



新普科技股份  
 新世電子(常熟) 有限公司  
 兆普電子(上海)  
 新普科技(重慶)  
 Simple Technology Co. LTD.  
 Simple Technology (Changshu) INC.  
 Simple Electronic (Shanghai) INC.  
 Simple Technology (Chongqing) INC.

# MATERIAL SAFETY DATA SHEET

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## 1. Product and Company Identification

Product Identification :

Lithium-Ion Rechargeable Battery Pack

Model name	Configuration	Rating
EF10-2S3400-S1L4	2S1P Lion 3400mAh	7.4V 3400mAh 24.42Wh
EF10-3S3400-S1L4	3S1P Lion 3400mAh	11.1V 3400mAh 37.74Wh
EF10-2S3400-S1C1	2S1P Coslight 3400mAh	7.4V 3400mAh 24.42Wh
EF10-3S3400-S1C1	3S1P Coslight 3400mAh	11.1V 3400mAh 37.74Wh
EF10-2S3200-S1C1	2S1P Coslight 3200mAh	7.4V 3200mAh 22.94Wh
EF10-3S3200-S1C1	3S1P Coslight 3200mAh	11.1V 3200mAh 34.41Wh

Manufacturer :

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## 2. Hazards Identification

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

## 3. Composition / Identification on Ingredients

Substance : Lithium Ion Battery

CAS number : Reference 3-3

UN Class : Even classified as lithium batteries, they are exempted from dangerous goods.

UN-Recommendations on the Transport of Dangerous Goods Model Regulations.

\* Lithium ion cells and batteries may be offered for transport if they meet the following :

\* For cells, the Watt-hour rating should not be more than 20 Wh;

\* For batteries, the Watt-hour rating should not be more than 100 Wh. The Watt-hour rating must be marked on the outside of the battery case .

\* Each cell or battery of the type proved to meet the requirements of each test in the UN manual of



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tests and criteria, Part III, subsection 38.3.

\* General requirements and additional requirements, Please see Section II or IB of Packing Instruction 965, 966, 967 accordingly or UN 3480 , UN3481.

Composition :

- 3-1. Cases: Plastic Not dangerous
- 3-2. Printed Circuit Board Assembly Not dangerous
- 3-3. Lithium Ion Cell :

Hazardous Ingredients	%	CAS Number
Graphite	7-25 %	7782-42-5
Lithium Cobalt Oxide	15-40 %	12190-79-3
Hexafluoropropylene-vinylidene fluoride Copolymer	3-15%	9011-17-0
Lithium Hexafluorophosphate	0-5%	21324-40-3
Acetylene Black	0-2 %	1333-86-4
Diethyl Carbonate	0-15%	105-58-8
Dimethyl Carbonate	0-15%	616-38-6
Ethyl Methyl Carbonate	0-15%	623-53-0
Propylene Carbonate	0-15%	108-32-7
Ethylene Carbonate te	0-15%	96-49-1

**4. First Aid Measures**

- Inhalation : Make the victim blow his/her nose, gargle. Seek medical attention if necessary.
- Skin contact : Remove contaminated clothes and shoes immediately. Wash extraneous matter or contact region with soap and plenty of water immediately.
- Eye contact : Do not rub one’s eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention immediately.
- Ingestion : Make the victim vomit. When it is impossible or the feeling is not well after vomiting, seek medical attention.

**5. Fire Fighting Measures**

- Extinguishing Media : Use suitable extinguishing media.
- Firefighting Equipment : Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

**6. Accidental Release Measures**

- On Land : Place material into suitable containers and call local fire/police department.
- In Water : If possible, Remove from water and call local fire/police department.

**7. Handling and Storage**

- Handling : Do not expose the battery to excessive physical shock or vibration. Short-circuiting should be avoided.



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However, accidental short-circuiting for a few seconds will not seriously affect the battery. Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin. Sources of short circuits include jumbled batteries in bulk containers, coins, metal jewelry, metal covered tables, or metal belts used for assembly of batteries in devices. To minimize risk of short-circuiting, the protective case supplied with the battery should be used to cover the terminals when transporting or storing the battery. Do not disassemble or deform the battery. Should an individual cell within a battery become ruptured, do not allow contact with water.

**Storage :**

The lithium ion battery should be between 25% and 75% of full charge when stored for a long period of time. Store in a cool, dry, well ventilated area. And temperature above 100 Celsius degree can result in loss of battery performance, leakage, or rust. Do not expose the battery to open flames..

**8. Exposure Controls / Personal Protection**

Engineering Controls : Keep away from heat and open flame. Store in a cool 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 battery.

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

**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

**10. Stability and Reactivity**

Reactivity : None

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

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.

**12. Ecological Information**

Lithium ion battery pack can be disposable in accordance with appropriate federal, state and local regulations.



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### 13. Disposal Consideration

Recommended methods for safe and environmentally preferred disposal:

Product(waste from residues)

Do not throw out a used battery cell. Recycle it through the recycling company.

Contaminated packaging

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

### 14. Transport Information

Regulations specifically applicable to the product: International Air Transport Association (IATA) Dangerous Goods Regulations (55th Edition,2014).

Section IB or Section II of Packing Instruction 965 for Lithium Ion battery

Special Provisions A51, A88, A99, A154 , A164 and A183

Section II of Packing Instruction 966 for Lithium Ion battery packed with equipment

Special Provisions A88, A99, A154 , A164 , A181 and A185

Section II of Packing Instruction 967 for Lithium Ion battery contained in equipment

Special Provisions A48, A99, A154 ,A164 , A181 and A185,

UN 3480 (Lithium ion batteries) and UN3481 (Lithium ion batteries contained in equipment or

Lithium ion batteries packed with equipment)

US Department of Transportation (DOT) 49 code of Federal Regulations [USA]

International Civil Aviation Organization (ICAO) Technical Instructions (2013-2014 Edition)

Transport Regulations for Sea Transport IMDG Code (2012 Edition) Class 9 exemptions

Our products are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to all the applicable international and national governmental regulations, not limited to the above mentioned. We further certify that the enclosed products have been tested and fulfilled the requirements and conditions in accordance with UN Recommendations (T1 – T8) on the Transport of Dangerous Goods Model Regulations and the Manual of Testes and Criteria that can be treated as “Non-Dangerous Goods”.

Test results of the UN Recommendation on the Transport of Dangerous Goods

No	Item	Result	Remark
1	Altitude simulation	PASS	
2	Thermal test	PASS	
3	Vibration	PASS	
4	Shock	PASS	
5	External short circuit	PASS	
6	Crush	PASS	
7	Overcharge	PASS	
8	Force discharge	N/A	For cell only

### 15. Regulatory Information

Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria (ST/SG/AC.10/11/Rev.4)

OSHA Hazard communication standard (29 CFR 1910.1200)



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\_\_\_\_\_ Hazardous                        V   \_\_\_\_\_ Non-hazardous

## 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.

Chemical substances information: Japan Advanced Information center of Safety and Health

International Chemical Safety Cards (ICSCs):

International Occupational Safety and Health Information Centre (CIS)

1999 TLVs and BEIs: American Conference of Governmental Industrial Hygienists (ACGIH)

Wastes Disposal and Public Cleaning Law [Japan]

Law for Promotion of Effective Utilization of resources [Japan]