



MSDS Report

Client	Shenzhen Apsen Technology Co., Ltd
Add. of Client	5FL, NO1 BLD, LongPing West Road No6, Fenggang Town, Dongguan City China
Sample Name	Li-ion Battery
Sample Model	18650-3000MAH 3S4P
Nominal voltage	12V
Rated capacity	12Ah, 144Wh
Sample Mass	--
Sample Size	(222×70×22)mm
Prepared by	NRCC (Shenzhen) Safety Technology Co., Ltd. (Testing and Inspection Body affiliated to the National Registration Center for Chemicals, MEM) Building A, No.2, Tengfeng 5th Road, Fuyong, Bao'an District, Shenzhen
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Written by:

(Test Engineer)

Lvdiao cai

Approved by:

(Technical director)

Seal of





Material Safety Data Sheet

Section 1 - Product & Company Identification

Sample Name	Li-ion Battery
Manufacturer	Shenzhen Apsen Technology Co., Ltd
Address	5FL, NO1 BLD, LongPing West Road No6, Fenggang Town, Dongguan City China
Factory	Shenzhen Apsen Technology Co., Ltd
Address	5FL, NO1 BLD, LongPing West Road No6, Fenggang Town, Dongguan City China
Contact Person	Robotter
Phone number	+86-13025408580
Email address	sales@anpsglobal.com

Section 2 - Hazard Identification

Classification of Danger	See section 14.
Primary Route(s) of Exposure	Inhalation, Ingestion, Skin contact and Eye contact.
Health Hazard	<p>There is no danger in normal use, the battery cannot be disassembled, opened or decomposed, and the materials or components inside are harmful.</p> <p>Inhalation: Vapors or mists from a ruptured battery may cause respiratory irritation.</p> <p>Ingestion: The battery ingredients or raw materials can cause severe chemical burns to the mouth, esophagus and gastrointestinal tract.</p> <p>Skin: Skin contact with the battery's internal chemistry can cause severe irritation or burn to the skin.</p> <p>Eye: Eye contact with the battery's internal chemistry can cause severe irritation or burn to the eye.</p>

Section 3 – Composition/Information on Ingredients

Chemical Name	Concentration or concentration ranges (%)	CAS Number
Lithium Cobalt Oxide	35-38	12190-79-3
Graphite	20-22	7782-42-5
Copper	9-10	7440-50-8
Aluminum	5-6	7429-90-5



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Ethylene carbonate	14-16	96-49-1
Polypropylene	5-6	9003-07-0
Carbonate, methyl ethyl	4-5	623-53-0
Phosphate(1-), hexafluoro-, lithium	5-6	21324-40-3

Note: CAS number is Chemical Abstract Service Registry Number.

N/A=Not apply.

Section 4 - 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	Take off contaminated clothing, rinse with plenty of water, if skin allergies and redness, please seek medical treatment in time.
Eye contact	Irrigate with flowing water for 15 minutes. If irritation persists, please seek medical treatment in time.

Section 5 - 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	For small fires, can use water, dry sand and other proper fire extinguishing media.
Attention in Fire-extinguishing	Firefighting personnel shall wear gas masks and full-body firefighting suits.

Section 6 - Accidental Release Measures

Personal Precautions, protective equipment, and emergency procedures	In case of rupture. Attention! Corrosive material. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Refer to protective measures listed in Sections 7 and 8.
Environmental Precautions	Prevent product from contaminating soil and from entering sewers or waterways.
Methods and materials for	Stop the leak if safe to do so. Contain the spilled liquid with dry sand



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Containment	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 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal.

Section 7 - Handling and Storage

Handling	Do not disassemble, squeeze, or put the battery into a high temperature environment. Do not short circuit or install with incorrect polarity.
Storage	Store in a cool, dry, well-ventilated area away from incompatible substances. Keep out of the reach of children.
Other Precautions	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.

Section 8 - 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	<p>Eye and Face Protection: Not to be considered under normal use conditions. If the electrolyte leaks, wear protective glasses and a safety mask.</p> <p>Skin and Body Protection: Not to be considered under normal use conditions. If the electrolyte leaks, wear protective gloves and clothing.</p> <p>Respiratory Protection: Not to be considered under normal use conditions. If the electrolyte leaks or the battery vents, wear a gas mask.</p>

Section 9 - Physical and Chemical Properties



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Physical State	Form: Solid
	Color: Blue
	Odour: Normally, no odor.
Change in condition	
pH	No data is available
Flash Point	Not applicable.
Flammability	No data is available
Relative density	No data is available
Solubility (water)	No data is available

Section 10 - Stability and Reactivity

Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Heat above 70°C or incinerate, expose over a long period to humid conditions.
Incompatible materials	Acids, Oxidizing agents, Bases.
Hazardous Decomposition Products	Toxic Fumes, and may form peroxides.

Section 11 - Toxicological Information

Irritation	In the case of internal material exposure, the vapor fumes may cause irritation to the eyes and the leaking electrolyte may cause irritation to the skin.
Sensitization	No data is available
Reproductive Toxicity	No data is available
Toxicologically Synergistic Materials	No data is available

Section 12 - 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	No data is available



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environment/possible environmental impact/ecotoxicity	
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Section 13 - 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.

Section 14 - Transport Information

UN number	3480 or 3481
Proper shipping name	Lithium ion batteries (including lithium ion polymer batteries) or; Lithium ion batteries packed with equipment (including lithium ion polymer batteries) or; Lithium ion batteries contained in equipment (including lithium ion polymer batteries).
DGR	Can be shipped by air in accordance with International Civil Aviation Organization (ICAO) or International Air Transport Association (IATA) DGR 66 th Edition (2025) Packing Instructions Section IA of 965, Section I of 966 or Section I of 967 appropriately. For PI965 IA: Limited to a maximum of 30% SoC, and paste Class 9 —Batteries Label and Cargo Aircraft Only Label. For PI966 I or PI967 I: Paste Class 9—Batteries Label. UN Classification (Transport hazard class): Class 9 PG Packing Group: Group II (PI 965 Section IA or PI 966 Section I) PG Packing Group: N/A (PI 967 Section I)
IMDG CODE	The batteries are classified as dangerous goods according to IMDG Code 2024 Edition (Amdt 42-24). Paste Class 9—Batteries Label. UN Classification (Transport hazard class): Class 9 PG Packing Group: Group II (Lithium ion batteries or Lithium ion batteries packed with equipment) PG Packing Group: N/A (Lithium ion batteries contained in equipment) Marine pollutant (Y/N): N



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	EmS No.: F-A, S-I
Regulations concerning road transportation of dangerous goods	<p>The batteries are classified as dangerous goods according to JT/T 617.3-2018.</p> <p>Paste Class 9—Batteries Label.</p> <p>UN Classification (Transport hazard class): Class 9</p> <p>PG Packing Group: Group II (Lithium ion batteries or Lithium ion batteries packed with equipment)</p> <p>PG Packing Group: N/A (Lithium ion batteries contained in equipment)</p>
ADR	<p>The batteries are classified as dangerous goods according to ADR 2025.</p> <p>Paste Class 9—Batteries Label.</p> <p>UN Classification (Transport hazard class): Class 9</p> <p>PG Packing Group: Group II (Lithium ion batteries or Lithium ion batteries packed with equipment)</p> <p>PG Packing Group: N/A (Lithium ion batteries contained in equipment)</p>
RID	<p>The batteries are classified as dangerous goods according to RID 2025.</p> <p>Paste Class 9—Batteries Label.</p> <p>UN Classification (Transport hazard class): Class 9</p> <p>PG Packing Group: Group II (Lithium ion batteries or Lithium ion batteries packed with equipment)</p> <p>PG Packing Group: N/A (Lithium ion batteries contained in equipment)</p>

Section 15 - Regulatory Information

Recommendations on the Transport of Dangerous Goods-Model Regulations

Recommendations on the Transport of Dangerous Goods-Manual of Tests and Criteria

Dangerous Goods Regulations

International Maritime Dangerous Goods Code

Regulations Concerning Road Transportation of Dangerous Goods

Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)

Technical Instructions for the Safe Transport of Dangerous Goods

Classification and Code of Dangerous Goods



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Occupational Safety and Health Act (OSHA)

Toxic Substance Control Act (TSCA)

Federal Environmental Pollution Control Act (FEPCA)

Resource Conservation and Recovery Act (RCRA)

Code of Federal Regulations (CFR)

In accordance with all Federal, State and local laws.



Section 16 - Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.

*******End of Report*******