ULTRA MAX®

MATERIAL SAFETY DATA SHEET

Date. Jan/16/2014
File No.: L91/L92UMX-MSDS-V1C14

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product	
Product name	Lithium Metal Cell
Chemical System:	Lithium and Iron Disulfide (Li-FeS2 cell)
Model:	L91UMX, 1.5V, 4.25Wh, L92UMX, 1.5V, 1.65Wh
Designated for 'DO NOT RECHARGE'?	X Yes __ No
Manufacturer/supplier identification	Ultra Max Batteries
Company	
Contact for information	Watkins House Pegamoid Rd. Montagu Industrial Estate, London N18 2NG
Emergency telephone No.	020 8803 8899

2. Composition/information on ingredients

Ingredient	Percent	CAS Index No./EC No.	Molar mass	Molecular formula	Symbol
Iron Disulfide	34.4%	1309-36-0		FeS2	
Lithium	6.2%	7439-93-2		Li	
Organic Solvent	14.8%	N/A			
Lithium Salt	1.6%	N/A			
Polypropylene	2.3%	N/A			
Steel	32.9%	7439-89-6		Fe	
Aluminum	7.8%	7429-90-5		Al	

Remark: The weight of metallic lithium per cell is <1.00g.

3. Hazards identification

Routes of Entry:
Inhalation - Yes
Skin - Yes
Ingestion – Yes

Health Hazards (Acute and Chronic):
These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. The most likely risk is an acute exposure when the gas release vent works. Organic solvent has slight toxicity and can irritate skin and eyes. Lithium salt is irritating to skin, eyes and mucous membranes and should be avoided.

Carcinogenicity:
NTP: None IARC Monograph: None OSHA Regulated: None

Medical Conditions Generally Aggravated by Exposure:
An acute exposure will not generally aggravate any medical condition.

4. First aid measures

After skin contact	In case of skin contact with contents of battery, flush immediately with water. If irritation persists, get medical help.
After eye contact	For eye contact, flush with copious amounts of water for 15 minutes. Do not inhale leaked material. If irritation persists, get medical help.

5. Fire-fighting measures

Extinguishing Media: CO_2 or dry chemicals
Flammable Limits: Not available

6. Accidental release measures

The preferred response is to leave the area and allow the batteries to cool and the vapors to dissipate. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

7. Handling and storage

Avoid mechanical or electrical abuse. Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

8. Exposure controls/personal protection

Specific control parameter
Personal protective equipment

Respiratory protection (Specify Type)	Not necessary under conditions of normal use.
Ventilation:	Not necessary under conditions of normal use.
Protective Gloves:	Not necessary under conditions of normal use.
Eye protection:	Not necessary under conditions of normal use.
Other Protective (Clothing or Equipment):	Not necessary under conditions of normal use.

9. Physical and chemical properties

Specific Gravity: (H20=1): FeS_2: 6.66
Melting Point: (ºC): FeS_2 decomposes at 1193 deg. C

FeS_2 is a brass-colored, odorless mineral powder.
Lithium is a soft, silvery metal.
Organic solvent is an odorless, colorless or light yellow liquid.
Lithium salt is a white, crystalline and odorless powder.

10. Stability and reactivity

Stability: Stable
Conditions to Avoid: Do not heat, disassemble or charge.
Hazardous Decomposition or By-products: N/A
Hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity
Organic solvent

Further toxicological information
Lithium

12. Ecological information

Ecotoxic effects N/A Further ecological data N/A

13. Disposal considerations

Ultra Max Batteries encourages battery recycling. Our Li-FeS2 batteries are recyclable through the Rechargeable Battery Recycling Corporation's (RBRC) Charge Up to Recycle! Program. For information call 1-800-8-BATTERY or see their website at www.rbrc.org. Li-FeS2 batteries must be handled in accordance with all applicable state and federal laws and regulations.

DO NOT RECHARGE, disassemble, short, or subject battery cells to temperatures in excess of 212 F. Do not use in combination with fresh and used lithium batteries neither with other type of battery.

14. Transport information

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for Ultra Max lithium batteries are compliant with these regulatory concerns.

Ultra Max lithium iron disulfide batteries are exempt from the classification as dangerous goods as they meet the requirements of the special provisions listed below. (Essentially, they accord with 55th DGR and are properly packaged and labeled. Ultra Max Lithium batteries contain less than 1 gram of lithium and pass the tests defined in UN model regulation section 38.3).

International transport regulations	Special Provisions
ADR	188, 230, 310, 636, 656
IMDG	188, 230, 310, 957
UN	UN 3090, UN 3091
US DOT	29, A54, A100, A101
IATA, ICAO	Packaging Instructions 968 - 970

15. Regulatory information

N/A

16. Other information

DISCLAIMER

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. Ultra Max Batteries makes no warranty, expressed or implied, with respect to this information and disclaims all liabilities from reliance on it.