

## MATERIAL SAFETY DATA SHEET

File S/N: SN-MSDS-547-0A

Issue Date: 2023-1-3

We would like to inform our customers that these batteries are exempt articles and are not subject to the 29 CFR 1910.1200 OSHA requirements, or to the Canadian WHMIS requirements and the sheets are supplied as a service to you.

### 1. IDENTIFICATION

SNLB-547

### Further Information

Battery-System:Lithium-Ion(Li-ion) battery

**Nominal Voltage :10.8V**

**Rated Capacity:2600mAh**

**Wh rating:28.08Wh**

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## 2. INGREDIENTS

### Battery Cell

Components	Content(wt%)	CAS #
Lithium Cobalt Dioxide (LiCoO <sub>2</sub> )	less than 38wt%	12190-79
Lithium Hexafluorophosphate (LiPF <sub>6</sub> )	less than 3wt%	21324-40-38
Ethylene Carbonate (C <sub>3</sub> H <sub>4</sub> O <sub>3</sub> )	less than 6wt%	96-49-1
Chain Carbonate ( - )	less than 8wt%	
Graphite (C)	less than 20wt%	7782-42-5
Lead (Pb)	less than 0.1wt%(1000ppm)	
Mercury (Hg)	less than 0.0005wt%(5ppm)	

Note: others 25% are included below material

AL(Positive Base Film,Cap,Can,Tab)

Cu(Negative Base Film)

Ni(Tab,Terminal)

Fe(Terminal)

Resin(PP,PE,PET)(Separator,Plastic Parts,Insulator)

### Circuit Module

HAZARDOUS INGREDIENTS	%	CAS NUMBER
Lead	<0.1	7439-92-1
Mercury	0	7439-97-6
Chromium	0	7440-47-3
Cadmium	0	7440-43-9
Plastic case and SiO <sub>2</sub> O	0	N/A

### Plastic Parts and Paints

HAZARDOUS INGREDIENTS	%	CAS NUMBER
Polychlorinate	More than 81 wt%	25971-63-5
Flame Retardant	Less than 12 wt%	
Elastomer	Less than 7 wt%	

### **3. HAZARDS IDENTIFICATION**

#### **PROTENTIAL HEALTH EFFECTS**

##### **PRIMARY ROUTE 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.

### **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(pack) due to damaged outer casing, the Following actions are recommended.

#### **INHALATION**

Leave area immediately 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.

## 5. FIRE FIGHTING MEASURES

### 5.1 GENERAL HAZARD

Cell is not flammable but internal organic material will burn if the cell is incinerated.

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

### 5.2 EXTINGUSHING MEDIA

Use extinguishing media suitable for the materials that are burning.

### 5.3 SPECIAL FIREFIGHTING INSTRUCTIONS

If possible, remove cell(s) from fire fighting area. If heated above 125°C, cell(s) can explode/vent.

### 5.4 FIREFIGHTING EQUIPMENT

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

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 ON LAND

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

### 6.2 IN WATER

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

## 7. HANDLING AND STORAGE

### 7.1 HANDLING

No special protective clothing required for handling individual cells.

### 7.2 STORAGE

Store in a cool, dry place.

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## 8. EXPOSURE CONTROLS//PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

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

### 8.2 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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

State	Solid
Odor	N/A
PH	N/A
Vapor pressure	N/A
Vapor density	N/A
Boiling point	N/A
Solubility in water	Insoluble
Specific gravity	N/A
Density	N/A

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## 10. STABILITY AND REACTIVITY

### 10.1 REACTIVITY

None

### 10.2 INCOMPATIBILITIES

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

### 10.3 HAZARDOUS DECOMPOSITION PRODUCTS

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

#### **10.4 CONDITIONS TO AVOID**

Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

### **11. TOXICOLOGICAL INFORMATION**

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

Sensitization: NO Teratogenicity: NO Reproductive toxicity: NO Acute toxicity: NO  
This product does not contain any kinds of the following substances and halogen-type flame retardants including Chlorine and Bromide type harmful flame retardants which are listed in Appendix of TCO documents and relevant international ECO requirements:

- Polybromated Biphenyls (PBB)
- Polybromated Diphenylethers (PBDE)
- Polychlorinated Biphenyls (PCBs)
- Polychlorinated Terphenyls(PCTs)
- Polychlorinated Paphthalene(PCN)
- Chlorinated Paraffins(C10-C13)
- Chlorofluorocarbons(CFCs)
- Polyvinyl Chloride(PVC)
- Carbon Tetrachloride

None of the following substances will be exposed, leaked, or emitted during transportation, storage or any operation and any temperature condition:

### **12. Ecological information**

The batteries do not contain mercury, cadmium or other heavy metals.

### **13. Disposal Considerations**

Dispose by incineration or burial at permitted waste treatment and/or disposal sites.

Batteries do not contain hazardous materials according to EC directives 91/157/EEC and 93/86/EEC.

For large quantities a disposal service is offered upon request.

## 14. Transport information

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

- The International Civil Aviation Organization(ICAO) Technical Instructions 2022~2023 Edition)
- The International Air Transport Association (IATA) Dangerous Goods Regulations (64th edition Packing Instruction 966 or 967 Section II is applied.)
- The International Maritime Dangerous Goods(IMDG) Code Amendment 40-20,Special Provisions 188,230,310&957 for UN3480/3481 Lithium Ion Battery , Packing Instruction P903 for lithium ion batteries.
- US Department of Transportation (DOT) 49 code of Federal Regulations [USA] International Civil Aviation Administration (ICAO),There is no hazards in accordance with the UN recommendations tests ( Manual of Tests and Criteria ,Part III , sub-section 38.3 , 1.2m Drop )

N	ITEMS	RESULT	REMARK
1	Altitude	Pass	
2	Thermal shock	Pass	
3	Vibration	Pass	
4	Shock	Pass	
5	External Short	Pass	
6	Impact	Pass	
7	Overcharge	Pass	
8	Forced Discharge	N/A	For cell
9	1.2m Drop Test	Pass	

## 15. Regulatory Information:

Local hazardous waste disposal laws.

This product is made from materials with no detectable mercury.

## 16. Other Information:

The information contained in this Safety data 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.