

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

A. PRODUCT IDENTIFICATION

Lithium ion Rechargeable Battery Pack

B. Battery Product Matrix

Customer (Microsoft)

<u>Battery Name</u>	<u>Model Name</u>	<u>Dynapack P/N</u>	<u>Cell Applied</u>	<u>Number of cells/ per pack</u>	<u>Battery Rated</u>
Z91	DYNZ02	DAK225593-W0G1G02HA DAK225593-W0G1G01HT	ATL 3243C0 ATL 3543C0	4pcs	39.7Wh

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

Notice 2:

- * Lithium ion cells and batteries may be offered for transport if they meet the following:
- * for cells, the Watt-hour rating is not more than 20 Wh;
- * for batteries, Watt-hour rating is not more than 100 Wh. The Watt-hour rating must be marked on the outside of the battery case except those manufactured before 1 January 2009 which may be transported without this marking until 31 December 2010;

MANUFACTURER

Headquarter

Dynapack International Technology Corporation.

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EMERGENCY CONTACT

1+800-424-9300

OUTSIDE THE UNITED STATES

1+703-527-3887

2. Hazards Identification

Hazard classification:

The product is not classified for GHS. The batteries are defined as "articles", they are exempt from the requirements of the Hazard Communication Standard.

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

According to the OSHA Hazard Communication Standard (29 CFR 1910.1200) this product is not classified as hazardous.

3. Composition/information on ingredients

Composition

CAS number: Not specified (A-1 and A-2):

A-1. Cases: Plastic or Metal Not dangerous

A-2. Printed Circuit Board Assembly Not dangerous

A-3. Lithium Ion Cell:

				CAS No.
Aluminum	2%	-	10%	7429-90-5
Metal Oxide (proprietary)	20%	-	50%	12190-79-3
Polyvinylidene fluoride (PVDF)	0%	-	5%	24937-79-9
Copper	2%	-	10%	7440-50-8
Diethyl Carbonate	0%	-	15%	105-58-8
Electrolyte (proprietary)	10%	-	20%	Main Component: 96-49-1, 623-53-0, 108-32-7

4. First Aid Measures

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

Extinguishing Media: Use extinguishing media suitable for the materials that are burning. Use metal fire extinction powder or dry sand if only few cells are involved.

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. 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 degrees Celsius 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.

13. Disposal Considerations

Recommended methods for safe and environmentally preferred disposal:

Product(waste from residues)

Do not throw out a used battery. 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 contaminates, dispose as industrial wastes subject to special control.

14. Transport Information

Lithium ion batteries containing no more than 1.5g/cell and 8g/battery pack and also power is no more than 20Wh/cell and 100Wh/battery pack of lithium 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 (2019-2020 Edition)
- The International Air Transport Association (IATA) Dangerous Goods Regulations (61st Edition, 2020) Special Provisions A154, A164& package instruction Section II of 965, 966 and 967 for lithium ion batteries), or package instruction Section IB of 965.
- The International Maritime Dangerous Goods (IMDG) Code (2018 Edition), Special Provision 188.
- 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”.

Lithium ion batteries only transport by air in accordance with PI965 at a state of charge (SOC) not to exceed 30 percent of rated design capacity.

UN# for this shipment is 3480, Haz-Mat class is 9, Proper DOT shipping name is Lithium ion batteries. Packing group IB

15. Regulatory Information

OSHA Hazard communication standard (29 CFR 1910.1200)

_____ Hazardous

_____√_____ Non-hazardous

16. Other information -- 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). This product passed 1.2 M drop test and comply with UN 38.3.

No	ITEMS	RESULT	REMARKS
1	Altitude Simulation	Pass	
2	Thermal Test	Pass	
3	Vibration	Pass	
4	Shock	Pass	
5	External Short Circuit	Pass	
6	Impact	Pass	For cell only
7	Overcharge	Pass	
8	Forced discharge	Pass	



Safety Data Sheet

ACCORDING TO HCS-2012 APPENDIX D TO §1910.1200

Issued/Revised date : June 26 2020

Document No. : Ou-200629001

1 IDENTIFICATION

(a) Product Identification:

Product Name: Lithium-Ion Rechargeable Battery Pack

Product Model: Z91 CosMX5235mAh 2S2P 7.58V

Quanta Model Name: Z91

Simplo Part Number: 916TA135H / 916TA135HB

Quanta Part Number : AHA42227028

(b) Other Means of Identification:

Product description: Voltage: 7.58V
Ampere-hour: 5.23Ah
Content of Li: 1.569g
Watt-Hour: 39.7Wh

(c) Recommended use of the chemical and restrictions on use

Recommended use: Used for Notebook , PDA, cell phones, electronic products
Restriction on use: No information available.

(d) Details of the supplier of the product:

Company Name: Simplo Technology Co.,Ltd.
Address: No 471 Sec 2 Pa Teh Rd Hu Kou 30348 Hsin Chu Hsien, Taiwan
Postcode: 30348
Telephone: +886-3-5695920
Fax: +886-3-5695931

(e) Emergency phone number: +886-3-5695920

2. Hazard(s) identification

(a) Classification of the chemical

The battery is considered as an article, and this product is not classified as hazardous.

(b) Label elements

Pictogram(s): No pictogram is used.
Signal word: No signal word is used.
Hazard statements: Not classified.
Precautionary statements: Not classified

(c) Description of any hazards not otherwise classified



Do not dismantle, open or shred the battery, the ingredients contained within could be harmful.

(d) Ingredient with unknown acute toxicity

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

(a) Mixtures information: ingredients contained within the battery

Chemical name	CAS No.	Concentration range
POLYSTYRENE-B-POLYBUTADIENE-B-	9003-55-8	0.26
Nickel	7440-02-0	1.77
Carbon black	1333-86-4	0.82
Carboxymethyl cellulose	9004-32-4	0.36
1,3-Benzenedicarbonyl dichloride, polymer with	25765-47-3	0.23
Ethene, 1,1-difluoro-, homopolymer	24937-79-9	1.8
Ethyl methyl carbonate	623-53-0	4.28
ethylene carbonate	96-49-1	4.28
dimethyl carbonate	616-38-6	4.28
Graphite	7782-42-5	19.77
aluminium	7429-90-5	14.16
Polypropylene	9003-07-0	0.64
Cu Foil	7440-50-8	6.6
Poly(ethylene)	9002-88-4	2.08
cobalt lithium dioxide	12190-79-3	38.67

4. FIRST-AID MEASURES

(a) Description of first aid measures

Caution! No effect under routine handling and use. If exposure to internal materials within cell due to damaged outer metal casing, the following actions are recommended.

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if you feel unwell.
Skin contact:	Immediately flush skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse. Get medical aid.
Eye contact:	Rinse cautiously with water for 15-20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Ingestion:	Rinse mouth with water. Never give anything through mouth to an unconscious person. Call a POISON Center or doctor if you feel unwell.

(b) Most important symptoms/effects, acute and delayed

No effect under routine handling and use



(c) Immediate medical attention and special treatment

Note to physicians: Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

(a) Extinguishing media

Extinguishing Media:

Use suitable extinguishing media.

Firefighting Equipment:

Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

(b) Special hazards arising from the chemical

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

(c) Special protective equipment and precautions for fire-fighters

If possible, remove cell(s) from fire fighting area. If heated above 130°C, cell(s) may Swell /explode /vent.

Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. ACCIDENTAL RELEASE MEASURES

(a) Personal precautions, protective equipment and emergency procedures

Restrict access to area until completion of clean up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in section 8.

(b) Methods and materials for containment and cleaning up

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

(a) Precautions for safe handling

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

(b) Conditions for safe storage, including any incompatibilities

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

(a) Engineering Controls :



Keep away from heat and open flame. Store in a cool dry place

Personal Protection :

(b)Respirator :

Not required during normal operations. SCBA required in the event of a fire.

(c)Eye/Face Protection :

Not required beyond safety practices of employer.

(d)Gloves :

Not required for handling of battery.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

(a) Appearance	Silver Solid
(b) Odor	Odourless
(c) Odor threshold	No data available
(d) pH	No data available
(e) Melting point	No data available
(f) Initial boiling point and boiling range	No data available
(g) Flash point	No data available
(h) Evaporation rate	No data available
(i) Flammability	No data available
(j) Upper/lower flammability or explosive limits	No data available
(k) Vapor pressure	No data available
(l) Vapor density	No data available
(m) Density	No data available
(n) Water solubility	No data available
(o) Partition coefficient: n-octanol/water	No data available
(p) Auto-ignition temperature	No data available
(q) Decomposition temperature	No data available
(r) Viscosity	No data available

10. STABILITY AND REACTIVITY

(a) Reactivity

None during normal operating or handling conditions.

(b) Chemical stability

Stable under normal condition.

(c) Possibility of hazardous reactions

No hazardous reactions known.

(d) Conditions to avoid

Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

(e) Incompatible materials

Strong oxidizing agents, strong acids, strong bases.

(f) Hazardous decomposition products



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

11. TOXICOLOGICAL INFORMATION

(a) Information on the likely routes of exposure

Inhalation:	No effect under routine handling and use for sealed battery. If battery is broken, inhale fume/dust may cause irritation, chemical burns or lung oedema.
Ingestion:	No effect under routine handling and use for sealed battery. Harmful if swallowed the electrolyte contained inside the battery. Exposure to the electrolyte contained inside the battery may cause severe chemical burn to mouth, esophagus and gastrointestinal system.
Skin contact:	No effect under routine handling and use for sealed battery. Exposure to the electrolyte contained inside the battery may result in chemical burns. Exposure to battery particulate may cause dermatitis.
Eye contact:	No effect under routine handling and use for sealed battery. Exposure to the electrolyte contained inside the battery may result in severe irritation and chemical burns.

(b) Information on toxicological characteristics

This product does not elicit toxicological properties during routine handling and use. If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.

Acute toxicity:	No data available.
Skin corrosion/irritation:	No data available.
Serious eye damage/irritation:	No data available.
Respiratory sensitization:	No data available.
skin sensitization:	No data available.
Carcinogenicity:	No data available.
Germ Cell Mutagenicity:	No data available.
Reproductive Toxicity:	No data available.
STOT-Single Exposure:	No data available.
STOT-Repeated Exposure:	No data available.
Aspiration Hazard:	No data available.

12. ECOLOGICAL INFORMATION

(a) Ecotoxicity

No data available.



(b) Persistence and Degradability

No data available.

(c) Bioaccumulative potential

No data available.

(d) Mobility in soil

No data available.

(e) Other adverse effects

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

13. DISPOSAL CONSIDERATIONS

(a) Safe handling and methods of disposal

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

14. TRANSPORT INFORMATION

This enclosed battery fulfills the requirements and conditions in accordance with UN Recommendations on the Transport of Dangerous Goods Model Regulations that can be treated as “Non-Dangerous Goods”.

(a) UN number	Not regulated as dangerous goods
(b) UN Proper shipping name	Not regulated as dangerous goods
(c) Transport hazard class(es)	Not regulated as dangerous goods
(d) Packing group (if applicable)	Not regulated as dangerous goods
(e) Marine pollutant (Yes/No)	No
(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	No information available.
(g) Special precautions	No information available.

15. REGULATORY INFORMATION

(a) Safety, health and environmental regulations specific for the product in question

CAS No.	USA TSCA	China IECSC	Canada DSL/NDSL
9003-55-8	Listed	Listed	DSL
7440-02-0	Listed	Listed	DSL
1333-86-4	Listed	Listed	DSL
9004-32-4	Listed	Listed	DSL
25765-47-3	Listed	Listed	DSL
24937-79-9	Listed	Listed	DSL
623-53-0	Listed	Listed	DSL
96-49-1	Listed	Listed	DSL
616-38-6	Listed	Listed	DSL
7782-42-5	Listed	Listed	DSL
7429-90-5	Listed	Listed	DSL
9003-07-0	Listed	Listed	DSL
7440-50-8	Listed	Listed	DSL
9002-88-4	Listed	Listed	DSL
12190-79-3	Listed	Listed	DSL

Remark: The above-mentioned search results are based on the Non-Confidential Inventory.



16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

(a) Preparation and revision 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. The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.

(b) Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
OSHA:	The United States Occupational Safety and Health Administration.
TWA:	time-weighted average
STEL:	Short term exposure limit
DOT:	US Department Of Transportation)
IMDG:	International Maritime Dangerous Goods
IATA:	International Air Transport Association
TSCA:	Toxic Substances Control Act, The American chemical inventory.
DSL	Domestic Substances List
IECSC:	Inventory of existing chemical substances in China.

(c) Disclaimer

The information in this SDS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This SDS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this SDS should make independent judgment for the applicability of this SDS under special conditions. In these special cases, we do not assume responsibility for the damage.

----- End of the SDS -----