

## Explanatory sheet about safety of product for transportation

(Safety data sheet for transportation)

### 1. Basic item

Product name: Lithium ion battery (“Lithium ion battery” includes lithium ion polymer battery in this document)  
UN number: 3480  
Product Part Number: Refer to Table 1.  
Manufacturer: LG Chemical, Ltd.  
Address: LG Twin Towers, 128 Yeoui-daero, Yeongdeungpo-gu Seoul 07336, Korea  
Phone number: +82-2-3773-1114

### 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

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

#### 3-1) Component cell

The Watt-hour rating of the component Lithium ion cells is not more than 20Wh.

#### 3-2) Battery pack

1. The Watt-hour rating of the battery is not more than 100Wh.
2. Package of the battery satisfies the following conditions when LG Chemical ships.
  - (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.
  - (3) The package net weight is not more than 10kg.
  - (4) The product and package specification follow and meet IMDG SP188.
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%, attached by required marks and labels, according to Packing Instruction 965 Section IB of the ICAO and IATA regulations.

Jan, 1, 2021

Hak Cheol Shin

LG Chemical Ltd

**HAK CHEOL SHIN**  
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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	supplemental info	Cell Voltage (V)	Battery Voltage (V)	Watt hour Rating (Wh)	Weight (grams)	Equivalent Lithium Content (grams)
45N1166	45N1167		SDS_LGPO211	45N1166_UN38.3		3.70	14.80	63	350	5.28
45N1726	45N1727		SDS_LGPO211	45N1726_UN38.3		3.70	3.70	33	175	2.68
45N1730	45N1731		SDS_LGPO211	45N1730_UN38.3		3.70	3.70	33	175	2.68
45N1748	45N1749		SDS_LGPO211	45N1748_UN38.3		3.70	7.40	34	180	2.82
SB10F46440	00HW002		SDS_LGPO211	SB10F46440_UN38.3		3.80	15.20	51	270	4.03
SB10F46442	00HW004		SDS_LGPO211	SB10F46442_UN38.3		3.70	7.40	36	180	2.90
SB10F46444	00HW006		SDS_LGPO211	SB10F46444_UN38.3		3.70	7.40	27	200	2.15
SB10F46446	00HW008		SDS_LGPO211	SB10F46446_UN38.3		3.80	15.20	67	315	5.32
SB10F46448	00HW010		SDS_LGPO211	SB10F46448_UN38.3		3.70	7.40	36	180	2.90
SB10F46450	00HW012		SDS_LGPO211	SB10F46450_UN38.3		3.70	7.40	27	200	2.15
SB10F46452	00HW014		SDS_LGPO211	SB10F46452_UN38.3		3.80	15.20	67	315	5.32
SB10F46454	00HW016		SDS_LGPO211	SB10F46454_UN38.3		3.80	7.60	32	154	2.56
SB10F46456	00HW018		SDS_LGPO211	SB10F46456_UN38.3		3.80	7.60	32	154	2.56
SB10F46458	00HW020		SDS_LGPO211	SB10F46458_UN38.3		3.80	11.40	53	260	4.15
SB10F46464	00HW026		SDS_LGPO211	SB10F46464_UN38.3		3.80	15.20	45	240	3.59
SB10F46466	00HW028 01AV438		SDS_LGPO211	SB10F46466_UN38.3		3.80	15.20	53	250	4.19
SB10H45075	00NY490 01AV476		SDS_LGPO211	SB10H45075_UN38.3		3.80	15.20	67	365	5.32
SB10H45077	00NY492 01AV477		SDS_LGPO211	SB10H45077_UN38.3		3.80	11.40	90	460	7.22
SB10J78991	00HW043		SDS_LGPO211	SB10J78991_UN38.3		3.80	11.40	42	220	3.37
SB10J78993	00HW045		SDS_LGPO211	SB10J78993_UN38.3		3.82	7.64	37	168	2.95
SB10J78997	01AV400		SDS_LGPO211	SB10J78997_UN38.3		3.80	11.40	42	220	3.37
SB10J79000	01AV403		SDS_LGPO211	SB10J79000_UN38.3		3.80	7.60	40	180	3.20
SB10K97566	01AV409 01AV440		SDS_LGPO211	SB10K97566_UN38.3		3.80	15.20	56	250	4.49
SB10K97569	01AV412		SDS_LGPO211	SB10K97569_UN38.3		3.70	11.10	45	235	3.68
SB10K97577	01AV420 01AV489		SDS_LGPO211	SB10K97577_UN38.3		3.80	11.40	24	140	1.89
SB10K97580	01AV423 01AV490		SDS_LGPO211	SB10K97580_UN38.3		3.80	11.40	24	140	1.89
SB10L84121	00UR890 01AV493		SDS_LGPO211	SB10L84121_UN38.3		3.80	15.20	32	220	2.52
SB10K97586	01AV429 01AV494		SDS_LGPO211	SB10K97586_UN38.3		3.86	11.58	57	248	4.44
SB10K97589	01AV432		SDS_LGPO211	SB10K97589_UN38.3		3.80	15.20	51	250	4.09
SB10K97592	01AV435		SDS_LGPO211	SB10K97592_UN38.3		3.80	11.40	42	220	3.37
SB10K97595	01AV442		SDS_LGPO211	SB10K97595_UN38.3		3.80	11.40	42	220	3.37
SB10T83162	5B10W13919 01AV454	L16L4P91	SDS_LGPO211	SB10T83162 SB10K97599_UN38.3		3.86	7.72	42	173	3.26
SB10T83130	5B10W13887 01AV445	L17L3P51	SDS_LGPO211	SB10T83130 SB10K97606_UN38.3		3.70	11.10	45	235	3.68
SB10K97610	01AV463	L17L3P52	SDS_LGPO211	SB10K97610		3.70	11.10	45	235	3.68
SB10T83137	5B10W13894		SDS_LGPO211	SB10T83137_UN38.3		3.80	11.40	48	240	3.78
SB10T83163	5B10W13920 01AV470	L17L6P71	SDS_LGPO211	SB10T83163 SB10K97617_UN38.3		3.80	11.40	48	240	3.78
SB10K97620	01AV478	L17L3P71	SDS_LGPO211	SB10K97620_UN38.3		3.86	11.58	57	240	4.44
SB10T83134	5B10W13891 01AV481	L17L3P53	SDS_LGPO211	SB10T83134 SB10K97625_UN38.3		3.70	11.10	45	245	3.68
SB10T83128	5B10W13885 01AV486	L17L3P54	SDS_LGPO211	SB10T83128 SB10K97630_UN38.3		3.80	11.40	42	210	3.37
SB10T83194	5B10W13951 01AV495	L17L6P51	SDS_LGPO211	SB10T83194 SB10K97634_UN38.3		3.80	11.40	90	460	7.22
5B10M52816		L14L2P21	SDS_LGPO211	5B10M52816_UN38.3		3.70	7.40	30	161	2.45
5B10M52817		L14L3P21	SDS_LGPO211	5B10M52817_UN38.3		3.70	11.10	45	220	3.68
5B10K10219		L14L2P22	SDS_LGPO211	5B10K10219_UN38.3		3.80	7.60	35	160	2.78
5B10H17230		L14L2P22	SDS_LGPO211	5B10H17230_UN38.3		3.80	7.60	35	160	2.78
5B10K85625		L15L4PC0	SDS_LGPO211	5B10K85625_UN38.3		3.80	7.60	46	208	7.33
5B10K85056		L15L2PB1	SDS_LGPO211	5B10K85056_UN38.3		3.80	7.60	35	160	2.78
5B10K85055		L15L3PB0	SDS_LGPO211	5B10K85055_UN38.3		3.80	11.40	53	220	4.17
5B10K90803		L15L2PB2	SDS_LGPO211	5B10K90803_UN38.3		3.80	7.60	30	156	2.43
5B10K90804		L15L2PB4	SDS_LGPO211	5B10K90804_UN38.3		3.80	7.60	30	156	2.43
SB10W67355		L15L3PB1	SDS_LGPO211	SB10W67355 5B10K88049_UN38.3		3.70	11.10	45	221	3.68

5B10M52738		L16L4PB1	SDS_LGPO211	5B10M52738_UN38.3		3.80	7.60	48	194	3.79
5B10M53744		L16L6PC1	SDS_LGPO211	5B10M53744_UN38.3		3.80	11.40	72	291	5.69
5B10M55950		L16L4PB2	SDS_LGPO211	5B10M55950_UN38.3		3.80	15.20	55	247	4.49
5B10M49825		L14L2P21	SDS_LGPO211	5B10M49825_UN38.3		3.70	7.40	30	161	2.45
5B10M49826		L15L3PB0	SDS_LGPO211	5B10M49826_UN38.3		3.80	11.40	53	220	4.17
5B10M50524		L15L2PB1	SDS_LGPO211	5B10M50524_UN38.3		3.80	7.60	35	161	2.78
5B10M91442		L16L2PB2	SDS_LGPO211	5B10M91442_UN38.3		3.70	7.40	30	140	2.45
SB10W67291 5B10M91443		L16L2PB3	SDS_LGPO211	SB10W67291 5B10M91443_UN38.3		3.80	7.60	35	141	2.78
5B10N03289		L16L4PB3	SDS_LGPO211	5B10N03289_UN38.3		3.80	7.60	48	191	3.79
5B10N87357		L17L3P61	SDS_LGPO211	5B10N87357_UN38.3		3.80	11.40	36	150	2.84
SB10W67293 5B10P54006		L17L2PB1	SDS_LGPO211	SB10W67293 5B10P54006_UN38.3		3.80	7.60	30	139	2.43
5B10P54002		L17L2PB2	SDS_LGPO211	5B10P54002_UN38.3		3.86	7.72	39	151	3.03
SB10W67170 5B10P54004		L17L2PB3	SDS_LGPO211	SB10W67170 5B10P54004_UN38.3		3.80	7.60	30	142	2.43
5B10P54000		L17L2PB4	SDS_LGPO211	5B10P54000_UN38.3		3.86	7.72	39	155	3.03
5B10P98186		L17L2PB5	SDS_LGPO211	5B10P98186_UN38.3		3.86	7.72	39	188	3.03
5B10P98187		L17L2PB5	SDS_LGPO211	5B10P98187_UN38.3		3.86	7.72	39	188	3.03
5B10P98185		L17L2PB6	SDS_LGPO211	5B10P98185_UN38.3		3.86	7.72	39	191	3.03
5B10Q13162		L17L3PB0	SDS_LGPO211	5B10Q13162_UN38.3		3.80	11.40	42	183	3.37
SB10W67207 5B10Q39206		L14L2P21	SDS_LGPO211	SB10W67207 5B10Q39206_UN38.3		3.70	7.40	30	161	2.45
SB10W67410 5B10Q39201		L15L3PB0	SDS_LGPO211	SB10W67410 5B10Q39201_UN38.3		3.80	11.40	53	220	4.17
5B10Q39198		L17L3P61	SDS_LGPO211	5B10Q39198_UN38.3		3.80	11.40	36	150	2.84
SB10W67330 5B10Q39197		L17L3PE0	SDS_LGPO211	SB10W67330 5B10Q39197_UN38.3		3.80	11.40	53	239	4.17
5B10Q41209		L17L3PH0	SDS_LGPO211	5B10Q41209_UN38.3		3.86	11.58	48	198	3.80
SB10W67397 5B10Q41212		L17L2PF0	SDS_LGPO211	SB10W67397 5B10Q41212_UN38.3		3.80	7.60	35	151	2.78
SB10W67298 5B10Q41213		L17L2PF1	SDS_LGPO211	SB10W67298 5B10Q41213_UN38.3		3.78	7.56	30	137	2.44
SB10W67166 5B10Q82428		L17L3PG1	SDS_LGPO211	SB10W67166 5B10Q82428_UN38.3		3.78	7.56	53	223	2.81
121-500224		L13L4P21	SDS_LGPO211	121-500224_UN38.3		3.70	7.40	34	300	2.82
5B10H55224		L14L4P24	SDS_LGPO211	5B10H55224_UN38.3		3.80	7.60	67	290	5.29
5B10J40264		L15L4P71	SDS_LGPO211	5B10J40264_UN38.3		3.80	7.60	40	350	3.30
5B10J46130		L14L4P72	SDS_LGPO211	5B10J46130_UN38.3		3.80	7.60	40	175	3.20
5B10K10180		L14L3P21	SDS_LGPO211	5B10K10180_UN38.3		3.70	7.40	30	161	2.43
5B10K10214		L14L3P21	SDS_LGPO211	5B10K10214_UN38.3		3.70	11.10	45	220	3.65
5B10K90801		L15L4PC1	SDS_LGPO211	5B10K90801_UN38.3		3.80	7.60	40	180	3.16
5B10K90802		L15L4PC2	SDS_LGPO211	5B10K90802_UN38.3		3.80	7.60	52	248	4.09
5B10L79291		L15L4PC3	SDS_LGPO211	5B10L79291_UN38.3		3.86	7.72	41	164	3.24
5B10R24749		L17L2PF0	SDS_LGPO211	5B10R24749_UN38.3		3.80	7.60	35	151	2.78
SB10W67164 5B10S73397		L17L3PB0	SDS_LGPO211	SB10W67164 5B10S73397_UN38.3		3.80	11.40	42	184	3.37
SB10T83170 SB10K97659	5B10W13927 02DL021	L18L3P72	SDS_LGPO211	SB10T83170 SB10K97659_UN38.3		3.85	11.55	51	208	3.96
SB10T83148 SB10K97645	5B10W13905 02DL007	L18L3P73	SDS_LGPO211	SB10T83148 SB10K97645_UN38.3		3.85	11.55	51	220	3.96
SB10T83156 SB10K97649	5B10W13913 02DL011	L18L3P71	SDS_LGPO211	SB10T83156 SB10K97649_UN38.3		3.86	11.58	57	247	4.44
SB10T83152 SB10K97651	5B10W13909 02DL013	L18L3PD1	SDS_LGPO211	SB10T83152 SB10K97651_UN38.3		3.86	11.58	57	247	4.44
SB10T83173 SB10K97642	5B10W13930 02DL004	L18L4P71	SDS_LGPO211	SB10T83173 SB10K97642_UN38.3		3.85	15.40	51	219	3.97
SB10W67254 5B10T03403		L18L3PF1	SDS_LGPO211	SB10W67254 5B10T03403_UN38.3		3.78	11.34	36	177	2.90
SB10T83182 5B10T04978		L18L3PG2	SDS_LGPO211	SB10T83182 5B10T04978_UN38.3		3.86	11.58	57	247	4.44
SB10T83185 5B10T09113		L18L3PG2	SDS_LGPO211	SB10T83185 5B10T09113_UN38.3		3.86	11.58	57	247	4.44
SB10W67288 5B10T09093		L18L3PF2	SDS_LGPO211	SB10W67288 5B10T09093_UN38.3		3.78	11.34	36	181	2.90
SB10W67187 5B10T09094		L18L3PF3	SDS_LGPO211	SB10W67187 5B10T09094_UN38.3		3.78	11.34	53	220	4.22
SB10W67427 5B10T09091		L18L3PF4	SDS_LGPO211	SB10W67427 5B10T09091_UN38.3		3.78	11.34	53	227	4.22
SB10W67370 5B10T09088		L18L4PF0	SDS_LGPO211	SB10W67370 5B10T09088_UN38.3		3.78	15.12	70	298	5.63
SB10W67224 5B10T26389		L18L3PF6	SDS_LGPO211	SB10W67224 5B10T26389_UN38.3		3.78	11.34	53	227	4.22
SB10T83189 5B10T36867		L17L3PB0	SDS_LGPO211	SB10T83189 5B10T36867_UN38.3		3.80	11.40	42	183	3.37
SB10W69462 5B10T30219		L17L3PG1	SDS_LGPO211	SB10W69462 5B10T30219_UN38.3		3.78	7.56	53	223	2.81
SB10W67235 5B10U40210		L18L4PE0	SDS_LGPO211	SB10W67235 5B10U40210_UN38.3		3.87	7.74	51	200	4.01

SB10W67205 5B10U95571		L18L3PF7	SDS_LGPO211	SB10W67205 5B10U95571_UN38.3		3.85	11.55	42	182	3.32
SB10W67352 5B10U97773		L19L4PD2	SDS_LGPO211	SB10W67352 5B10U97773_UN38.3		3.85	15.40	62	260	4.90
SB10W67421 SB10V25244	5B10V25239	L18L3PF2	SDS_LGPO211	SB10W67421 SB10V25244_UN38.3		3.78	11.34	36	181	2.90
SB10W67400 SB10V25247	5B10V25250	L19L3PF1	SDS_LGPO211	SB10W67400 SB10V25247_UN38.3		3.85	11.55	57	237	4.48
SB10W67179 SB10V27762	5B10V27763	L19L3PD3	SDS_LGPO211	SB10W67179 SB10V27762_UN38.3		3.85	11.55	56	237	4.48
SB10W67184 SB10V25258	5B10V25259	L16L2PB3	SDS_LGPO211	SB10W67184 SB10V25258_UN38.3		3.80	7.60	35	150	2.78
SB10W42960	5B10W42964	L19L2PF1	SDS_LGPO211	SB10W42960_UN38.3		3.80	7.60	32	143	2.56
SB10W52016	5B10W52017	L17L3PB0	SDS_LGPO211			3.80	11.40	42	220	3.37
SB10W86961	5B10W86945	L19L3PF2	SDS_LGPO211	SB10W86961_UN38.3		3.85	11.55	57	237	4.48
SB10W86949	5B10W86948	L19L4PF1	SDS_LGPO211	SB10W86949_UN38.3		3.78	15.12	70	302	5.63
SB10W89844	5B10W89841	L19L3PF3	SDS_LGPO211	SB10W89844_UN38.3		3.80	11.40	45	226	3.66
SB10X02596	NA	L19L3PF5	SDS_LGPO211	SB10X02596_UN38.3		3.70	11.10	45	196	3.68
SB10W89837	5B10W89839	L19L3PF4	SDS_LGPO211	SB10W89837_UN38.3		3.80	11.40	42	225	3.37
SB10W89847	5B10W89846	L19L4PF2	SDS_LGPO211	SB10W89847_UN38.3		3.80	15.20	56	257	4.49
SB10X02608	5B10X02603	L19L3PD5	SDS_LGPO211	SB10X02608_UN38.3		3.70	11.10	45	225	3.68
SB10W86958	5B10W86943	L19L3PF7	SDS_LGPO211	SB10W86958_UN38.3		3.70	11.10	45	225	3.68
SB10T83203	5B10W13960	L19L6P72	SDS_LGPO211	SB10T83203_UN38.3		3.85	11.55	68	284	5.32
SB10X49074	5B10X49077	L19L3PD6	SDS_LGPO211	SB10X49074_UN38.3		3.85	11.55	53	226	4.15
SB10X55568	5B10X55572	L19L3PF8	SDS_LGPO211	SB10X55568_UN38.3		3.70	11.10	45	225	3.68
SB10T83201	5B10W13958	L19L6P71	SDS_LGPO211	SB10T83201_UN38.3		3.85	11.55	94	380	7.50
SB10X63137	5B10X63136	L19L4PG2	SDS_LGPO211	SB10X63137_UN38.3		3.85	7.7	51	208	3.97
SB10X65683	5B10X65684	L19L3PG1	SDS_LGPO211	SB10X65683_UN38.3		3.85	11.55	49	193	3.75
SB10Z21203	5B10Z21198	L19L3PDA	SDS_LGPO211	SB10Z21203_UN38.3		3.85	11.55	45	190	3.57
SB10Z26483	5B10Z26485	L19L4PDC	SDS_LGPO211	SB10Z26483_UN38.3		3.85	15.4	71	293	5.59
SB10T83215	5B10W13972	L20L4P71	SDS_LGPO211	SB10T83215_UN38.3		3.87	15.48	57	233	4.37
SB11A14634	5B11A14635	L20L3P71	SDS_LGPO211	SB11A14634_UN38.3		3.87	11.61	53	211	4.04
SB10W51914	5B10W13976	L20L4P72	SDS_LGPO211	SB10W51914_UN38.3		3.84	15.36	57	248	4.40
SB10W51918	5B10W51817	L20L4P73	SDS_LGPO211	SB10W51918_UN38.3		3.86	15.44	55	226	4.20
SB11B36304/ SB11B36302	5B11B36310/ 5B11B36300	L20L3PG0	SDS_LGPO211	B36304/SB11B36302_UN38.3		3.85	11.55	47	191	3.65
SB11B36322	5B11B36309	L20L3PG2	SDS_LGPO211	SB11B36322_UN38.3		3.8	11.4	42	190	3.27
SB11B36303	5B11B36321	L20L3PG1	SDS_LGPO211	SB11B36303_UN38.3		3.86	11.58	57	243	4.30
SB11B36281	5B11B36285	L20L2PF0	SDS_LGPO211	SB11B36281_UN38.3		3.84	7.68	38	154	2.90
SB11B36276	5B11B36283	L20L3PF0	SDS_LGPO211	SB11B36276_UN38.3		3.7	11.1	45	230	3.58
SB11B48826	5B11B48817	L20L4PC0	SDS_LGPO211	SB11B48826_UN38.3		3.84	15.36	60	261	4.64
SB11B48823	5B11B48830	L20L4PC1	SDS_LGPO211	SB11B48823_UN38.3		3.84	15.36	80	358	6.49
SB11B66556	5B11B66554	L20L4PE1	SDS_LGPO211	SB11B66556_UN38.3		3.84	15.36	75	310	5.90
SB10W51930	5B10W51831	L18L3P71	SDS_LGPO211	SB10W51930_UN38.3		3.86	11.58	57	247	4.44
SB10W51925	5B10W51826	L18L3P73	SDS_LGPO211	SB10W51925_UN38.3		3.85	11.55	51	220	3.96
SB11C04260	5B11C04256	L20L4PD3	SDS_LGPO211	SB11C04260_UN38.3		3.84	15.36	71	280	5.44
SB10W51944	5B10W51843	L18L3P72	SDS_LGPO211	SB10W51944_UN38.3		3.85	11.55	51	208	3.96
SB10W67288 5B10T09093		L18L3PF2	SDS_LGPO201	SB10W67288 5B10T09093_UN38.3		3.78	11.34	36	181	2.90
SB10W67187 5B10T09094		L18L3PF3	SDS_LGPO201	SB10W67187 5B10T09094_UN38.3		3.78	11.34	52.5	220	4.22
SB10W67427 5B10T09091		L18L3PF4	SDS_LGPO201	SB10W67427 5B10T09091_UN38.3		3.78	11.34	52.5	227	4.22
SB10W67370 5B10T09088		L18L4PF0	SDS_LGPO201	SB10W67370 5B10T09088_UN38.3		3.78	15.12	70	298	5.63
SB10W67224 5B10T26389		L18L3PF6	SDS_LGPO201	SB10W67224 5B10T26389_UN38.3		3.78	11.34	52.5	227	4.22
SB10T83189 5B10T36867		L17L3PB0	SDS_LGPO201	SB10T83189 5B10T36867_UN38.3		3.80	11.40	42	183	3.37
SB10W69462 5B10T30219		L17L3PG1	SDS_LGPO201	SB10W69462 5B10T30219_UN38.3		3.78	7.56	53	223	2.81
SB10W67235 5B10U40210		L18L4PE0	SDS_LGPO201	SB10W67235 5B10U40210_UN38.3		3.87	7.74	51	200	4.01
SB10W67205 5B10U95571		L18L3PF7	SDS_LGPO201	SB10W67205 5B10U95571_UN38.3		3.85	11.55	42	182	3.32
SB10W67352 5B10U97773		L19L4PD2	SDS_LGPO201	SB10W67352 5B10U97773_UN38.3		3.85	15.40	62	260	4.90
SB10W67421 SB10V25244	5B10V25239	L18L3PF2	SDS_LGPO201	SB10W67421 SB10V25244_UN38.3		3.78	11.34	36	181	2.90
SB10W67400 SB10V25247	5B10V25250	L19L3PF1	SDS_LGPO201	SB10W67400 SB10V25247_UN38.3		3.85	11.55	57	237	4.48
SB10W67179 SB10V27762	5B10V27763	L19L3PD3	SDS_LGPO201	SB10W67179 SB10V27762_UN38.3		3.85	11.55	56	237	4.48

SB10W67184 SB10V25258	5B10V25259	L16L2PB3	SDS_LGPO201	SB10W67184 SB10V25258_UN38.3	3.80	7.60	35	150	2.78
SB10W42960	5B10W42964	L19L2PF1	SDS_LGPO201	SB10W42960_UN38.3	3.80	7.60	32	143	2.56
SB10W52016	5B10W52017	L17L3PB0	SDS_LGPO201		3.80	11.40	42	220	3.37
SB10W86961	5B10W86945	L19L3PF2	SDS_LGPO201	SB10W86961_UN38.3	3.85	11.55	57	237	4.48
SB10W86949	5B10W86948	L19L4PF1	SDS_LGPO201	SB10W86949_UN38.3	3.78	15.12	70	302	5.63
SB10W89844	5B10W89841	L19L3PF3	SDS_LGPO201	SB10W89844_UN38.3	3.80	11.40	45	226	3.66
SB10X02596	NA	L19L3PF5	SDS_LGPO201	SB10X02596_UN38.3	3.70	11.10	45	196	3.68
SB10W89837	5B10W89839	L19L3PF4	SDS_LGPO201	SB10W89837_UN38.3	3.80	11.40	42	225	3.37
SB10W89847	5B10W89846	L19L4PF2	SDS_LGPO201	SB10W89847_UN38.3	3.80	15.20	56	257	4.49
SB10X02608	5B10X02603	L19L3PD5	SDS_LGPO201	SB10X02608_UN38.3	3.70	11.10	45	225	3.68
SB10W86958	5B10W86943	L19L3PF7	SDS_LGPO201	SB10W86958_UN38.3	3.70	11.10	44.5	225	3.68
SB10T83203	5B10W13960	L19L6P72	SDS_LGPO201	SB10T83203_UN38.3	3.85	11.55	68	284	5.32
SB10X49074	5B10X49077	L19L3PD6	SDS_LGPO201	SB10X49074_UN38.3	3.85	11.55	52.5	226	4.15
SB10X55568	5B10X55572	L19L3PF8	SDS_LGPO201	SB10X55568_UN38.3	3.70	11.10	45	225	3.68
SB10T83201	5B10W13958	L19L6P71	SDS_LGPO201	SB10T83201_UN38.3	3.85	11.55	93.5	380	7.50
SB10X63137	5B10X63136	L19L4PG2	SDS_LGPO201	SB10X63137_UN38.3	3.85	7.70	51	208	3.97
SB10X65683	5B10X65684	L19L3PG1	SDS_LGPO201	SB10X65683_UN38.3	3.85	11.55	49	193	3.75
SB10Z21203	5B10Z21198	L19L3PDA	SDS_LGPO201	SB10Z21203_UN38.3	3.85	11.55	45	190	3.57
SB10Z26483	5B10Z26485	L19L4PDC	SDS_LGPO201	SB10Z26483_UN38.3	3.85	15.40	71	293	5.59
SB10T83215	5B10W13972	L20L4P71	SDS_LGPO201	SB10T83215_UN38.3	3.87	15.48	57	233	4.37
SB11A14634	5B11A14635	L20L3P71	SDS_LGPO201	SB11A14634_UN38.3	3.87	11.61	53	211	4.04
SB10W51914	5B10W13976	L20L4P72	SDS_LGPO201	SB10W51914_UN38.3	3.84	15.36	57	248	4.40
SB10W51918	5B10W51817	L20L4P73	SDS_LGPO201	SB10W51918_UN38.3	3.86	15.44	54.7	226	4.20
SB11B36304/ SB11B36302	5B11B36310/ 5B11B36300	L20L3PG0	SDS_LGPO201	SB11B36304/ SB11B36302_UN38.3	3.85	11.55	47	191	3.65
SB11B36322	5B11B36309	L20L3PG2	SDS_LGPO201	SB11B36322_UN38.3	3.80	11.40	42	190	3.27
SB11B36303	5B11B36321	L20L3PG1	SDS_LGPO201	SB11B36303_UN38.3	3.86	11.58	57	243	4.30
SB11B36281	5B11B36285	L20L2PF0	SDS_LGPO201	SB11B36281_UN38.3	3.84	7.68	38	154	2.90
SB11B36276	5B11B36283	L20L3PF0	SDS_LGPO201	SB11B36276_UN38.3	3.70	11.10	45	230	3.58
SB11B48826	5B11B48817	L20L4PC0	SDS_LGPO201	SB11B48826_UN38.3	3.84	15.36	60	261	4.64
SB11B48823	5B11B48830	L20L4PC1	SDS_LGPO201	SB11B48823_UN38.3	3.84	15.36	80	358	6.49
SB11B66556	5B11B66554	L20L4PE1	SDS_LGPO201	SB11B66556_UN38.3	3.84	15.36	75	310	5.90
SB10W51930	5B10W51831	L18L3P71	SDS_LGPO201	SB10W51930_UN38.3	3.86	11.58	57	247	4.44
SB10W51925	5B10W51826	L18L3P73	SDS_LGPO201	SB10W51925_UN38.3	3.85	11.55	51	220	3.96
SB11C04260	5B11C04256	L20L4PD3	SDS_LGPO201	SB11C04260_UN38.3	3.84	15.36	71	280	5.44
SB10W51944	5B10W51843	L18L3P72	SDS_LGPO201	SB10W51944_UN38.3	3.85	11.55	51	208	3.96

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## MATERIAL SAFETY DATA SHEET

**Product Name:** Lithium Ion Rechargeable Battery

**Product Code:** None

( All Pouch Cell LG Chem. manufactured and whose capacity is less than 20Wh,  
And All Pouch pack capacity is less than 100Wh)

### 1. Chemical Product and Company Identification

#### Manufacturer

LG Chemical Limited  
Twin Tower  
Youido-Dong, Youngdeungpo-Ku  
Seoul, Korea

#### Emergency Telephone Number

82-2-3773-7256

### 2. Composition Information

Hazardous Ingredients	%	CAS Number
Aluminum Foil	2-10	7429-90-5
Nickel compound (proprietary)	0-25	
Manganese compound (proprietary)	0-15	
Cobalt compound (proprietary)	4-50	
Styrene-Butadiene-Rubber	<1	
Polyvinylidene Fluoride (PVDF)	<5	24937-79-9
Copper Foil	2-10	7440-50-8
Carbon (proprietary)	10-30	7440-44-0
Electrolyte (proprietary)	10-20	
Stainless steel, Nickel and inert materials	Remainder	N/A

### 3. Hazards Identification

#### Primary routes of entry

Skin contact	:	NO
Skin absorption	:	NO
Eye contact	:	NO
Inhalation	:	NO
Ingestion	:	NO

#### Emergency Overview

May explode in a fire, which could release hydrogen fluoride gas.  
Use extinguishing media suitable for materials burning in fire.

#### 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

## 4. First Aid Measures

### Inhalation

Not a health hazard.

### Eye contact

Not a health hazard.

### 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

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

### 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.

### 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 125°C, cell(s) may explode/vent.

### 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

No special protective clothing required for handling individual cells.

### Storage

Store in a cool, dry place.

## 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 cells.

#### 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.

### Hazardous Decomposition Products

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

### 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	Teratogenicity	Reproductive toxicity	Acute toxicity
NO	NO	NO	NO

If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.

## 12. Ecological Information

Some materials within the cell are bioaccumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.

## 13. Disposal Considerations

California regulated debris

RCRA Waste Code : Nonregulated

Dispose of according to all federal, state, and local regulations.

## 14. Transport Information

Lithium batteries are classified in Class 9 – Miscellaneous dangerous goods as:

- UN 3480, Lithium ion batteries
- UN 3481, Lithium ion batteries contained in equipment; or
- UN 3481, Lithium ion batteries packed with equipment.

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

- The International Civil Aviation Organization (ICAO) Technical Instructions,
- The International Air Transport Association (IATA) Dangerous Goods Regulations
- The International Maritime Dangerous Goods (IMDG) Code,
- 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,

If those lithium-ion batteries are packed with or contained in an equipment, then it is the responsibility of the shipper to ensure that the consignment are packed in compliance to the 62<sup>nd</sup> edition of 2021 IATA Dangerous Goods Regulations Section II of either Packing Instruction 966 or 967 in order for that consignment to be declared as NOT RESTRICTED (non-hazardous/non-Dangerous). If those lithium-ion batteries are packed with or contained in an equipment, UN No. is UN3481

Each cell or battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3

## 15. Regulatory Information

OSHA hazard communication standard (29 CFR 1910.1200)

Hazardous       Non-hazardous

## 16. Model list of application

Refer to Table 1.