The information contained within is provided as a service to our customers and for their information only. The information and recommendations set forth herein are made in good faith and are believed to be accurate as of the date of preparation. BiPOWER makes no warranty expressed or implied, and disclaims all liabilities from reliance on it.

Section I – Identification

1.1 Product

Product Name and Description:

Lithium Manganese Dioxide (Li/MnO2), Non-rechargeable, Non-venting batteries.

1.2 Supplier

Address (Number, Street, City, State and Zip Code)

BiPOWER CORP.
2560 Corporate Place, Suite D203
Monterey Park, CA 91754
USA

Telephone Numbers For Information

Telephone: (323) 981-9498
Fax: (323) 981-9468
Emergency Telephone: (323) 981-9498
Date of Revision: 01-08-2009

Section II – Hazardous Ingredients

COMPENENTS	MATERIALS	FORMULA	CAS NUMBER
Positive Electrode	Manganese Dioxide	MnO2	1313-13-9
Negative Electrode	Lithium	Li	7439-93-2

Section III — Physical/Chemical Characteristics

Melting Point: N/A
Boiling Point: N/A
Volatile by Volume %: N/A
Vapor Pressure (mm Hg): N/A
Evaporation Rate: N/A
Vapor Density (Air=1): N/A
Specific Gravity (H2O=1): N/A
Solubility in Water: N/A
Appearance and Odor: N/A

Section IV - Fire and Explosion Hazard Data

Flash Point: N/A
Lower Explosive Limit: N/A
Upper Explosive Limit: N/A

Extinguishing Media:

Carbon dioxide, dry chemicals or foam distinguishers.

Special Fire Fighting Procedures:

Respiratory protection: In all fire situations, wear self-contained breathing apparatus and chemical apron.

Hand Protection: In the event of leakage, wear gloves.

Eye Protection: Safety glasses are recommended in fire fighting.

Section V - Health Hazard Data

Do not short circuit, recharge, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product. Risk of fire or explosion.

Under normal conditions of use, the electrode materials and liquid electrolyte they contain are not exposed to the outside, provided the battery integrity is maintained and seals remain intact. Risk of exposure only in case of abuse (mechanical, thermal, electrical) which leads to the activation of rupture of the battery containers. Electrolyte leakage, electrode materials reaction with moisture/water or battery vent/explosion/fire may follow, depending upon the circumstances.

Route(s) of Entry: N/A **Inhalation:** N/A **Skins:** N/A **Ingestion:** N/A

Health Hazards (Acute and Chronic): N/A

Carcinogenicity NTP: N/A **IARC Monographs:** N/A **OSHA Regulated:** N/A

Signs and Symptoms of Exposure: N/A

Medical Conditions Generally Aggravated by Exposure: N/A

Emergency and First Aid Procedures:

If electrolyte leakage occurs and makes contact with skin, eyes or inhaled:

Inhalation: Remove from exposure, rest and keep warm. In severe cases obtain medical attention.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before reuse. In severe cases obtain medical attention.

Eye contact: Irrigate thoroughly with water for at least 15 minutes. Obtain medical attention.

Ingestion: Wash out mouth thoroughly with water and give plenty of water to drink. Obtain medical attention.

Section VI - Reactivity Data

Stability: The batteries are stable under normal operating conditions.

Hazardous Polymerization: will not occur.

Hazardous decomposition products: N/A

Conditions to avoid: Heat, open flames.

Materials to avoid: Acids.

Section VII - Spill and Leak Procedures

The material contained within the battery would only be released under abusive conditions. In the event of battery rapture and leakage: contain the spill while wearing proper protective clothing and ventilate the area. Keep away from water, rain, and snow. Placed in approved container (after cooling if necessary) and disposed according to the local regulations.

Section VIII - Safe Handling and Use

Steps to be taken in Case Material is Released or Spilled:

Avoid contact if vent rupture, leakage or explosion has occurred.

Protect from heat, short circuit of terminals, and an accumulation of shorted batteries, which may cause dangerous elevated temperatures.

Waste Disposal Method:

Dispose of waste according to federal EPA, state and local regulations.

Precautions to be taken in Handling and Storing:

Do not short circuit, heat above the declared operating temperature range of the product, force chare or recharge, disassemble, incinerate or expose to water.

Accidental Release Procedures:

Remove personnel from area until fumes dissipate. Do not breathe vapors or touch spills with bare hands.

If the skin has come into contact with the electrolyte, it should be washed thoroughly with water.

Sand or earth should be used to absorb any exuded material. Seal leaking battery and contaminated absorbent material in plastic bag and dispose of as Special Waste in accordance with local regulations.

Section IX- Precautions for Safe Handling and Use

Storage:

Store preferably in cool (between 15ºC - 30ºC), dry and ventilated area.
Do not store in disorderly fashion, or allow metal objects to be mixed with stored batteries.

Handling:

Do not crush, pierce, short circuit batteries.
Do not directly heat or solder.
Do not throw into fire.
Never disassemble batteries.

Section X - Recycling and Disposal

Waste disposal must be in accordance with the applicable Federal, State and local regulations and laws.

Section XI - Transportation

The regulations that govern the transport of primary lithium (metal) and rechargeable lithium ion (including polymer) cells and batteries include the International Civil Aviation Organization (ICAO) Technical Instructions and corresponding International Air Transportation Association (IATA) Dangerous Goods

Regulations, and International Maritime Dangerous Goods (IMDG) Code. Most lithium batteries and cells of all types and equipment containing or packed with lithium batteries or cells of all types are regulated as Class 9 (Miscellaneous) hazardous material in the US in accordance with Part 49 of the Code of Federal Regulations (49-CFR 171-180) of the US Hazardous Materials Regulations (HMR). Sections 173.185 and the Special Provisions contained in 172.102 provide information on exceptions and packaging based on details of weight, tests and classifications. The Office of Hazardous Materials Safety, which is within the Department Of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (HMSA) is responsible for writing the regulations that govern the transportation of hazardous materials (also known as dangerous goods) by air, rail, highway and water and drafting the regulations that govern such materials. These regulations are based on UN Recommendation on the Transport Dangerous Goods Model Regulations and UN Manual of Tests and Criteria.

Small lithium cells and multi cell battery packs are Excepted from regulations. No Class 9 Label or markings and specification packaging are required.

Medium lithium single cells and multi cell battery packs are Excepted from regulations, when transported by motor vehicle or rail car. No Class 9 Label or markings and specification packaging are required.

Medium lithium single cells and multi cell battery packs are regulated as Class 9 Miscellaneous, when transported by air.

Large lithium single cells and multi cell battery packs are regulated as Class 9 Miscellaneous for transportation.

The HMR requires lithium batteries to be tested in accordance with a series of tests in Section 38.3 of the UN Test Manual.

Use Class 9 Miscellaneous and UN Identification labels for transportation of lithium cells/batteries which are regulated as Class 9.

Lithium cells/batteries which are regulated as Class 9 Miscellaneous:

Lithium metal batteries:	UN number 3090
Lithium metal batteries contained in equipment:	UN number 3091
Packing class:	ICAO 903 for air transport
IMDG:	9033 for sea transport
ADR Class:	Class 9 for road transport