

MATERIAL SAFETY DATA SHEET (Dell)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Lithium ion Rechargeable Battery

MANUFACTURER

Headquarter

Dynapack International Technology Corporation.

4F, No. 1, Lane 21, Hsing-Hwa Road, Kwei-Shan Industrial Zone, Taoyuan, Taiwan

TEL : 886-3-3742277

Http://www.dynapack.com.tw

Wujiang Factory

No.8, Hua Kang Road, Wujiang Economic Development Zone, Jiang Su, PRC

Tel:86-512-63408688

Kunshan Factory

No.68 Taoyuan Road, Kunshan Export Processing Zone, Area B,

Kunshan Jiang Su, PRC

Tel:86-512-57725688

EMERGENCY CONTACT

1+800-424-9300

OUTSIDE THE UNITED STATES

1+703-527-3887

2. COMPOSITION INFORMATION

A. Li-ion Single Cell Matrix

Manufacture	Type	Capacity (mAh)	Lithium Weight( g ) /Cell	UL No	Cd/Pb/Hg
LG-Chem	ICR18650B1	2600(CL)	0.79	MH19896	None
LG-Chem	ICR18650S3	2150 (CL)	0.678	MH19896	None
LG-Chem	ICR18650C1	2800(CL)	0.81	MH19896	None
Samsung SDI	ICR18650-26++	2550 (CL)	0.78	MH21015	None
Samsung SDI	ICR18650-22++	2200 (CL)	0.66	MH21015	None
Samsung SDI	ICR18650-20	2000(CL)	0.50	MH21015	None
Samsung SDI	ICR18650-28A	2800 (CL)	0.84	MH21015	None
ATL	INR18650	2200 (CL)	0.69	MH27725	None
ATL	632996	1850(PY)	0.52	MH27725	None
ATL	513696	1850(PY)	0.52	MH27725	None

ATL	3534LO	2566 (PY)	0.73	MH27725	None
Sanyo	UPF574199	2150(PY)	0.675	MH12383	None
Sanyo	UF103450P	1900(PM)	0.54	MH12383	None

Notice 1 : CL - Cylindrical type; PM - Prismatic type ; PY - Polymer type

## B. Battery Product Matrix

### B.1 Customer (Dell)

<u>Battery Name</u>	<u>Customer P/N</u>	<u>Lithium Weight(g) &amp; Watt-Hour /Pack</u>		<u>Cell number</u>	<u>Cd/Pb/Hg</u>
		<u>Li Weight(g)</u>	<u>Watt-Hour</u>		
Briscoe 6c	Pri # KP437	4.74	56	LG-Chem 2.6 Ah (CL)	None
	Sec #JY349	4.68	56	SDI 2.6 Ah (CL)	None
K/A 4c	Pri # PY961	2.0	29	SDI 2.0 Ah (CL)	None
	Sec # TM795				
CGSY 6c	Pri # DY375	4.74	56	LG-Chem 2.6 Ah (CL)	None
	Sec # PM154	4.68	56	SDI 2.6 Ah (CL)	None
Thurman 4c	Pri #TT344	3.16	37	LG-Chem 2.6 Ah (CL)	None
	Sec # HX198				
Thurman 6c	Pri #NX511	4.74	56	LG-Chem 2.6 Ah (CL)	None
	Sec # CR036				
Thurman 9c	Pri #JN039	7.11	85	LG-Chem 2.6 Ah (CL)	None
	Sec # TT483				
Hawke 6c	Pri #RN887	4.68	56	SDI 2.6 Ah (CL)	None
	Sec # TK363				
Spears 6c	Pri #XR697	4.68	56	SDI 2.6 Ah (CL)	None
	Sec # WK381				
Pacino 6c	Pri#KM976	4.74	56	LG-Chem 2.6 Ah (CL)	None
	Sect# RM870	4.68	56	SDI 2.6 Ah (CL)	None
Pacino 9c	Pri#PW823	7.11	85	LG-Chem 2.6 Ah (CL)	None
	Sect# RM868	7.02	85	SDI 2.6 Ah (CL)	None
Roush 6c	Pri#MP303	4.74	56	LG-Chem 2.6 Ah (CL)	None
	Sect# NM633	4.68	56	SDI 2.6 Ah (CL)	None

Roush 9c	Pri#PT650	7.11	85	LG-Chem 2.6 Ah (CL)	None
	Sect# FU444	7.02	85	SDI 2.6 Ah (CL)	None
Foose 4c	Pri#X064D	3.12	37	SDI 2.6 Ah (CL)	None
	Sec#P858D				
Foose 6c	Pri # WU843	4.74	56	LG-Chem 2.6 Ah (CL)	None
	Sec # MT187	4.68	56	SDI 2.6 Ah (CL)	None
Foose 9c	Pri # RM668	7.02	85	SDI 2.6 Ah (CL)	None
	Sec # PW651				
Nike 9c	Pri#H355F	7.02	85	SDI 2.6 Ah (CL)	None
	Sect# F729F				
Nike 9c	Pri#G102C	7.02	85	SDI 2.6 Ah (CL)	None
	Sect# F224C				
Lola Slice	Sect# HW901	4.05	48	Sanyo 2.15 Ah (PY)	None
Minicooper Slice	Sect# W342C	4.05	48	Sanyo 2.15 Ah (PY)	None
Minicooper 4c	Pri#X595C	2.16	28	Sanyo 1.9 Ah (PM)	None
	Sect# U444C				
Minicooper Hybrid	Pri#Y084C	4.71	58	Samsung 2.8Ah(CL)+ ATL 2.566Ah(PY)	None
	Sect# R840C	4.62	58	LG-Chem 2.8Ah(CL)+ ATL 2.566Ah(PY)	None
Qiao Hong 4c	Pri#Y635G	2.64	32	SDI 2.2 Ah (CL)	None
	Sect# H075H				
Qiao Hong 4c	Pri#M297J	3.16	37	LG-Chem 2.6 Ah (CL)	None
	Sec#N254J				
Yaoming 3c	Pri#G784H	1.98	24	SDI 2.2 Ah (CL)	None
	Sect# J100H				
Yaoming 6c	Pri#G914H	3.96	48	SDI 2.2 Ah (CL)	None
	Sect# J101H				
Yaoming 6c	Pri#M303J	4.74	56	SDI 2.2 Ah (CL)	None
	Sect#N256J				
TPE/SHW 4c	Pri# C412H	2.64	32	SDI 2.2 Ah (CL)	None
		2.712		LG-Chem2.15 Ah (CL)	
TPE/SHW 6c	Pri# X612G	3.96	48	SDI 2.2 Ah (CL)	None
		4.068		LG-Chem 2.15 Ah (CL)	

Spears 6c	Pri #G617H	4.14	48	ATL 2.2 Ah (CL)	None
	Sec # F632H				
Spears 6c	Pri #D603H	3.12	41	ATL(632996)1.85Ah(PY)+ ATL(513696)1.85Ah(PY)	None
	Sec # C595H				
Foose 6c	Pri # U726H	4.14	48	ATL 2.2 Ah (CL)	None
	Sec # Y570H	4.068		LG-Chem 2.15 Ah (CL)	None
Tiger_3c	Pri # F143M	1.98	24	SDI 2.2 Ah (CL)	None
	Sec # N.A				

**Notice 1 : CL - Cylindrical type; PM - Prismatic type; PY - Polymer type**

**Notice 2 : Battery Pack equivalent Lithium content is not more than 8g and Power is not more than 100 watt-hours.**

### 3 .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

### 4. First Aid Measures

**Ingestion :** If swallowed. Obtain medical attention immediately.

**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

**IF EXPOSURE TO INTERNAL MATERIALS WITHIN CELL DUE TO DAMAGED OUTER CASING , THE FOLLOWING ACTIONS ARE RECOMMENDED.**

## 5. Fire Fighting Measures

**Extinguishing Media :** Use extinguishing media suitable for the materials that are burning.

**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 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. Don not puncture, crush or incinerate.

## 11. Toxicological Information

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

## 12. Ecological Information

Lead and its compounds can pose a threat if released to environment. See waste disposal method in 13.Disposal Considerations.

## 13. Disposal Considerations

Recommended methods for safe and environmentally preferred disposal;

Product (waste from residues)

Do not throw our a used battery pack. Recycle it through the recycling company.

Contaminated Package

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

## 14. Transport Information

Lithium ion batteries containing lithium equivalent content no more than 20Wh/cell and 100Wh/battery pack can be treated as "Non-dangerous goods" under the United Nations Recommendations on the Transport of Dangerous Goods, Special Provision 188, provided that packaging is strong and prevent the products from short-circuit.

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

- The International Civil Aviation Organization (ICAO) Technical Instructions (2009-2010 Edition)
- The rechargeable Lithium-Ion battery pack as stated B.1 section are made in compliance to the requirements stated in the latest edition of the IATA Dangerous Goods Regulations Packing Instruction 965 Part 1 such that they can be transported as a NOT RESTRICTED (non-hazardous/non-dangerous) goods. However, if those lithium-ion battery packs are pack 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 latest edition of the IATA Dangerous Goods Regulations Part 1 section of either Packing Instruction 966 or 967 in order for that consignment to be declared as NOT RESTRICTED (non-hazardous/non-Dangerous)"
- The International Maritime Dangerous Goods (IMDG) Code (2006 Edition),
- The US Hazardous Materials Regulation (HMR) pursuant to a final rule issued by RSPA (Part 49 CFR Sections 100-185),
- The Office of Hazardous Materials Safety within the US Department of Transportation's (DOT) Research and Special Programs Administration (RSPA), and
- The UN Recommendations on the Transport of Dangerous Goods Model Regulations and the Manual of Tests and Criteria.

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 38.3 (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".

## 15 Regulatory Information

OSHA Hazard communication standard ( 29 CFR 1910.1200)

\_\_\_\_\_ Hazardous                        ✓   Non-hazardous

## 16. UN Test Result

There is no hazards in accordance with the UN recommendations tests ( Manual of Tests and Criteria , Part III , sub-section 38.3 )

No	ITEMS	RESULT	REMARKS
1	Altitude Simulation	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 only