

# MATERIAL SAFETY DATA SHEET

Rechargeable Lithium Ion Battery  
ENERTECH INTERNATIONAL, INC

## Section 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT IDENTIFICATION

Model **SPB 333450** Rechargeable Lithium-Ion Battery

Item	Value	Remark
Nominal Voltage	3.7 V	
Nominal Capacity	480mAh	
Wh-Capacity	1.776Wh	

### MANUFACTURER

ENERTECH INTERNATIONAL, INC.  
710-3, Yong tan-dong, Chung ju-city, Chung buk, Korea, 380-250  
Telephone No.: 82-043-850-1956 Fax No. : 82-043-855-9175  
Homepage : [www.enertechint.com](http://www.enertechint.com)

## Section 2 – COMPOSITION INFORMATION

HAZARDOUS INGREDIENTS	%	CAS NUMBER
Aluminum Foil	2-10	7429-90-5
Transition Metal Oxide (proprietary)	20-50	-
Poly-vinylidene Fluoride (PVDF)	< 5	24937-79-9
Copper Foil	2-10	7440-50-8
Carbon (Graphite, proprietary)	10-30	7440-44-0
Electrolyte (proprietary)	10-20	-
Al Film Cover	Reminder	N/A

**※ Equivalent Lithium Content (ELC) : 0.144 (g/Ah)**

## Section 3 – HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

: May explode in a fire, which could release hydrogen fluoride gas. Use extinguishing media suitable for materials burning in fire.

## PRIMARY ROUTES OF ENTRY

Skin contact, Skin absorption, Eye contact, Inhalation, and Ingestion : NO

## SYMPTOMS OF EXPOSURE

Skin Contact : No effect under routine handling and use.

Skin absorption : No effect under routine handling and use.

Eye Contact : No effect under routine handling and use.

Inhalation : No effect under routine handling and use.

Reported as carcinogen : Not applicable

## Section 4 – FIRST AID MEASURES

**INHALATION, EYE CONTACT, AND SKIN CONTACT : Not a health hazard.**

INGESTION : If swallowed, obtain medical attention immediately.

**IF EXPOSURE TO INTERNAL MATERIALS WITHIN CELL DUE TO DAMAGED OUTER CASING, THE FOLLOWING ACTIONS ARE RECOMMENDED;**

### INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth and seek medical attention.

### EYE CONTACT

Rinse eyes with water for 15 minutes and seek medical attention.

### SKIN CONTACT

Wash area thoroughly with soap and water and seek medical attention.

### INGESTION

Drink milk/water and induce vomiting; seek medical attention.

## Section 5 – FIRE FIGHTING MEASURES

### GENERAL HAZARD

Cell is not flammable. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

### EXTINGUISHING MEDIA

Use extinguishing media suitable for the materials that are burning.

### SPECIAL FIREFIGHTING INSTRUCTIONS

If possible, remove cell(s) from fire fighting area. If heated above 130°C, cell(s) may explode/vent.

### FIREFIGHTING EQUIPMENT

Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

## Section 6 — ACCIDENTAL RELEASE MEASURES

### ON LAND

Place materials into suitable containers and call local fire/police department.

### IN WATER

If possible, remove from water and call local fire/police department.

## Section 7 – HANDLING AND STORAGE

### HANDLING

No special protective clothing required for handling individual cells.

### STORAGE

Store in a cool and dry place.

## Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

Keep away from heat and open flame. Store in a cool and dry place.

### PERSONAL PROTECTION

Respirator : Not required during normal operations. SCBA required in the event of a fire.

Eye/face protection : Not required beyond safety practices of employer.

Gloves : Not required for handling of cells.

Foot protection : Steel toed shoes recommended for large container handling.

## Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

State	Solid
Odor	N/A
PH	N/A
Vapor pressure(mmHg)	N/A
Vapor density(air=1)	N/A
Boiling point	N/A
Solubility in water	Insoluble
Specific gravity	N/A
Density	N/A

## Section 10 – STABILITY AND REACTIVITY

### REACTIVITY

None during normal operating or handling conditions.

### INCOMPATIBILITIES

None during normal operation. Avoid exposure to heat, open flame, and corrosives.

### HAZARDOUS DECOMPOSITION PRODUCTS

None during normal operating conditions. If cells are opened, hydrogen fluoride and carbon Monoxide may be released.

### CONDITIONS TO AVOID

- Don't short terminals and immerse in water or pour.
- Don't heat or throw in fire and solder.
- Don't attempt to crush or drop.
- Don't put it in microwave oven, oven or pressure container.
- Don't attempt to modify.

## Section 11 – TOXICOLOGICAL INFORMATION

This product does not elicit toxicological properties during routine handling and use.

Sensitization	Teratogenicity	Reproductive toxicity	Acute toxicity
NO	NO	NO	NO

Mercury Content : N/A

Lithium-metal : N/A

Cadmium Content : N/A

If the cells are opened through misuse or damage, discard immediately.

Internal component of cell are irritants and sensitizers.

## Section 12 – ECOLOGICAL INFORMATION

Some materials within the cell are bio-accumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.

## Section 13 – TRANSPORT INFORMATION

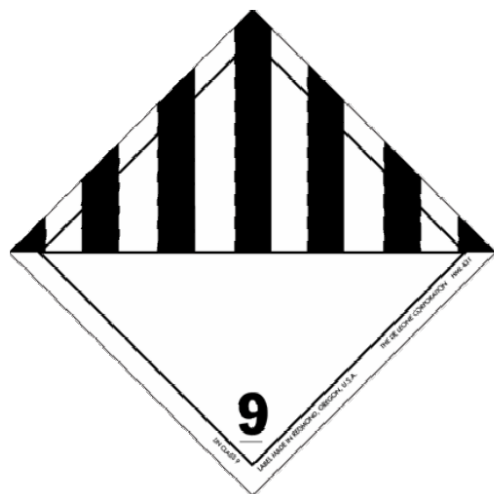
The used battery cells has passed the UN3480 of the "UN Manual of Tests and Criteria", and complied with the requirements of IATA DGR packing instruction 965

United Nations

- IATA proper shipping name : : LITHIUM ION BATTERIES
- Hazard Class : 9
- UN Class : UN 3480

- Packing group : II

Watt-hour exceeds the standard, so it belongs to dangerous goods, Cargo only. The goods are packaged according to the packing instruction 965 section I B of DRG



Use Class 9 Miscellaneous Dangerous Goods and UN Identification labels for transportation of lithium ion batteries which are assigned Class 9 in USA code of Federal Regulation, 49 CFR Ch.1 § 173-185

## Section 14 – REGULATORY INFORMATION

With regard to transport of the product, the following regulations are cited and considered:

- The International Civil Aviation Organization (ICAO) Technical Instructions (2013-2014 Edition),
- The International Air Transport Association (IATA) Dangerous Goods Regulations (54th Edition)
- The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries, 5<sup>th</sup> revised edition (UN3480)