Date of issued: 2018-01-04

SAFETY DATA SHEET

Rechargeable Lithium Ion Battery Cell
ENERTECH INTERNATIONAL INC

Section 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Model **SPB605060H** Rechargeable Lithium-Ion Battery Cell

Item	Value	Remark
Nominal Voltage	**3.7 V**	
Nominal Capacity	**1900mAh**	
Wh-Capacity	**7.03Wh**	

MANUFACTURER

Company Name : ENERTECH INTERNATIONAL, INC.

Address : 710-3, Yong tan-dong, Chung ju-city, Chung buk, Korea, 380-250

Telephone No : 82-043-850-1950 Fax No. : 82-043-855-9175

Homepage : www.enertechint.com

Emergency telephone No : 82-043-850-1950

Section 2 – HAZARDS IDENTIFICATION

GHS classification : Not available

This product is outside the scope of GHS system since it's considered as an "article"

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 3 – 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

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℃, 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

· Do not connect the positive terminal to the negative terminal

· Avoid polarity reverse connection when installing the battery to an instrument.

· Do not wet the battery with water, seawater, drink or acid; or expose to strong oxidizer.

· Keep the battery away from heat and fire.

· Do not disassemble or reconstruct the battery; or solder the battery directly

· Do not give a mechanical shock or deform

· Do not unauthorized charger or other charging method.

STORAGE

· Indoor storage in a cool circumstance without direct sun light.

· Store the cell in a dry location with low humidity, and recommended temperature range is Storage at room temperature(approx. 20℃).

· Keep in closed original container.

· As long-term storage can accelerate battery self-discharge and lead to the deactivation of the cell. To minimize the deactivation effect, store the cell in a temperature range of 25 ± 3°C.

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 – DISPOSAL CONSIDERATIONS

Recommended methods for safe and environmentally preferred disposal

Product(Waste from residues)

Specified collection or disposal of lithium ion battery is required by law like as “battery control law” in several nations. Collection or recycled of battery is mainly imposed on battery’s manufacturer or importer in the nations recycle is required.

Contaminated Packing

Neither a container nor packing is contaminated during normal use. When internal materials leaked form a battery cell contaminated, dispose as industrial wastes subject to special control

Section 14 – TRANSPORT INFORMATION

In the case of transportation, avoid exposure to high temperature and prevent the formation of any condensation. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not shock the results in a mark of hitting on a cell. Please refer section 7- HANDINH AND STORANG also

UN regulation

- **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 ⅠB of DRG

- **Labels**

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 15 – REGULATORY INFORMATION

Regulations specifically application to product

- The International Civil Aviation Organization (ICAO) Technical Instructions (2017-2018 Edition),
- The International Air Transport Association (IATA) Dangerous Goods Regulations (59th Edition)
- The International Maritime Dangerous Goods (IMDG) Code (2016 Edition),
- US Department of Transportation 49 Code of Federal Regulations

· The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries, 6th revised edition (UN3480)

Section 16 – OTHER INFORMATION

· This safety data sheet is offered an agency who handles this production to handle it safety

· The agency should utilize this safety data sheet effectively (put it up, educate person in charge) and take proper measures

· **The information contained in this Safety date sheet is based on the present state of knowledge and current legislation.**

· This safety data sheet provides guidance on health, Safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.