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Section I – Identification

1.1 Product

Product Name and Description:

Rechargeable Lithium ion Cylindrical and Prismatic Cells.

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
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Date of Revision: 01-08-2009

Section II – Hazardous Ingredients

CHEMICAL NAME*	CAS NUMBER	%	OSHA (PEL)	ACGIH (TLV)
Lithium Metal (Li)	N/A	0%	N/A	N/A
Lithium Cobaltite (LiCoO ²)	12190-79-3	28%	0.02 mg/m ³	5 mg/m ³
Graphite and Carbon	7782-42-5	16%	3.5 mg/m ³	2.0 mg/m ³
Organic Solvent (EC, PC)	96-49-1	6.5%	N/A	N/A
Lithium Hexafluorophosphate (LiPF ₆)	21324-40-3	1.5%	N/A	N/A
Non-Hazardous Ingredients	N/A	56%	N/A	N/A

*Hazardous Components 1% or greater, Carcinogens 0.1% or greater.

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:

CO₂ or dry chemical extinguishers or copious quantities of water or water-based foam can be used to cool down burning Li-ion cells and batteries

Special Fire Fighting Procedures:

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

Hand Protection: Wear gloves when handling leaked or ruptured cells.

Eye Protection: Safety glasses recommended when handling leaked or ruptured cells.

Section V - Health Hazard Data

Rechargeable lithium ion cells/batteries described in this MSDS are sealed units and not hazardous products as long as their integrity is maintained and they are used in accordance with the instructions or recommendation from the manufacturer.

Do not short circuit, 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 electrolyte contained in the cells and batteries 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 rupture of the battery containers, and electrolyte leakage, electrode materials reaction with moisture/water or battery vent/explosion/fire may follow.

Incase of leakage or fire:

Route(s) of Entry: Eyes **Inhalation:** Yes **Skins:** Yes **Ingestion:** Yes

Health Hazards (Acute and Chronic):

In case of leakage or fire, the gas leakage or fumes may irritate eyes & skin, and upper respiratory systems. Continuous inhalation of fumes may cause lung damage.

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

Signs and Symptoms of Exposure: Not anticipated under normal use condition.

Medical Conditions Generally Aggravated by Exposure: N/A

Emergency and First Aid Procedures:

In Case of Leakage, evacuate areas and provide ventilation, wash exposed area with soda ash or sodium bicarbonate solution.

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.

Further treatment: All cases of eye contamination, persistent skin irritation and casualties who have swallowed this substance or been affected by breathing its vaporous should be seen by a Doctor.

Section VI - Reactivity Data

Stability: The batteries are stable under normal operating conditions.

Hazardous Polymerization: will not occur.

Hazardous decomposition products:

HF, CO, CO₂

Conditions to avoid: Heating or incineration, exposure to water, deformation, disassembly, short circuiting, crushing or piercing.

Materials to avoid: Oxidizing agents, acid or alkali solutions, water and conductive materials.

Section VII - Spill and Leak Procedures

The material contained within the battery would only be released under abusive conditions. In the event of battery rupture 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 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 discharge, disassemble, incinerate or expose to water.

Section IX- Precautions for Safe Handling and Use

Storage:

Store preferably in cool (below 30°C (90°F)), dry and ventilated area, which is subject to little temperature change. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods. Elevated temperatures can result in shortened battery life and degrade performance. Do not store batteries in high humidity environment for long periods.

Handling:

Do not crush, pierce, short (+) and (-) battery terminals with conductive (i.e. metal) goods. Do not directly heat or solder. Do not throw into fire. Do not mix batteries of different types and brands. Do not mix new and used batteries. Keep batteries in non conductive (i.e. plastic) trays.

Section X - Recycling and Disposal

1. Waste disposal must be in accordance with the applicable regulations and laws.
2. Disposal of the Lithium batteries should be performed by permitted, professional firms knowledgeable in Federal, State or Local requirements of hazardous waste treatment and hazardous waste transportation.
3. Recycling of battery can be done in authorized facility, through licensed waste carrier.

Section XI - Transportation

Hazardous Classifications:

Based on equivalent lithium content:

Some single lithium ion cells and multi cell battery packs are Excepted from Class 9 (Miscellaneous). No Class 9 markings, specification packaging, or Class 9 label are required.

Some lithium ion single cells and multi cell battery packs are assigned to Miscellaneous Class 9 for transportation.

Lithium ion cells/batteries which are assigned Class 9 Miscellaneous Dangerous Goods:

Lithium ion batteries:	UN number 3480
Lithium ion batteries contained in equipment:	UN number 3481
Packing class:	ICAO 903 for air transport
IMDG:	9033 for sea transport
ADR Class:	Class 9 for road transport

Use lithium ion battery labels for transportation of lithium ion batteries which are not assigned Class 9.

Use Class 9 Miscellaneous Dangerous Goods and UN Identification labels for transportation of lithium ion batteries which are assigned Class 9. Refer to transportation documents.

Lithium and lithium ion cells and batteries are regulated in the US in accordance with Part 49 of the Code of Federal Regulations, (49 CFR Sections 100-185) of the US Hazardous Materials Regulations (HMR).