



Explanatory sheet about safety of product for transportation (Safety Data Sheet for transportation)

1. Basic item

Product name	Lithium-Ion Rechargeable Battery Pack
UN number:	3480
Product code:	Refer to Table 1.
model name:	Refer to Table 1.
Manufacturer Name:	Simple Technology Co., Ltd.
Address:	No.471, Sec.2, Pa Teh Rd., Hu Kou 303, Hsin Chu Hsien, Taiwan
Phone number:	+886-3-5695920
Fax number:	+886-3-5695931

2. Product information

Basic composition of the product This product is a battery which consists of such main component as core battery pack assembled with some Lithium ion cells. And it consists of any combination of plastic casing, tube casing, protection circuit boards, safety devices and interface terminals

3. Safety Information

Simple certifies the battery has passed and satisfied the UN Manual of Tests and Criteria Part III, sub-section 38.3 testing in Simple shipping. - Simple manufactured the battery under the quality management program required in UN Model regulations 2.9.4(e)..

3-1: Battery pack

1. The Watt-hour rating of the battery is not more than 100Wh.
The Watt-hour rating of the component Lithium ion cells is not more than 20Wh.
Refer to Appendix “SDS(LE-180614002#)”.
2. Packages of the battery satisfy the following conditions when Simple ships.
 - (1) The package has passed the drop test from the height of 1.2m.
 - (2) The package net weight is not more than 10kg.
 - (3) The package is marked and labeled according to requirement of Packing Instruction 965 Section IB stated in ICAO’s and IATA’s dangerous goods regulations.
3. The battery is not defective for safety reasons, not damaged. It is not collected battery for recycling or disposal.
4. The battery is not subject to the fully regulated requirements for Dangerous Goods in ocean and ground transportation.
5. The battery should be transported by Cargo aircraft as UN3480, Class 9 Dangerous Goods, and state of charge not exceeding 30%, according to Packing Instruction 965 Section IB stated in ICAO’s and IATA’s dangerous goods regulations.



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Table. 1 Model list of application

Battery Part Numbers			Battery Information						
Lenovo ASM Lenovo PN Part Number	Lenovo FRU Part Number	Lenovo Model Name	MSDS Type #	UN DOT 38.3 Test Certificate	Cell Voltage (V)	Battery Voltage (V)	Watt hour Rating (Wh)	Weight (grams)	Equivalent Lithium Content (grams)
121500105		N/A	LE-180614002	121500105_UN38.3	3.7	3.7	25	130	2.04
5B10G78609		L14M3P21	LE-180614002	5B10G78609_UN38.3	3.7	11.1	45	216	3.65
5B10G78610		L14M2P21	LE-180614002	5B10G78610_UN38.3	3.7	7.4	30	155	2.43
5B10H09628		L14M3P22	LE-180614002	5B10H09628_UN38.3	3.7	11.1	45	215	3.65
5B10H09628		L14M3P22	LE-180614002	5B10H09628_UN38.3	3.7	11.1	45	226	3.65
5B10H09632		L14M2P22	LE-180614002	5B10H09632_UN38.3	3.7	7.4	30	140	2.43
5B10H09633		L14M4P21	LE-180614002	5B10H09633_UN38.3	3.7	7.4	60	284	4.86
5B10H13096		L14M2P24	LE-180614002	5B10H13096_UN38.3	3.8	7.6	31	148	2.43
5B10H13098		L14M2P23	LE-180614002	5B10H13098_UN38.3	3.7	7.4	30	145	2.43
5B10H22085		L14M4P23	LE-180614002	5B10H22085_UN38.3	3.7	14.8	60	292	4.86
5B10H33230		L14M3P23	LE-180614002	5B10H33230_UN38.3	3.7	11.1	36	175	2.97
5B10H35530		L14M6P21	LE-180614002	5B10H35530_UN38.3	3.7	11.1	90	520	7.29
5B10H41180		L14M3P24	LE-180614002	5B10H41180_UN38.3	3.7	11.1	45	225	3.65
5B10H54716		L14M4PB0	LE-180614002	5B10H54716_UN38.3	3.7	14.8	60	275	4.86
5B10J46560		L15M2PB0	LE-180614002	5B10J46560_UN38.3	3.8	7.6	35	145	2.77
5B10J50660		L15M4P20	LE-180614002	5B10J50660_UN38.3	3.85	7.7	53	215	4.06
5B10K10155		L14M3P23	LE-180614002	5B10K10155_UN38.3	3.7	11.1	36	175	2.97
5B10K10218		L14M2P23	LE-180614002	5B10K10218_UN38.3	3.7	7.4	30	145	2.43
5B10K10222		L14M2P24	LE-180614002	5B10K10222_UN38.3	3.8	7.6	35	140	2.77
5B10K10228		L14M2P22	LE-180614002	5B10K10228_UN38.3	3.7	7.4	30	140	2.43
5B10K10229		L14M2P21	LE-180614002	5B10K10229_UN38.3	3.7	7.4	30	147	2.43
5B10K10236		L14M3P21	LE-180614002	5B10K10236_UN38.3	3.7	11.1	45	200	3.65
5B10K84492		L15M3PB0	LE-180614002	5B10K84492_UN38.3	3.8	11.4	53	210	4.06
5B10K84493		L15M2PB1	LE-180614002	5B10K84493_UN38.3	3.8	7.6	35	150	2.71
5B10K88048		L15M3PB1	LE-180614002	5B10K88048_UN38.3	3.7	11.1	45	200	3.65
5B10L13948		L15M2PB6	LE-180614002	5B10L13948_UN38.3	3.75	7.5	30	140	2.42
5B10M49822		L14M2P21	LE-180614002	5B10M49822_UN38.3	3.7	7.4	30	155	2.43
5B10M52813		L14M3P21	LE-180614002	5B10M52813_UN38.3	3.7	11.1	45	216	3.65
5B10M52815		L14M2P21	LE-180614002	5B10M52815_UN38.3	3.7	7.4	30	154	2.43
5B10M53743		L16M6PC1	LE-180614002	5B10M53743_UN38.3	3.84	11.52	72	280	5.64
5B10N00789		L14M6P21	LE-180614002	5B10N00789_UN38.3	3.7	11.1	90	515	7.29
5B10P35082		L17M4PB1	LE-180614002	5B10P35082_UN38.3	3.84	15.36	80	320	6.22
5B10Q39203		L14M2P21	LE-180614002	5B10Q39203_UN38.3	3.7	7.4	30	160	2.43
SB18C15129		L15M3PB1	LE-180614002	SB18C15129_UN38.3	3.7	11.1	45	210	3.65
SB10K97615	01AV468	L17M2P52	LE-180614002	SB10K97615_UN38.3	3.84	7.68	39	163	3.048



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SB10K97605	01AV462	L16M3P73	LE-180614002	SB10K97605_UN38.3	3.8	11.4	26.1	135	2.06
SB10K97622	01AV480	L17M3P72	LE-180614002	SB10K97622_UN38.3	3.84	11.52	57	240	4.46
SB10K97612	01AV465	L17M3P54	LE-180614002	SB10K97612_UN38.3	3.7	11.1	45	223	3.7
SB10K97608	01AV447	L17M3P52	LE-180614002	SB10K97608_UN38.3	3.7	11.1	45	223	3.65
SB10K97588	01AV431		LE-180614002	SB10K97588_UN38.3	3.84	11.52	57	245	4.46
SB10K97638	01AV499	L17M4P73	LE-180614002	SB10K97638_UN38.3	3.84	15.36	54	228.3	4.22



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MATERIAL SAFETY DATA SHEET

Issued/Revised date :June 14 2018

Document No. : LE-180614002

1. Product and Company Identification

Product Identification :

Product name: Lithium ion rechargeable battery cell

Product code : All Polymer models Coslight manufactured

Cell manufacturers: ZHU HAI COSLIGHT BATTERY Co., Ltd.

2. Hazards Identification

Class Name : Not applicable for regulated class

Hazard : It may cause heat generation or electrolyte leakage if battery terminals contact with other metals.

Electrolyte is flammable. In case of electrolyte leakage, move the battery from fire immediately.

Toxicity : Vapor generated from burning batteries, may make eyes, skin and throat irritate.

3. Composition / Identification on Ingredients

IMPORTANT NOTE:

The battery should not be opened or burned since the following ingredients contained within the battery that could be harmful under some circumstance if exposed or misused.

The cell contains neither metallic lithium nor lithium alloy.

Composition :

CAS Number: Not specified (3-1 and 3-2)

3-1. Cases: Plastic Material

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	0-15	96-49-1

4. First Aid Measures

The product contains organic electrolyte. In case of electrolyte leakage from the battery, actions described below are required.



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- Eye contact : Flush the eyes with plenty of clean water for at least 15 minutes immediately, without rubbing, and call a doctor. If appropriate procedures are not taken, this may cause an eye irritation.
- Skin contact : Wash the contact areas off immediately with plenty of water and soap. If appropriate procedures are not taken, this may cause sores on the skin.
- Inhalation : Remove to fresh air immediately, and call a doctor.

5. Fire Fighting Measures

- Use specified extinguishers (gas, foam, powder) and extinguishing system under the Fire Defense Law. Since corrosive gas may be produced at the time of fire extinguishing, use an air inhalator when danger is predicted.
- Use a large amount of water as a supportive measure in order to get cooling effect if needed. (Indoor/outdoor fire hydrant)
- Carry away flammable materials immediately in case of fire.
- Move batteries to a safer place immediately in case of fire.

6. Accidental Release Measures

- Wipe off with dry cloth
- Keep away from fire
- Wear safety goggles, safety gloves as needed

7. Precautions for Safe Handling and Use

- Storage : Store within the recommended limit of -20 °C to 45 °C (-4 °F to 113 °F), well-ventilated area. Do not expose to high temperature (60 °C/140 °F). Since short circuit can cause burn hazard or gas release, do not store with metal jewelry, metal covered tables, or metal belt. 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..
- Handling : Do not disassemble, remodel, or solder. Do not short + and - terminals with a metal. Do not open the battery.
- Charging : Charge within the limits of 0 °C to 45 °C (32 °F to 113 °F) temperature. Charge with specified charger designed for this battery.
- Discharging : Discharge within the limits of -20 °C to 60 °C (-4 °F to 140 °F) temperature. Disposal : Dispose in accordance with applicable federal, state and local regulations. Caution : Fire, Explosion, and Severe Burn Hazard. Do not Crush, Disassemble, Heat Above 100 °C/212 °F, or Incinerate.

8. Exposure Controls / Personal Protection (In case electrolyte is leaked from battery)

Acceptable concentration : Not specified in ACGIH. Facilities : Provide appropriate ventilation such as local ventilation system in the storage. Protective clothing : Gas mask for organic gases, safety goggle, safety glove.

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



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Solubility in water	Insoluble
Specific gravity	N/A
Density	N/A

10. Stability and Reactivity

External short-circuit, deformation by crush, high temperature (over 100 °C) exposure of a battery cause generation of heat and ignition.

11. Toxicological Information

Acute toxicity : No information as a battery.
 Local effects : No information as a battery.

12. Ecological Information

When exhausted battery is buried in the ground, corrosion may be caused on the outer case of battery and electrolyte may be oozed. There is no information on environmental influence.

13. Disposal Consideration

When battery is disposed, isolate positive (+) and negative (-) terminals of the battery to avoid those terminals from touching each other. Batteries may be short-circuited when piled up or mixed with the other batteries in disorder. Dispose in accordance with applicable federal, state and local regulations

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 give shocks that result in a mark of hitting on a cell. Please refer to Section 7-HANDLING AND STORAGE also.

UN regulation

UN number: 3480 (3481 when the battery is contained in equipment or packed with equipment) Proper shipping name: Lithium ion batteries (“lithium ion batteries contained in equipment” or “lithium ion batteries packed with equipment”) Class: 9 * * Although this product meets the criteria of “dangerous goods” and are classified as “lithium ion batteries”, depending on the battery’s total capacity in the packaging, etc., they may not be subject to the fully regulated provisions.

Regulation depends on region and transportation mode

Worldwide - Air transportation:

ICAO/IATA-DGR [packing instruction 965 section IB or II] (When shipping batteries “packed with” or “contained in” equipment, use packing instruction 966 or 967 as appropriate.)

Worldwide - Ocean transportation:

IMO-IMDG Code [special provision 188]

Europe - Ground transportation: ADR [special provision 188]

**Instructions or provisions in the box brackets are conditions to make the battery cell exempted from full regulation.*

15. Regulatory Information



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IMDG Code: International Maritime Dangerous Goods (IMDG) Code 2016 Edition

ICAO TI: International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air 2017-2018 Edition

IATA DGR: International Air Transport Association (IATA) Dangerous Goods Regulations(59th Edition,2018)

16. Other Information

The information contained herein is furnished without warranty of any kind, Users should consider this data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.