not accumulate large quantities of used batteries for disposal as accumulations could cause batteries to short-circuit. Do not incinerate. In countries, such as Canada and the EU, where there are regulations for the collection and recycling of batteries, consumers should dispose of their used batteries into the collection network at municipal depots and retailers. They should not dispose of batteries with household trash.
USA EPA RCRA (40 CFR 261)	"Charged" lithium metal batteries meet the criteria (D003 - Reactivity) of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CRT 261.23. If recycled, lithium metal batteries are classified as Universal Waste.
USA DOT (49 CFR 173.184 (d))	d) Lithium cells or batteries shipped for disposal or recycling. A lithium cell or battery, including a lithium cell or battery contained in equipment, that is transported by motor vehicle to a permitted storage facility or disposal site, or for purposes of recycling, is excepted from the testing and record keeping requirements of paragraph (a) and the specification packaging requirements of paragraph (b)(3) of this section, when packed in a strong outer packaging conforming to the requirements of §§173.24 and 173.24a. A lithium cell or battery that meets the size, packaging, and hazard communication conditions in paragraph (c)(1)-(3) of this section is excepted from subparts C through H of part 172 of this subchapter.
California Universal Waste Rule (Cal. Code Regs. Title 22, Div. 4.5, Ch. 23)	California prohibits disposal of batteries as trash (including household trash).
9. Transport Information (GHS Section 14)	

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Regulatory Status	Duracell lithium metal batteries are produced and delivered in accordance with current IATA/ICAO regulations. Duracell lithium metal batteries can be by air shipped in accordance with ICAO or IATA. Persons who prepare or offer lithium batteries for transport are required by regulation to be trained to the extent of their responsibility. The information in this section is provided for informational purposes only. The transportation of lithium metal batteries is regulated by ICAO, IATA, IMO, ADR and US DOT.
Total Lithium Content (grams)	See below for each catalog number:

Catalog No.	Total Lithium Content (grams)	Type	Total Cell/Battery Weight (grams)	
DL 1/3N	0.06	Cell	3	
DL 123	0.55	Cell	17	
DL 223	1.1	Battery	38	
PX 28L	0.12	Battery	9.4	
CR-V3	1.4	Battery	39	
DL CR2	0.26	Cell	11	
DL 245	1.1	Battery	38.6	
DL 1604	0.9	Battery	34	

UN Identification Number/ Shipping Name	UN3090 Lithium metal batteries UN3091 Lithium metal batteries packed with or contained in equipment
UN 38.3 Transportation Tests	Duracell certifies that all of its lithium batteries meet the requirements of the UN Manual of Tests and Criteria, Part III subsection 38.3. If you assemble these batteries into larger battery packs, it is recommended that you perform the UN Tests to ensure the requirements are met prior to shipment.
Special Provisions Conformance	Special regulatory provisions require batteries to be packaged in a manner that prevents the generation of a dangerous quantity of heat and short circuits.
USA DOT Special Provision	49 CFR 173.185(c) SP A101 (packed within equipment by air)
USA DOT Exceptions for Lithium Cells or Batteries Shipped for Disposal or Recycling	40 CFR 173.185(d)
Air Transport (IATA/ICAO) Packing Instructions (57th edition/2016)	PI 968 – Lithium metal batteries (shipped alone) PI 969 – Lithium metal batteries packed with equipment PI 970 – Lithium metal batteries contained in equipment
Marine/Water Transport (IMDG) Special Provision	188
ADR/RID Special Provision	188
Passenger Air Travel	Air travelers should consult the US Department of Transportation (DOT) Safety Travel web site at http://safetravel.dot.gov for guidance regarding carry on of lithium batteries.
Emergency Transportation Hotline	**CHEMTREC 24-Hour Emergency Response Hotline Within the United States call +703-527-3887 Outside the United States, call +1 703-527-3887 (Collect)**
10. Regulatory Information (GHS Section 15)	
10a. Battery Requirements	
USA EPA Mercury Containing & Rechargeable Battery Management Act of 1996	During the manufacturing process, no mercury is added.
EU Battery Directive 2006/66/EC & amendment 2013/56/EU	Compliant with marking and substance restrictions for mercury (<0.0005%); cadmium (<0.0020%)l and lead (<0.0040%). EU retail and bulk packaging containing lithium metal batteries are marked with the special collection sysmbol in accordance with Article 21.
10b. General Requirements	

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USA CPSIA 2008 (PL. 11900314)	Exempt
USA CPSC FHSA (16 CFR 1500)	Consumer batteries are not listed as a hazardous product.
USA EPA TSCA Section 13 (40 CFR 707.20)	For customs clearance purpose, batteries are defined as an "Article".
USA EPA RCRA (40 CFR 261)	"Charged" lithium metal batteries meet the criteria (D003 - Reactivity) of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.23. If recycled, lithium metal batteries are classified as Universal Waste.
USA California Prop 65	No warning required per 3rd party assessment.
CANADA Products Containing Mercury Regulations SOR/20140254	Mercury free
EU REACH SVHC's (168 Substances/Candidate List Updated	Contains 1,2-dimethoxyethane (CAS# 110-71-4)
EU REACH SVHC Communication	SVHC Substance Name: 1,2-dimethoxyethane (EGDME) Use: Incorporated in a lithium battery as electrolyte solvent EINEC Number: 203-794-9 CAS Number: 110-71-4 Concentration: The battery contains EGDME –SVHC in a concentration ranging from 1.0 to 5.0% by weight. Because the battery is sealed, 100% of the EGDME-SVHC is contained in the battery. Safe Handling: Do not open the battery or disassemble it. Do not expose to fire or high temperatures (>60°C). At end of life, the battery should be taken back to the nearest collection point established by a National Collection Scheme used for batteries.
EU REACH Article 31	An SDS is not required for articles.
10c. Regulatory Definitions - Articles	
USA OSHA	29 CFR 1910.1200(b)(6)(v)
USA TSCA	40 CFR 704.3; 710.2(3)(c); and [19 CFR 12.1209a)]
EU REACH	Title 1 - Chapter 2 - Article 3(3)
GHS	Section 1.3.2.1
11. Other Information	
11a. Certification & 3rd Party Approvals	
UL Listing	Lithium Batteries - Component BBCV2.MH12538
11b. AIS Hazard Communication Approaches (consulted in developing this document):	
Globally Harmonized System (GHS)	GHS SDS requirements and classification criteria do not apply to articles or products (such as batteries) that have a fixed shape, which are not intended to release a chemical. The article exemption is found in Section 1.3.2.1.1 of the GHS and reads: ***The GHS applies to pure substances and their dilute solutions and to mixtures. "Articles" as defined by the Hazard Communication Standard (29 CFR 1900.1200) of the OSHA of the USA, or by similar definition, are outside the scope of the system."***
Joint Article Management Promotion Consortium JAMP	JAMP is a Japanese Industry Association who developed the concept of an Article Information Sheet as a supply chain tool to share and communicate chemical information in articles. The AIS authoring process is based on “declarable” substances to meet global regulatory requirements as well as substances to be reported by GADSL, JIG, etc.
IEC 62474 Ed. 1.0 B:2012 Material Declaration for Products of and for the Electro-technical Industry	An international standard that came into effect in March 2012 concerning declaration for electrical and electronic products. IEC 6274 replaces the defunct Joint Industry Guide – Material Declaration for Electro-technical Products (JIG-101-Ed 4.1 (May 21, 2012)

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IEC 62474 Database - Publically available online (http://std.iec.ch/iec62474). Maintained by TC11: Environmental Standardization for electrical and electronic products and systems.	The general principle for a substance to be included in the database as a declarable substance is: 1) existing national laws or regulations in an IEC member country that are relevant to Electro-technical products and that prohibit or restrict substances, or that have a labeling, communication, reporting or notification requirement, and 2) applying IEC 62474 criteria results in identification of declarable substance.
ANSI Z 400.1/Z19.1 (2010)	2.1 Scope: Applies to preparation of SDSs for hazardous chemicals used under occupational conditions. Does not address how the standard may be applied to articles. It presents basic information on how to develop and write a SDS. Additional information is provided to help comply with state and federal environmental and safety laws and regulations. Elements of the standard may be acceptable for International use.

DISCLAIMER: This AIS is intended to provide a brief summary of our knowledge and guidance regarding the use of this article. The information contained here has been compiled from sources considered by Duracell to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations. This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. Duracell assumes no responsibility for injury to the recipient or third persons or for any damage to any property resulting from misuse of the product.

ULTRALIFE®

MSDS00153

SAFETY DATA SHEET

SECTION I – PRODUCT AND COMPANY IDENTIFICATION			
Product Description Product Identification	9-Volt Lithium Manganese Dioxide Batteries (TFSi Style)		
Manufacturer Name/Address	Ultralife Corporation 2000 Technology Parkway Newark, NY 14513	24 Hour Emergency Contact	ChemTrec 800-424-9300 (US) 703-527-3887 (International)
Technical Contact	800-332-5000	Issue Date	02 FEB 10
Prepared By	Rick Marino	Revision Date:	11 MAR 15

Section II - HAZARD IDENTIFICATION	
Hazard Classification	This Ultralife battery product meets the definition of an article. Under the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), "Articles" as defined in the Hazard Communication Standard (29 CFR 1910.1200) of the Occupational Safety and Health Administration of the United States of America, or by similar definition, are outside the scope of the system. [Rev. 2 (2007) Part 1.3.2.1.1]
Hazard/Caution Statements	• Do not open or disassemble. • Do not expose to fire or open flame. • Do not mix with batteries of varying sizes, chemistries or types. • Do not puncture, deform, incinerate or heat above 60ºC (140ºF).
The materials contained in this product may only represent a hazard if the integrity of the cell or battery is compromised; physically or electrically abused.	

SECTION III - COMPOSITION - INGREDIENTS/IDENTITY INFORMATION

Under normal use conditions, cells and batteries do not emit hazardous or regulated substances.

Component	CAS Number	EINECS Number	% by Wt.
Manganese Dioxide, MnO_2	1313-13-9	215-202-6	50-60
Lithium Metal, Li	7439-93-2	231-102-5	2-6
Propylene Carbonate, $C_4H_6O_3$	108-32-7	203-572-1	1-5
Ethylene Carbonate, $C_3H_4O_3$	96-49-1	202-510-0	1-5
Ethyl Methyl Carbonate,$C_4H_8O_3$	623-53-0	NA	1-5
Bis (Trifluoromethane) Sulfonimide Lithium (LiTFSi)	90076-65-6	415-300-0	1-5
Non-hazardous components	NA	NA	25-35

Depending on product configuration, components used to assemble battery packs (e.g. housings, electronic components and wiring) may contain additional hazardous materials.

SECTION IV - FIRST AID MEASURES	
Inhalation	• Avoid inhaling any vented gases. • Remove to fresh air immediately. • If breathing is difficult, seek emergency medical attention.
Ingestion	Consult a physician or local poison control center immediately
Skin Contact	• Exposure to materials from a ruptured or otherwise damaged cell or battery may cause skin irritation. • Flush immediately with water and wash affected area with soap and water.
Eye Contact	• Exposure to materials from a ruptured or otherwise damaged cell or battery may cause eye irritation. • Flush immediately with copious amounts of water for at least 15 minutes; consult a physician immediately.

SECTION V - FIRE FIGHTING MEASURES	
Extinguishing Media	• Copious amounts of cold water or water-based foam may be used to cool burning cells or batteries. Do not use warm or hot water. • A carbon dioxide (CO_2) extinguisher is also effective. • For fires involving exposed, raw lithium metal (characterized by deep red flames), use only metal (Class D) fire extinguishers.
Special Fire Fighting Procedures	• Use a positive pressure self-contained breathing apparatus (SCBA) if cells or batteries are involved in a fire. • Full fire fighting protective clothing is necessary. • During water application, caution is advised as burning pieces of flammable particles may be ejected from the fire.
Unusual Fire and Explosion Hazard	Cells or batteries that are damaged, opened or exposed to excessive heat/fire may flame or leak potentially hazardous organic vapors.

SECTION VI - ACCIDENTAL RELEASE MEASURES

- In the event a cell or battery is crushed; releasing its contents, rubber gloves must be used to handle all battery components.
- Avoid inhalation of any vapors that may be emitted.
- Damaged batteries that are not hot or burning should be placed in a sealed plastic bag or container.

SECTION VII - HANDLING AND STORAGE	
Precautions for Safe Handling	• Batteries are not designed to be recharged. Charging a primary cell or battery may result in electrolyte leakage and/or cause the cell or battery to flame. • Never disassemble a battery or bypass any safety device. • More than a momentary short circuit will generally reduce the battery service life. Batteries with fuses will no longer be functional after being shorted. • Extended short-circuiting creates high temperatures in the cell. • High temperatures can cause burns in skin or cause the cell to flame. • Avoid reversing battery polarity within the battery assembly. To do so may cause cell to flame or to leak.
Conditions for Safe Storage and Incompatibility	• Batteries should be separated from other materials and stored in a non-combustible, well ventilated structure with sufficient clearance between walls and battery stacks. Do not place batteries near heating equipment, nor expose to direct sunlight for long periods. • Do not store batteries above 60ºC (140ºF) or below -40ºC (-40ºF). Store batteries in a cool (below 25ºC (77ºF)), dry area that is subject to little temperature change. Elevated temperatures can result in reduced battery service life. Battery exposure to temperatures in excess of 130ºC (266ºF) will result in the battery venting flammable liquid and gases. • Do not store batteries in a manner that allows terminals to short circuit.

SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION	
Engineering Controls and Work Practices	• Under conditions of normal use, batteries do not emit hazardous or regulated substances. • No engineering controls are required for handling batteries that have not been damaged.
Personal Protective Equipment	• Personal protective equipment for damaged batteries should include chemical resistant gloves and safety glasses. • In the event of a fire, SCBA should be worn along with thermally protective outer garments.

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Rectangular pack	UEL/LEL	Not Applicable
Odor	None	Vapor Pressure	Not Applicable
Odor Threshold	Not Applicable	Vapor Density	Not Applicable
pH	Not Applicable	Relative Density	Not Available
Melting Point	Not Available	Solubility	Not Applicable
Boiling Point	Not Available	Partition Coefficient	Not Applicable
Flash Point	Not Applicable	Auto-ignition Temperature	Not Available
Evaporation Rate	Not Applicable	Decomposition Temperature	Not Available
Flammability	Not Applicable	Viscosity	Not Applicable

SECTION X. STABILITY AND REACTIVITY

Stability	Stable	Hazardous Polymerization	Will Not Occur
Conditions to Avoid	It is not recommended that this product be stored above 60ºC (140ºF).		
Hazardous Decomposition	Carbon Monoxide (CO), Hydrogen Fluoride (HF) and other VOC's		

SECTION XI – TOXICOLOGICAL INFORMATION

- No toxicological impacts are expected under normal use conditions.
- The electrolytes contained in this cell or battery can irritate eyes with any contact.
- Prolonged contact of electrolytes with lung tissue, skin or mucous membranes may cause irritation.
- Detailed information regarding sensitization, carcinogenicity, mutagenicity or reproductive toxicity related to internal cell or battery components has not been included in this document.

Carcinogen References

National Toxicology Program (NTP): No

IARC Monographs: No

OSHA: No

SECTION XII – ECOLOGICAL INFORMATION

- No ecological impacts expected under normal use conditions.
- Detailed information regarding the ecological impact of internal cell or battery components has not been included in this document.

SECTION XIII. DISPOSAL CONSIDERATIONS

Do not dispose in fire. Battery disposal regulations vary on national, state/provincial and local bases.

Disposal must be conducted in accordance with the applicable regulations.

These batteries contain recyclable materials and recycling is encouraged over disposal.

SECTION XIV. TRANSPORTATION INFORMATION

Ultralife's lithium metal primary cells and batteries and lithium-ion cells and batteries are classified and regulated as Class 9 dangerous goods (also known as "hazardous materials" in the United States) by the International Civil Aviation Organization (ICAO), International Air Transport Association (IATA), International Maritime Organization (IMO) and many government agencies such as the U.S. Department of Transportation (DOT). These organizations and agencies publish regulations that contain detailed packaging, marking, labeling, documentation, and training requirements that must be followed when offering (shipping) Ultralife's cells and batteries for transportation. **However, small cells and batteries are not subject to certain provisions of the regulations (e.g. Class 9 labeling and UN specification packaging) if they meet specific requirements**. The regulations are based on the UN Recommendations on the Transport of Dangerous Goods Model Regulations and the UN Manual of Tests and Criteria. **These regulations also apply to shipments of cells and batteries that are packed with or contained in equipment.** Failure to comply with these regulations can result in substantial civil or criminal penalties.

The dangerous goods regulations require that each cell and battery design be subject to tests contained in Section 38.3 of the UN Manual of Tests and Criteria prior to being offered for transport.
Approved, production level cells and batteries manufactured and assembled by Ultralife have been tested to Section 38.3 of the UN Manual of Tests and Criteria and passed T1 through T8.
Batteries or battery packs constructed by other parties using Ultralife's cells must be subjected to the tests contained in Section 38.3 of the UN Manual of Tests and Criteria.

For more detailed information, refer to the Transportation Regulations Page on Ultralife's website:
http://ultralifecorporation.com

Air, Sea and Surface Classification	UN 3090, Lithium metal batteries UN 3091, Lithium metal batteries, contained in equipment UN 3091, Lithium metal batteries, packed with equipment

These cells and batteries must be identified as above on the Bill of Lading (or other shipping documentation) and properly packaged with their terminals protected from short circuit.

Air shipments of lithium metal cells and batteries must be packed and marked according to IATA/ICAO Packing Instruction 968 (batteries only); 969 (with equipment) or 970 (contained in equipment).

Sea shipments of lithium metal cells and batteries must be packed and marked according to IMDG Packing Instruction P903.

Hazard Class	9	Packing Group	II	Tunnel Code	E
Stowage Location	A	Marine Pollutant	No		

SECTION XV. REGULATORY INFORMATION		
US	Hazard Communication Standard (29 CFR 1910.1200)	Article
	CERCLA SECTION 304 Hazardous Substances	NA
	EPCRA SECTION 302 Extremely Hazardous Substance	NA
	EPCRA SECTION 313 Toxic Release Inventory	NA
	EPCRA SECTION 312	NA
	Components Listed on US Toxic Substances Control Act (TSCA) Inventory	Yes
	California Prop 65 Classification	None
EU	Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) 1907/2006	Article
	European RoHS2 Directive 2011/65/EU	Not Applicable
	European WEEE Directive 2012/19/EU Note: Applies to cells and batteries incorporated into electrical and electronic equipment, when that equipment becomes waste.	See Note

SECTION XVI. OTHER INFORMATION

If returning product to any division of Ultralife, consult the relevant regulations regarding handling, packaging, labeling and transportation.

Disclaimer

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.