



MATERIAL SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET (Quanta)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Lithium ion Rechargeable Battery

MANUFACTURER

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2. COMPOSITION INFORMATION

A. Li-ion Single Cell Matrix

Manufacture	Type	Capacity (mAh)	Lithium Weight(g)/Cell	UL No	Cd/Pb/Hg
Samsung SDI	ICR18650-22	2200 (CL)	0.50	MH21015	None
Sanyo	UR18650F	2200 (CL)	0.66	MH12383	None
Sanyo	UR18650F	2000(CL)	0.6	MH12383	None
Sony	US18650G5	2150 (CL)	0.65	MH12566	None
Samsung SDI	ICR18650-20	2000 (CL)	0.50	MH21015	None
E-One Moli	ICR18650H	2200 (CL)	0.66	MH13806	None
LG-Chem	ICR18650 S2	2200(CL)	0.66	MH19896	None
LG-Chem	ICR18650	2000(CL)	0.6	MH19896	None

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

B. Battery Product Matrix
B.1 Customer (Quanta)

<u>Battery Name</u>	<u>Customer P/N</u>	<u>Lithium Weight(g)/Pack</u>	<u>Cell number</u>	Cd/Pb/Hg
Tornado	AHA84222700	5.28	Sanyo 2.2 Ah (CL)	None
	AHA84222718			
	AHA84222V06			
	AHA84222V14			
	AHA84222X60			
	AHA84222X78			
	AHA84222726			
	AHA84222807	4.00	SDI 2.2Ah (CL)	None
	AHA84222815			
	AHA84222823			
	AHA84222A06	5.20	Sony 2.15Ah (CL)	None
	AHA84222A22			
	AHA84222X01			
	AHA84222X19			
	AHA84222X27			
	AHA84222X35			
	AHA84222A14			
	AHA84222904			
	AHA84222912	5.28	E-One Moli 2.2Ah(CL)	None
	AHA84222W03			
AHA84222W11				
AHA84222X43				
AHA84222X51				
AHA84222921				
NT1	AHAC4322506	7.92	Sanyo 2.2 Ah (CL)	None
	AHAC4322514			
	AHAC4322409	7.8	Sony 2.15Ah (CL)	None
	AHAC4322417			
Tokyo	AHA63222921	3.9	Sony 2.15Ah (CL)	None
	AHA63222956			

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Tokyo	AHA63222905	3.96	Sanyo 2.2 Ah (CL)	None
	AHA63222930			
	AHA63222948	3.96	E-One Moli 2.2Ah(CL)	None
	AHA63222913			
Jakarta	AHA63222981	3.9	Sony 2.15Ah (CL)	None
	AHA63222999			
	AHA63244003	3.96	Sanyo 2.2 Ah (CL)	
	AHA63244011			
Jakarta	AHA63220414	3.6	Sanyo 2.0 Ah (CL)	None
Jakarta	AHA63220406	3.6	Sanyo 2.0 Ah (CL)	None
Jakarta	AHA63220457	3.0	Samsung 2.0Ah (CL)	None
Jakarta	AHA63220449	3.0	Samsung 2.0Ah (CL)	None
Jakarta	AHA63220422	3.6	LG-Chem 2.0Ah(CL)	None
Jakarta	AHA63220431	3.6	LG-Chem 2.0Ah(CL)	None
Jakarta	AHA63220465	3.6	Sanyo 2.0 Ah (CL)	None
Jakarta	AHA63220473	3.6	Sanyo 2.0 Ah (CL)	None
Jakarta	AHA63220481	3	Samsung 2.0Ah (CL)	None
Jakarta	AHA63220490	3	Samsung 2.0Ah (CL)	None
Jakarta	AHA632229A3	3.9	Sony 2.15Ah (CL)	None
Jakarta	AHA632229B1	3.9	Sony 2.15Ah (CL)	None
Jakarta	AHA632229C0	3.96	Sanyo 2.2 Ah (CL)	None
Jakarta	AHA632229D8	3.96	Sanyo 2.2 Ah (CL)	None
Jakarta-large	AHAC3422C29	7.92	Sanyo 2.2 Ah (CL)	None
Jakarta-large	AHAC3422C37	7.92	Sanyo 2.2 Ah (CL)	None
Jakarta-large	AHAC3422D26	7.8	Sony 2.15Ah (CL)	None
Jakarta-large	AGAC3422D34	7.8	Sony 2.15Ah (CL)	None
Jakarta-large	AHAC3422D18	7.8	Sony 2.15Ah (CL)	None
Jakarta-large	AHAC3422C02	7.92	Sanyo 2.2 Ah (CL)	None
Jakarta-large	AHAC3422C11	7.92	Sanyo 2.2 Ah (CL)	None
Jakarta-large	AHAC3422D00	7.8	Sony 2.15Ah(CL)	None
Jakarta-large	AHAC3422D18	7.8	Sony 2.15Ah(CL)	None
KT1	AHA84222718	5.28	Sanyo 2.2 Ah (CL)	None
	AHA84222815	4.00	SDI 2.2Ah (CL)	None
	AHA84222912	5.28	E-One Moli 2.2Ah(CL)	None

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	AHA84222A14	5.2	Sony 2.15Ah (CL)	None
KT1-401	AHA84222X01	5.2	Sony 2.15Ah (CL)	None
	AHA84222X19			
	AHA84222X27			
	AHA84222X35			
	AHA84222W03	5.28	E-One Moli 2.2Ah(CL)	None
	AHA84222W11			
	AHA84222X43			
	AHA84222X51			
	AHA84222V06	5.28	Sanyo 2.2 Ah (CL)	None
	AHA84222V14			
	AHA84222X60			
	AHA84222X78			
	Rome	AHAC4322G27	7.8	Sony 2.15Ah (CL)
AHAC4322GD3				
AHAC4322GC5				
AHAC4322G86				
AHAC4322G35		7.92	LG-Chem 2.2Ah(CL)	None
AHAC4322GFO				
AHAC4322GE1				
AHAC4322G94				
AHAC4322G43		7.92	E-One Moli 2.2Ah(CL)	None
AHAC4322GA9				
AHAC4322G68		7.92	LG-Chem 2.2Ah(CL)	None
AHA4322GH6				
AHAC4322G14		7.8	Sony 2.15Ah (CL)	None
AHAC4322GJ1				

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

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. Transport Information

DOT, ICAO and IATA Hazard Class : Nonregulated

13. Regulatory Information

OSHA Hazard communication standard (29 CFR 1910.1200)

_____ Hazardous ✓ Non-hazardous

14. 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