

Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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Prepared by: Environmental & Safety Dept.

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Product Name: Rechargeable Lithium Ion Polymer Battery

Synonyms: Polymer cell

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	% by Mass	PEL-OSHA	CAS No.
Lithium Cobalt Oxide (LiCoO ₂)	1-12	0.05 mg/M ³ TWA (Cobalt dust & fume)	12190-79-3
Electrolyte	15-30	Not established	NA
MCMB ¹	10-15	3.5 mg/M ³ TWA	0133-86-4
PVDF ²	5-15	Not established	9011-17-0
Super P Black	1-5	3.5 mg/M ³ TWA	1333-86-4
Copper (Foil)	5-15	1 mg/M ³ TWA	7440-50-8
Aluminum (Foil & Bag)	10-20	5 mg/M ³ TWA	07429-90-5

¹MCMB: Meso Carbon Micro Bead

² PVDF: Hexafluoropropylene-Vinylidene Fluoride

3. HAZARDS IDENTIFICATION

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****CAUTION**** Avoid contact with internal components. Inhaling electrolyte vapors can be hazardous. Materials may react with water and emit small amounts of Hydrogen Fluoride gas. Avoiding short circuits, otherwise, battery will generate heat.

POTENTIAL HEALTH EFFECTS:

Route(s) of Entry: Inhalation, Ingestion, Eye Contact, Skin absorption.

Effects of Exposure to Internal Components: Direct contact with the internal components can cause irritation. It is very irritable to the skin, eyes, and mucous membranes. May cause burning or dryness of the skin. Dust may irritate eyes upon exposure and may result in abrasion injury to the cornea. Overexposure due to inhalation may cause pulmonary affectation. Ingestion of the material may cause vomiting, abdominal discomfort.

Carcinogenicity: An ingredient, Lithium Cobalt Oxide, is considered a Class 2B carcinogen by IARC.

Medical Conditions Aggravated by Exposure: Asthma, Respiratory disorders such as bronchitis and emphysema, skin allergies, and eczema.

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4. FIRST AID MEASURES

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Eye Contact: In case of contact with internal components, immediately flush with a plenty of clean water for 20-30 minutes. Hold apart eyelids. Seek immediate medical attention if irritation develops.

Skin Contact: In case of contact with internal components, immediately remove contaminated clothing. Wash skin thoroughly with large amounts of soap and water. Seek medical attention if irritation persists.

Inhalation: In case of contact with internal components, remove to fresh air immediately. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek medical attention if respiratory irritation develops.

Ingestion: In case of ingesting internal components, drink copious amounts of water (milk, if available). Flush mouth with water. Immediately seek medical attention.

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.



5. FIRE FIGHTING MEASURES

Flash Point: N/A

Auto-Ignition Temp: N/A

Flammable Limits: N/A

Extinguisher Media: Carbon dioxide, Water spray, Dry chemical powder or appropriate foam.

Special Fire Fighting Procedures: Water is effective under fire conditions but may create a hazardous atmosphere. Wear protective clothing and a positive pressure Self-Contained Breathing Apparatus (SCBA).

Unusual Fire and Explosion Hazards: May emit toxic fumes under fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Accidental Releases: Do not breathe cell vapors or touch internal material with bare hands (see section 4). Do not contact with water. Ventilate area. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

7. AHNDLING AND STORAGE

*****Caution***** Do not overcharge. Only charge according manufacturer's specifications. Do not expose internal components to wet environments. The contents may react with water to emit toxic vapors. Protect the cell from short circuits.

Precautions: Do not get on eyes or skin. Wash thoroughly after handling. Store batteries in a cool, dry and well-ventilated area, out of sunlight and away from heat and fire hazards.

Storage: Store cells in a cool dry place away from heat or flame. Storage areas shall be determined by surrounding material. Keep away from incompatible material.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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UPON EXPOSURE TO INTERNAL COMPONENTS

Protective Gloves: Nitrile gloves

Eye Protection: Chemical Worker Safety Glasses

Other Protective Clothing & Equipment: Protective clothing necessary to avoid skin contact with material. Maintain eye wash fountain and quick-drench facilities in work area.

Ventilation System: Normal local ventilation

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9. PHYSICAL AND CHEMICAL CHARACTERISTICS

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Boiling Point: Not Available

Melting Point: Not Available

Vapor Pressure: Not Available

Vapor Density: Not Available

Solubility in Water: Not Available

Specific Gravity: Not Available

Evaporation Rate: Not Available

Water Reactive: Cells are not water reactive, however, the internal components may react to emit small amounts of toxic gas.

Appearance: Cells and batteries are packaged in gray vapor barrier bags. Scaled cells contain no odors

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10. STABILITY AND REACTIVITY

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Stability: Stable

Conditions to Avoid: Short circuits, fire, over charge, over discharge

Incompatibility: Incompatible with water, moisture, strong oxidizing agents, reducing agents, acids, and bases

Hazardous Decomposition Products: Carbon Dioxide_(g), Hydrogen Fluoride_(g).

Hazardous Polymerization: Will not occur

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11. TOXICOLOGICAL INFORMATION

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Acute Toxicity: Based on exposure to internal components

LC₅₀ (Inhalation): Not available

LD₅₀: Not available

Eye Effects: Irritation

Skin Effects: Irritation

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12. ECOLOGICAL INFORMAITON

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No ecological information available

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13. DISPOSAL CONSIDERATIONS

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Dispose of Batteries according to local, state, and federal regulations.

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14. TRANSPORT INFORMATION

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US DOT (per CFR 172.101)

Proper Shipping Name: Not available

UN No.: Not available

Hazard Classification: Not available

Hazard Placards: Not available

Packing Group: Not available

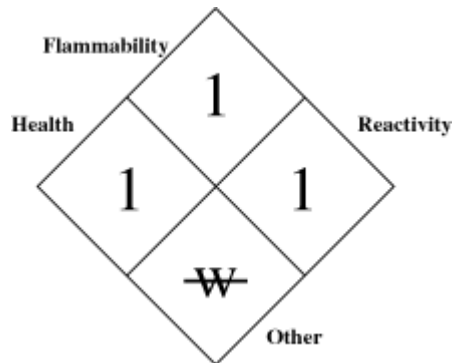
Labels Required: Not available

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15. REGULATORY INFORMATION

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No regulatory information available

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16. OTHER INFORMATION

NFPA RATING; INTERNAL COMPONENTS



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