MATERIAL SAFETY DATA SHEET

Sample Name	Li-ion Battery
Model	QY18650
Ratings	3.7V, 4400mAh, 16.28Wh
Rated Capacity	
Report No.	DGYK20241212SDS02

1. Hazards Identification

Hazards Identification Not dangerous with normal use. Do not dismantle, open or shred the battery ingredients contained within or their ingredients products could be harmful.

Primary Route (s) of Exposure: inhalation, ingestion, Skin contact and Eye contact.

Potential Health Effects:

inhalation	Vapors or mists from a ruptured battery may cause respiratory irritation.
Ingestion	The battery ingredients contained within or their ingredients products can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.
Skin	Skin contact with contents of an open battery can cause severe irritation or burns to the skin.
Eye	Eye contact with contents of an open battery can cause severe irritation or burns to the eye.

2. Composition/Information on Ingredients

Chemical Name	CAS Number	Concentration or concentration ranges (%)
Lithium Cobalt Oxide	12190-79-3	35.05
Graphite	7782-42-5	15.98
Carbon black	1333-86-4	0.79
POLY(VINYLIDENE FLUORIDECO-	7782-42-5	15-23
HEXAFLUOROPROPYLENE) 1,1,2,3,3,3-	9011-17-0	9.87
Dimethyl carbonate	616-38-6	4.38
Ethyl methyl carbonate	623-53-0	2.29
Lithium hexafluorophosphate	21324-40-3	2.95
Ethylene carbonate(EC)	96-49-1	6.34
Diethyl carbonate(DEC)	105-58-8	2.76
Propylene carbonate(PC)	108-32-7	1.11
Copper	7440-50-8	8.39
Styrene-butadiene rubber(SBR)	61789-96-6	0.71
Aluminum	7429-90-5	9.38
Note: CAS number is Chemical Abstract Service Registry Number. N/A= Not applicable.		

3. First Aid Measures

Inhalation	Remove source of contamination or move victim to fresh air. Obtain medical advice.
Ingestion	Please rinse mouth thoroughly with water, induce vomiting under the guidance of professional personage. Please seek medical treatment in time.
Skin contact	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
Eye contact	Irrigate with flowing water for 15 minutes. If irritation persists, consult a physician.

4. Fire Fighting Measures

Characteristics of Hazard — Toxic fumes, gases or vapors may evolve on burning.
Hazardous Combustion Products — Carbon monoxide, carbon dioxide, lithium oxide fumes and so on.
Fire-extinguishing Methods and Extinguishing Media
Please use water, dry sand and other proper fire extinguishing media.
Attention in Fire-extinguishing — The firemen should put on antigas masks and full fire-fighting suits.

5. Accidental Release Measures

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 7.
Environmental Precautions
Prevent material from contaminating soil and from entering sewers or waterways.
Methods and materials for Containment
Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.
Methods and materials for cleaning up
Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 12. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal.

6. Handling and Storage

Handling — Don‘t handing the batteries in manner that allows terminals to short circuit. Do not open, disassemble, crush or burn battery.
Storage — if the battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the battery periodically.
Long period storage: 25±5°C, 60±25%R.H
Do not storage the battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.
Keep out of reach of children.
Do not expose the battery to heat or fire. Avoid storage in direct sunlight.
Do not store together with oxidizing and acidic materials.

7. Exposure Controls/Personal Protection

Engineering Controls
No engineering controls are required for handling batteries that have not been damaged. Personal protective equipments for damaged batteries should include chemical resistant gloves and safety glasses.
Personal Protective Equipment
Respiratory Protection: in case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory Protection is not necessary under conditions of normal use. Not necessary under conditions of normal use.
Protective Gloves:
Not necessary under conditions of normal use.
Other Protective Clothing or Equipment: Not necessary under conditions of normal use.
Personal Protection is recommended for venting battery: Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

8. Physical and Chemical Properties

Appearance: Blue
Physical state: Solid
Form: Approximate Cuboid
Odor: Odorless
Solubility: Partial soluble in water

9. Stability and Reactivity

Stability	Stable under normal temperatures and pressures.
Conditions to Avoid	Heat above 70°C or Incinerate, Deform, Mutilate, Crush, Disassemble, Overcharge, Short circuit, Expose over a long period to humid conditions.
Hazardous Decomposition Products	Toxic Fumes, and may form peroxides.
Possibility of Hazardous Reaction	If leaked, forbidden to contact with strong oxidizers ,mineral acids ,strong alkalis,halogenated hydrocarbons.

10. Toxicological Information

Irritation	In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin.
Sensitization	Not applicable.
Reproductive Toxicity	Not applicable.
Toxicologically Synergistic Materials	Not applicable.

11. Ecological Information

General note	Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Anticipated behavior of a chemical product in environment/possible environmental impact/ ecotoxicity

Not applicable.

Mobility in soil	Not applicable.
Persistence and Degradability	Not applicable.

12. Disposal Considerations

Waste Treatment	Recycle or dispose of in accordance with government, state & local regulations.
Attention for Waste Treatment	Deserted batteries couldn‘t be treated as ordinary trash. Couldn‘t be thrown into fire or placed in high temperature. Couldn‘t be dissected, pierced, crushed or treated similarly. Best way is recycling.

13. Transport Information

The battery shall be passed the test items of the UNITED NATIONS “Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria“ section 38.3 and meet the requirements of UNITED NATIONS “Recommendations on the Transport of Dangerous Goods, model Regulations

The battery shall be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit;

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking.

The package must be handled with care and that a flammability hazard exists if the package is damaged.

With regard to transport, 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 battery can be shipped by air in according to PACKING INSTRUCTION 965 Section IB, or PACKING INSTRUCTION 966~967 Section II of the 2025 IATA Dangerous Goods regulations 66th Edition.

UN number: UN3480 or UN3481;

UN Proper shipping name/Description (technical name): Lithium ion batteries or Lithium ion batteries packed with equipment or Lithium ion batteries contained in equipment;

UN Classification (Transport hazard class): Class 9 (PI965 Section IB) or Not applicable (PI966~967 Section II)

UN Packing Group: Not applicable.

-The international Maritime Dangerous Goods (IMDG) Code.

UN number: UN3480 or UN3481;

UN Proper shipping name/Description (technical name): Lithium ion batteries or Lithium ion batteries packed with equipment or Lithium ion batteries contained in equipment;

UN Classification (Transport hazard class): Not applicable.

UN Packing Group: Not applicable

The battery is not restricted according to IMO IMDG Code (inc. Amendment 42-24) Special Provision188.

14. Regulatory Information

International Civil Aviation Organization (ICAO) Technical Instructions:

1. Unless be exempted according to ICAO TI, the lithium ion cell/batteries (UN 3480, PI 965) and lithium metal cell/batteries (UN 3090, PI 968) are forbidden for carriage on passenger aircraft.
2. Unless be approved according to ICAO TI, Lithium ion cells/batteries (UN 3480, PI 965) must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity.

15. – Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

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