MATERIAL SAFETY DATA SHEET

Date Jan 1st, 2018

1. Identification of the Product and Manufacturer Information

Identification of the product

Product name	Lithium Metal Battery
Chemical System:	Lithium and Manganese Dioxide (Li-MnO2 cells)
Model:	CR9.0V 1200mAh
Designated for DO NOT RECHARGE!	X Yes __ No

Company：	Expocell Group, Inc.
Contact for information：	2002 Locust Ct., Ontario CA 91761, USA
Telephone No.：	909-923-0872

2. Composition/information on ingredients

Ingredient	Percent	CAS Index No./EC No.	Molar mass	Molecular formula	Symbol
Manganese Dioxide	33%	1313-13-9		MnO2	
Lithium	2.4%	7439-93-2		Li	
Propylene carbonate	6.25%	108-32-7		PC	
Dimethyl ether	6.25%	115-10-6		DME	
Lithium Perchlorate	1.4%	7791-03-9		LiClO4	
Polypropylene	2.1%	9003-07-0		PP	
Steel	47.2%	7439-89-6		Fe	
Aluminum	1.4%	7429-90-5		Al	

Remark: The weight of metallic lithium per Battery is <1 g.

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): MnO2: 5.03
Melting Point: (#C): MnO2 decomposes at 535 deg. C

MnO2 is a black, odorless 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

Our Li batteries are recyclable through the Rechargeable Battery Recycling Corporation (RBRC)
For information call 1-800-8-BATTERY or see their website at www.rbrc.org.
Li-Mn 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

International transport regulations	1. International Air Transport Association (IATA) pursuant to Packing Instruction 968-970, Section II 2. International Maritime Dangerous Goods Code, IMDG 37-14 4. U.S. hazardous materials regulations pursuant to 49 CFR 173.185 and Special Provision A188.
UN-No.:	3090 and 3091
IATA Packaging Instruction	Packing Instruction 968-970 Section II

Li-MnO2 cells pass the tests defined in UN model regulation section 38.3. Cells and batteries are packed according to the requirement of 57th Edition of the IATA Dangerous Goods Regulations (DGR).

If these Li-MnO2 cells are used to construct battery packs, the assembler of that pack is responsible to ensure the battery has been tested in accordance with the requirements contained in the UN Model Regulations, Manual of Test and Criteria. Part III, subsection 38.3.

15. Regulatory information

N/A

16. Other information

DISCLAIMER:

The information contained in this Material Safety Data Sheet is based on data considered to be accurate. However, Expocell Group, Inc., makes no warranty, either express or implied, with respect to this information and disclaims all liability from reliance and reference on it