

# Material Safety Data Sheet

## 1. Basic item

Product name Lithium ion battery (“Lithium ion battery” includes lithium polymer battery in this document)

## 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

- Certifies the battery has passed and satisfied the UN Manual of Tests and Criteria Part III, sub-section 38.3 testing in Shipping.
- Manufactured the battery under the quality management program required in UN model

## 4. Battery pack

1. The Watt-hour rating of the battery is under than 100Wh.

2. Package of the battery satisfy the following conditions.

(1) The product name “Lithium ion batteries” and how to deal with the damage of the package are written on the label.

(2) The package has passed the drop test from the height of 1.2m.

5 The battery is not subject to the fully regulated requirements for Dangerous Goods in ocean and ground transportation.

Lenovo MSDS Finder

Last updated Jan 13, 2021

For more information, including how to locate your Lenovo FRU Part Number and what to do if your battery part number is not listed below, please visit:

Battery Part Numbers			Battery Information							
Lenovo ASM Part Number	Lenovo FRU Part Number	Lenovo Model Name	MSDS Type #	UN DOT 38.3 Test Certificate	supplemental info	Cell Voltage (V)	Battery Voltage (V)	Watt hour Rating (Wh)	Weight (grams)	Equivalent Lithium Content (grams)
SB10W67328	5B10W67191	L16C2PB1	SDS_Coslight	SB10W67328_UN38.3	SB10W67328_UN38.3.5_test summary	3.8	7.6	35	152.3	2.787
SB10W67324	5B10W67310	L16C2PB2	SDS_Coslight	SB10W67324_UN38.3	SB10W67324_UN38.3.5_test summary	3.8	7.6	30	152.3	2.418
SB10W67211	5B10W67357	L17C2PB1	SDS_Coslight	SB10W67211_UN38.3	SB10W67211_UN38.3.5_test summary	3.8	7.6	30	164	2.418
SB10W67175	5B10W67338	L17C2PB2	SDS_Coslight	SB10W67175_UN38.3	SB10W67175_UN38.3.5_test summary	3.85	7.7	39	164	3.042
SB10W67228	5B10P54005	L17C2PB3	SDS_Coslight	SB10W67228_UN38.3	SB10W67228_UN38.3.5_test summary	3.8	7.6	30	167	2.418
SB10W67241	5B10W67362	L17C2PB4	SDS_Coslight	SB10W67241_UN38.3	SB10W67241_UN38.3.5_test summary	3.85	7.7	39	167	3.042
SB10W67162	5B10W67167	L17C2PB5	SDS_Coslight	SB10W67162_UN38.3	SB10W67162_UN38.3.5_test summary	3.85	7.7	39	187.5	3.042
SB10W67345	5B10W67343	L17C2PF1	SDS_Coslight	SB10W67345_UN38.3	SB10W67345_UN38.3.5_test summary	3.85	7.7	39	161	3.042
SB10W67190	5B10W67295	L17C3PG2	SDS_Coslight	SB10W67190_UN38.3	SB10W67190_UN38.3.5_test summary	3.85	11.55	57	243	4.4685
SB10W67305	5B10W67276	L17C4PE1	SDS_Coslight	SB10W67305_UN38.3	SB10W67305_UN38.3.5_test summary	3.84	15.36	42	183	3.282
SB10W67316	5B10W67314	L17C4PF0	SDS_Coslight	SB10W67316_UN38.3	SB10W67316_UN38.3.5_test summary	3.84	15.36	45	186	3.56
SB10W67256	5B10W67206	L17C4PG2	SDS_Coslight	SB10W67256_UN38.3	SB10W67256_UN38.3.5_test summary	3.85	15.4	76.46	310	5.958
SB10W67202	5B10W67334	L18C4PF0	SDS_Coslight	SB10W67202_UN38.3	SB10W67202_UN38.3.5_test summary	3.84	15.36	45	180	3.556
SB10W67192	5B10W67415	L18C4PF3	SDS_Coslight	SB10W67192_UN38.3	SB10W67192_UN38.3.5_test summary	3.84	15.36	45	181	3.557
SB10W67388	5B10W67221	L18C4PF4	SDS_Coslight	SB10W67388_UN38.3	SB10W67388_UN38.3.5_test summary	3.86	15.44	50	190	3.906
SB10W67416	5B10W67180	L18C4PH0	SDS_Coslight	SB10W67416_UN38.3	SB10W67416_UN38.3.5_test summary	3.84	7.68	60	257	4.692
SB10W86954	5B10W86957	L19C3PF3	SDS_Coslight	SB10W86954_UN38.3	SB10W86954_UN38.3.5_test summary	3.85	11.55	56.5	241.31	4.4685
SB10W89845	5B10W89838	L19C3PF6	SDS_Coslight	SB10W89845_UN38.3	SB10W89845_UN38.3.5_test summary	3.75	11.25	42	205.3	3.3615
SB10X02595	5B10X02593	L19C3PF8	SDS_Coslight	SB10X02595_UN38.3	SB10X02595_UN38.3.5_test summary	3.86	11.58	37.5	151	2.9295
SB10W86193	5B10W86194	L19C4PC1	SDS_Coslight	SB10W86193_UN38.3	SB10W86193_UN38.3.5_test summary	3.85	15.4	80	343	6.402
SB10W86197	5B10W86189	L19C4PC2	SDS_Coslight	SB10W86197_UN38.3	SB10W86197_UN38.3.5_test summary	3.85	15.4	80	343	6.402
SB10W67395	5B10W67385	L19C4PD1	SDS_Coslight	SB10W67395_UN38.3	SB10W67395_UN38.3.5_test summary	3.84	7.68	60	254.82	4.692
SB10X87837	5B10X87836	L19C4PD8	SDS_Coslight	SB10X87837_UN38.3	SB10X87837_UN38.3.5_test summary	3.84	7.68	41	175.8	6.492
SB10W86960	5B10W86950	L19C4PF1	SDS_Coslight	SB10W86960_UN38.3	SB10W86960_UN38.3.5_test summary	3.8	15.2	70	314	5.574
SB10X18189	5B10X18188	L19C4PF2	SDS_Coslight	SB10X18189_UN38.3	SB10X18189_UN38.3.5_test summary	3.84	15.36	70	296	5.472
SB10Y75087	5B10Y75089	L19C4PH0	SDS_Coslight	SB10Y75087_UN38.3	SB10Y75087_UN38.3.5_test summary	3.86	7.72	63.5	255	4.83
SB10Z33898	5B10Z33895	L19C4PH2	SDS_Coslight	SB10Z33898_UN38.3	SB10Z33898_UN38.3.5_test summary	3.84	7.68	60	255.6	4.578
SB11B36284	5B11B36273	L20C2PF0	SDS_Coslight	SB11B36284_UN38.3	SB11B36284_UN38.3.5_test summary	3.85	7.68	38	158.3	2.922
SB11B36277	5B11B36275	L20C3PF0	SDS_Coslight	SB11B36277_UN38.3	SB11B36277_UN38.3.5_test summary	3.7	11.1	45	233	3.582
SB11C04258	5B11C04255	L20C4PD2	SDS_Coslight	SB11C04258_UN38.3	SB11C04258_UN38.3.5_test summary	3.86	15.44	61	235.31	4.62
SB11B44629	5B11B44627	L20C4PE0	SDS_Coslight	SB11B44629_UN38.3	SB11B44629_UN38.3.5_test summary	3.86	7.72	41	173.6	3.15
SB11C66153	5B11C66151	L20C4PF2	SDS_Coslight	NO UN38.3	NO Test summary	3.86	7.72	61	243	4.605

Battery Part Numbers			Battery Information							
Lenovo ASM Part Number	Lenovo FRU Part Number	Lenovo Model Name	MSDS Type #	UN DOT 38.3 Test Certificate	supplemental info	Cell Voltage (V)	Battery Voltage (V)	Watt hour Rating (Wh)	Weight (grams)	Equivalent Lithium Content (grams)
SB10K97581	01AV424		SDS_Coslight	SB10K97581_UN38.3	SB10K97581_UN38.3.5_test summary	3.8	11.4	24	137.6	1.90
SB10K97573	01AV416		SDS_Coslight	SB10K97573_UN38.3	SB10K97573_UN38.3.5_test summary	3.8	15.2	32	168	4.93
SB10W51938	5B10W51839	L18C3PD1	SDS_Coslight	SB10W51938_UN38.3	SB10W51938_UN38.3.5_test summary	3.84	11.52	55	240	4.455
SB10W51934	5B10W51835	L18C4P71	SDS_Coslight	SB10W51934_UN38.3	SB10W51934_UN38.3.5_test summary	3.84	15.36	49	218	3.99
SB11A13106	5B11A13108	L20C3P71	SDS_Coslight	SB11A13106_UN38.3	SB11A13106_UN38.3.5_test summary	3.86	11.58	52.8	204	3.9843
SB10W51928	5B10W51829	L18C3P71	SDS_Coslight	SB10W51928_UN38.3	SB10W51928_UN38.3.5_test summary	3.84	11.52	49	220	3.95
SB10K97609	01AV448	L17C3P51	SDS_Coslight	SB10K97609_UN38.3	SB10K97609_UN38.3.5_test summary	3.7	11.1	45	225	3.71
SB10K97613	01AV466	L17C3P52	SDS_Coslight	SB10K97613_UN38.3	SB10K97613_UN38.3.5_test summary	3.7	11.1	45	236	3.71
SB10K97627	01AV483	L17C3P53	SDS_Coslight	SB10K97627_UN38.3	SB10K97627_UN38.3.5_test summary	3.7	11.1	45	237.3	3.71
SB10K97624	01AV475	L17C4P71	SDS_Coslight	SB10K97624_UN38.3	SB10K97624_UN38.3.5_test summary	3.84	15.36	54	234	4.22
SB10Q76929	01AY969	L17C4P72	SDS_Coslight	SB10Q76929_UN38.3	SB10Q76929_UN38.3.5_test summary	3.84	15.36	80.4	323	6.28
SB10K97637	01AV498	L17C6P51	SDS_Coslight	SB10K97637_UN38.3	SB10K97637_UN38.3.5_test summary	3.8	11.4	99	475	7.82
SB10K97619	01AV472	L17C6P71	SDS_Coslight	SB10K97619_UN38.3	SB10K97619_UN38.3.5_test summary	3.8	11.4	48	243.6	3.80
SB10K97629	01AV485	L17C6P72	SDS_Coslight	SB10K97629_UN38.3	SB10K97629_UN38.3.5_test summary	3.8	11.4	48	243.6	3.80
SB10T83151	5B10W13908	L18C3P71	SDS_Coslight	SB10T83151_UN38.3	SB10T83151_UN38.3.5_test summary	3.84	11.52	49	220	3.95
SB10K97648	02DL010	L18C3P71	SDS_Coslight	SB10K97648_UN38.3	SB10K97648_UN38.3.5_test summary	3.84	11.52	49	220	3.95
SB10K97654	02DL016	L18C3PD1	SDS_Coslight	SB10K97654_UN38.3	SB10K97654_UN38.3.5_test summary	3.84	11.52	55	240	4.46
SB10T83155	5B10W13912	L18C3PD1	SDS_Coslight	SB10T83155_UN38.3	SB10T83155_UN38.3.5_test summary	3.84	11.52	55	240	4.455
SB10K97644	02DL006	L18C4P71	SDS_Coslight	SB10K97644_UN38.3	SB10K97644_UN38.3.5_test summary	3.84	15.36	49	218	3.99
SB10T83177	5B10W13934	L18C4P90	SDS_Coslight	SB10T83177_UN38.3	SB10T83177_UN38.3.5_test summary	3.84	15.36	44	191.6	3.582
SB10T83120	02DL031	L18C4P90	SDS_Coslight	SB10T83120_UN38.3	SB10T83120_UN38.3.5_test summary	3.84	15.36	44	191.6	3.58
SB10T83145	5B10W13902	L18C6P90	SDS_Coslight	SB10T83145_UN38.3	SB10T83145_UN38.3.5_test summary	3.75	11.25	87.5	410.86	6
SB10K97665	02DL029	L18C6P90	SDS_Coslight	SB10K97665_UN38.3	SB10K97665_UN38.3.5_test summary	3.75	11.25	87.5	410.86	6
SB10K97657	02DL019	L18C6PD1	SDS_Coslight	SB10K97657_UN38.3	SB10K97657_UN38.3.5_test summary	3.8	11.4	48	235	3.80
SB10K97663	02DL027	L18C6PD2	SDS_Coslight	SB10K97663_UN38.3	SB10K97663_UN38.3.5_test summary	3.8	11.4	48	235	3.80
SB10Z26488	5B10Z26487	L19C4PG3	SDS_Coslight	SB10Z26488_UN38.3	SB10Z26488_UN38.3.5_test summary	3.86	7.72	42	173.79	3.198
SB10Z27860	5B10Z27862	L19C4PG4	SDS_Coslight	SB10Z27860_UN38.3	SB10Z27860_UN38.3.5_test summary	3.86	7.72	42	173.79	3.198
SB10W51916	5B10W51815	L20C4P72	SDS_Coslight	SB10W51916_UN38.3	SB10W51916_UN38.3.5_test summary	3.84	15.36	57	235	4.3236

# Celxpert Safety Data Sheet

## [29 CFR 1910.1200]

### Safety Data Sheet

May be used to comply with OSHA's Hazard communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

### US Department of Labor

Occupational Safety and Health Administration  
(Non-Mandatory Form) Form Approved  
OMB No.1218-0072

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name : Lithium Ion Rechargeable Battery Pack

Product Detail information: Refer Table "SDS\_Coslight"

MANUFACTURER : Celxpert(KunShan)Energy Co., Ltd

ADDRESS : NO.1111, Hanpu Road, Yushan Town, Kunshan City, Jiangsu Province, P.R.  
China

TELEPHONE : +86-512-57775999#2532

FAX : +86-512-5777-3839

## SECTION 2: HAZARDS IDENTIFICATION

### PROTENTIAL HEALTH EFFECTS

#### 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.

**SECTION 3: INGREDIENT**

Battery Cell

HAZARDOUS INGREDIENTS	%	CAS NUMBER
Cobalt compound	4-50	1307-96-6
Styrene-Butadiene-Rubber	<1	27288-99-9
Aluminum Foil	2-10	7429-90-5
Polyvinylidene Fluoride (PVDF)	<5	24937-79-9
Copper Foil	2-10	7440-50-8
Carbon	10-30	7440-44-0
Electrolyte (Ethylene carbonate)	10-20	96-49-1
Lithium hexafluorophosphate	<5	21324-40-3
Stainless steel, Nickel and inert materials	Remainder	N/A

Circuit Module

HAZARDOUS INGREDIENTS	%	CAS NUMBER
Lead	0.001	7439-92-1
Mercury	0	7439-97-6
Chromium	0	7440-47-3
Cadmium	0	7440-43-9
Plastic case and Si2O	0	N/A

Plastic Parts and Paints

HAZARDOUS INGREDIENTS	%	CAS NUMBER
Lead	<0.1	7439-92-1
Nickle	<0.01	7440-02-0
CFCs	0	75-69-4
Polychlorinated Biphenyls	0	1336-36-3

**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(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.

## SECTION 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 EXTINGUISHING 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.

## SECTION 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.

## SECTION 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.

## SECTION 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.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

## SECTION 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.

## SECTION 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:

Chlorinated Fluorohydrocarbon (FCKW)

Acrylonitrile

Styrol

Phenol

Benzol

Mercury of greater than 0.0001 wt% for alkaline battery

Mercury of greater than 0.0005 wt% for other battery

Lithium content of greater than 0.5g/battery cell

Cadmium, lead, and other harmful heavy metal

And will comply with the regulation of 49 CFR (DOT regulation), International Air Transport Association (IATA), and Deuche Forschungsgemeinschaft (DFG) regarding concentrations of emitted substances.

This product does not contain mercury and cadmium.

Mercury content: N/A

Cadmium content: N/A

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

Disposal should be in accordance with local, state or national legislation.

**SECTION 14: TRANSPORT INFORMATION**

- The International Civil Aviation Organization (ICAO) Technical Instructions(2019-2020).
- The International Air Transport Association (IATA) Dangerous Goods Regulations (62nd Edition, 2021). Packing instruction 965 Section IA, IB or II for Lithium Ion battery.
- The International Maritime Dangerous Goods (IMDG) Code , 2018 Edition ( Incorporating Amendment 39-18 ) with special provision 188 & 230.
- US Hazardous Materials Regulations 49 CFR(Code of Federal Regulations)Sections 173-185 Lithium batteries and cells.
- The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries, ST-SG-AC10-11-Rev6-Amend1 (UN3480) .

**SECTION 15: REGULATORY INFORMATION**

OSHA hazard communication standard (29 CFR 1910.1200)

Hazardous                       Non-hazardous

**SECTION 16: OTHER INFORMATION**

Package if damaged: do not load or transport.

Celxpert contact window: J.D. Chen

For more information,call: +886-3-4899054

**SECTION 17: UN MANUAL OF TEST CRITERIA**

All battery pack model pass UN383 test and drop test.

Item	Test Item	Test specification
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T1	Altitude Simulation (UN38.3-1)	<p>1-1. 4 batteries are standard charged. 4 batteries are 1C cycled 25 times, ending in fully charged state. All batteries weight is measured. The charged batteries voltage are measured and recorded.</p> <p>1-2. Batteries shall be stored at a pressure of 11.6Kpa or less for at least six hours at ambient temperature 20+/-5 °C.</p> <p>1-3. Vacuum is released. All cells weight is measured. The charged cell voltage are measured and recorded.</p>
T2	Thermal test (UN38.3-2)	<p>2-1. Packs are stored for 6 hours at 72°C±2°C, followed by storage for 6 hours at -40°C±2°C. The maximum time interval between test temperature extremes is 30 minutes.</p> <p>2-2. Repeat 2-1 for 10 times. Then store the packs at ambient for 24 hours. All packs weight are measured. The charged battery voltage are measured and recorded.</p>

Item	Test Item	Test specification
T3	Vibration test (UN38.3-3)	3-1. Packs are firmly secured to the platform of the vibration machine without distorting the packs in such a manner as to faithfully transmit the vibration. The vibration shall be a sinusoidal waveform with a logarithmic sweep between 7 and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle shall be repeated 12 times for a total of 3 hours for each of 3 mutually perpendicular to the terminal face. 3-2. The logarithmic frequency sweep is as follows: 7-18 Hz → 1gn 18-50 Hz → 0.8mm amplitude 50-200 Hz → 8gn 3-3. All packs weight are measured. The charged packs voltage are measured and recorded.
T4	Shock test (UN38.3-4)	4-1. Packs shall be secured to the testing machine by means of a rigid mount, which will support all mounting surfaces. 4-2. Packs shall be subjected to a half-sine shock of peak acceleration 150gn and pulse duration of 6 milliseconds. Each pack shall be subjected to 3 shocks in the positive direction followed by three shocks in the negative direction of three mutually perpendicularly mounting positions of the pack for a total of 18 shocks. 4-3. All batteries weight are measured. The charged cell voltage are measured and recorded.
T5	Short Circuit Test (UN38.3-5,	5-1. Packs are placed in to a 57°C±4°C oven, and exterior packs temperature are monitored 5-2. When packs exterior reach 57°C±4°C, they are shorted by connecting terminals with a copper wire of resistance less than 100 mOhm. 5-3. The short was continued for more than 1hour or the cell temperature return to 57°C. The packs are observed for a further 6 hours.
T6	Impact test (UN38.3-6)	6-1. Cell's diameter ≥ 18mm, Execution impact test. (A 9.1 Kg mass is to be dropped from a height of 61±2.5cm onto the sample.) 6-2. Cell's diameter < 18mm, Execution crush test (The cells are crushed with a 13 KN with the crush tester. Once the force is obtained it is to be released.)
T7	Overcharge test (UN38.3-7)	7-1. The charge current shall be twice the SPEC's recommended maximum continuous charge current. 7-2. The minimum voltage of the test shall be as follows: (a) When the SPEC's recommended charge voltage is not more than 18V, the minimum voltage of the test shall be the lesser of two times the maximum charge voltage of the battery or 22V. (b) When the SPEC's recommended charge voltage is more than 18V, the minimum voltage of the test shall be 1.2 times the maximum charge voltage. 7-3. Tests are to be conducted at ambient temperature. The duration of the test shall be 24 hours.
T8	Forced discharge test-cell only (UN38.3-8)	8-1. Cell shall be forced discharged at ambient temperature by connecting it in series with a 12 V D.C. power supply at an initial current equal to the maximum discharge current Specified by the manufacturer.

Package Drop Test: Test specification: Height :120cm.