SPECTRO-UV

SAFETY DATA SHEET (SDS)

Rechargeable Lithium-Ion Battery Cell
5000 mAh 3.6V/4.2V (P/N RP-B-01)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Rechargeable Lithium-Ion Battery Cell 5000 mAh 3.6V/4.2V (P/N RP-B-01)
Company:	Spectro-UV, LLC
Address:	4 Dubon Court, Farmingdale NY 11735, USA
Phone:	866-230-7305
Emergency Phone:	866-230-7305
SDS Number:	2624010032
Effective Date:	2024-01-01

SECTION 2: HAZARDS IDENTIFICATION

Fire or Explosion Hazards: Lithium-ion battery contains flammable liquid electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (>150 °C), when damaged or abused (e.g., mechanical damage or electrical overcharging). May burn rapidly with flare-burning effect. May ignite other batteries in close proximity.

Health Hazards: Contact with the electrolyte of battery may be irritating to skin, eyes and mucous membranes. Fire will produce irritating, corrosive and/or toxic gases. Fumes may cause dizziness or suffocation.

SECTION 3: INFORMATION ON INGREDIENTS

Ingredient	Concentration	CAS No.	EC No.
Lithium nickel cobalt manganese oxide	36.6%	182442-95-1	695-690-9
Graphite	16.2%	7782-42-5	231-955-3
Iron	16%	7439-89-6	231-096-4
Copper	8.2%	7440-50-8	231-159-6
Dimethyl carbonate	6.7%	616-38-6	210-478-4
Aluminum	4.2%	7429-90-5	231-072-3
I, 3-Dioxolane-2-one	3.3%	96-49-1	202-510-0
Polypropylene	2.7%	9003-07-0	618-352-4
Lithium hexafluorophosphate	I. 7%	21324-40-3	244-334-7
Ethyl methyl carboxylate	I. I%	623-53-0	613-014-2
Polyvinylidene fluoride resin	0. 7%	24937-79-9	607-458-6
Carbon black	0.7%	1333-86-4	215-609-9
Polyvinyl chloride resin	0.6%	9002-86-2	618-338-8
Polyethylene terephthalate resin Type B	0.4%	25038-59-9	607-507-1
Styrene-butadiene rubber	0.4%	61789-96-6	/
Nickel	0.3%	7440-02-0	231-111-4
Carboxylic acid methyl ether fiber	0.2%	9000-11-7	618-326-2

SECTION 4: FIRST-AID MEASURES

Skin Exposure: If in contact with the internal materials of battery, remove the contaminated clothing, shoes and socks, immediately flush with plenty of water for at least 20 minutes. Call a physician.

Eye Exposure: If in contact with the internal materials of battery, lift your eyelids immediately and rinse them with running water for more than 20 minutes. Call a physician.

Inhalation Exposure: If the internal materials of battery are inhaled, immediately remove to fresh air. If breathing is difficult give oxygen. If not breathing, give artificial respiration. Call a physician.

Oral Exposure: Do not induce vomiting if the internal materials of battery are swallowed. Call a physician immediately.

Most Important Symptoms/Effects, Acute and Delayed: No data available.

Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary: No data available.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water spray or regular foam.

Specific Hazards Arising from the Chemical: May decompose upon combustion to generate irritating, corrosive or toxic fumes. Fumes may cause dizziness or suffocation.

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. fire-extinguishing work is done from the windward. Uninvolved persons should evacuate to a safe place.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Use personal protective equipment. Ensure adequate ventilalation. Keep people away from and upwind of spill/leak. Entry to noninvolved personnel should be controlled around the leakage area by roping off. Remove all sources of ignition.

Environmental Precautions: Avoid leakage getting into the soil, ditches, or water. Avoid directly releasing waste-water into the environment.

Methods and Materials for Containment and Cleaning up: If the electrolyte leaks, use soil, sand, or other non-combustible materials to absorb. The leaked batteries and dirty adsorbents should be placed in metal containers.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: Operators should be trained and strictly abide by operating procedures. Wear appropriate protective clothing and safety gloves. Keep away from ignition sources, heat and flame. No smoking at working site. Handling is performed in a well ventilated place. Avoid disassembling the battery at will and reversing battery polarity within the battery assembly. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. If the electrolyte leaks, avoid directly contacting with eyes and skin. Avoid inhalation.
Incompatibilities: Strong oxidizing agents, combustible materials, and corrosives.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a cool, dry, and well-ventilated area. Keep away from ignition sources, heat and flame.
Incompatibilities: Strong oxidizing agents, combustible materials and corrosives. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. Storage place should be equipped with appropriate varieties and quantities of firefighting equipment and leakage emergency treatment equipment.

SECTION 8: EXPOSURE CONTROL/PPE

Control Parameters:

GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace - Part I: Chemical Hazardous Agents:

Soluble nickel compounds PC-TWA 0.5mg/m³ Remarks: GI (Nickel compounds), Sensitization Nickel metal and insoluble compounds: PC-TWA 0.5mg/m (Remarks: G2B (Metals and alloys))

Cobalt and its oxides (calculated as Co): PC-TWA 0.05mg/m³; PC-STEL 0.1 mg/m³, G2B, Sensitization Manganese and its inorganic compounds (calculated as Cu): PC-TWA 0.15mg/m³

Graphite dust: PC-TWA 4mg/m³ (Total dust): PC-TWA 2mg/m³ (Respirable dust)

Copper (calculated as Cu): Copper dust PC-TWA 1mg/m³: Copper smoke PC-TWA 0.2mg/m³ Aluminum metal, Aluminum alloy dust: PC-TWA 3mg/m³ (Total dust)

Polypropylene dust: PC-TWA 5mg/m³ (Total dust)

Polyvinyl chloride dust: PC-TWA 5mg/m³ (Total dust)

Carbon black dust: PC-TWA 4mg/m³ (Total dust), G28 ACGIH

Nickel: TLV-TWA 1 mg/m³, G28

Graphite: TLV-TWA 2mg/m³

Copper: TLV-TWA 1 mg (Cu) m³ Dust, smoke: TLV-TWA 0.2mg (Cu) /m³ Smoke

Aluminum: TLV-TWA 1 mg/m³

Carbon black: TLV-TWA 3mg/m³ <Respirable dust)

Appropriate Engineering Controls: Mechanical exhaust required. Safety shower and eye bath.

Individual Protection Measures:

Eye/Face Protection: Wear chemical safety glasses if needed.

Skin Protection: Hand Protection: Wear safety gloves.

Body Protection: Wear appropriate protective clothing.

Respiratory Protection: Wear a government approved respirator if needed.

Thermal Hazards: No data available.

Other Protect: No smoking, drinking, and eating at working site. Wash thoroughly after handling.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Appearance: Blue Cylinder plastics film shell

Odor: Odorless

pH Value: 8-9

Solubility: Partial soluble in water

Boiling Point, Initial Boiling, Point and Boiling Range: No data available

Melting Point/Freezing Point: >300°C

Flash Point (Closed Cup): No data available

Density/Relative Density: No data available

Kinematic Viscosity: No data available

Lower/Upper Explosion Limit/Flammability Limit: No data available

Vapour Pressure: No data available

Relative Vapor Density: No data available

Partition Coefficient N-Octanol/Water (Log Value): No data available

Auto ignition Temperature: No data available

Decomposition Temperature: No data available

Particle Characteristics: No data available

Flammability (Solid, Gas): No data available

SECTION 10 STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions: No data available.

Conditions to Avoid: Avoid misoperation, exposure to heat and open flame. Avoid mechanical or electrical abuse and overcharge. Prevent short circuits and short circuits caused by movement.

Incompatible Materials: Strong oxidizing agents, combustible materials and corrosives.

Hazardous Decomposition Products: Carbon oxides, metal oxides, etc.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity: No data available.

Skin Corrosion/Irritation: The electrolyte in the battery causes skin irritation.

Serious Eye Damage/Irritation: The electrolyte in the battery causes eye irritation.

Respiratory Sensitization: No data available.

Carcinogenicity: No data available.

Skin Sensitization: No data available.

Germ Cell Mutagenicity: No data available.

Reproductive Toxicity: No data available.

Specific Target Organ Toxicity - Single Exposure: No data available.

Specific Target Organ Toxicity -Repeated Exposure: No data available.

Aspiration Hazard: No data available.

SECTION 12 ECOLOGICAL INFORMATION

Toxicity: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

SECTION 13 DISPOSAL CONSIDERATION

Disposal Methods: The disposal of discarded battery shall comply with the requirements of relevant laws, regulations, policies and standards such as the "Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste" and "Technical Policy for the Prevention and Control of Waste Battery Pollution". Contact a licensed professional waste disposal service to dispose of wastes. Used battery being transported for disposal or reclamation should be carefully checked prior to shipment to ensure the integrity of each battery and its suitability for transport.

SECTION 14 TRANSPORT INFORMATION

Only Lithium Battery during Transport: The product has passed the test items of Manual of Tests and Criteria Section 38. 3 and UN Model Regulations, SP188, 1.2m drop Test. The total net weight of the Lithium batteries is less than 10 kg.

RID/ADR (2023 Edition): The product is not subject to the other provisions of RID/ADR according to special provision 188. According to 2.2.9.1.7 (g), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

IATA DGR (65th Edition):

Hazard Class: 9
UN Number: UN3480
Proper Shipping Name: Lithium-ion batteries Cargo aircraft only.

The product shall meet the General Requirements and section IB of Packaging Instruction 965.

The package has passed the stacking test required in PI 965 IB. According to 3. 9. 2. 6. 1 (g), Manufacturers and subsequent distributors of cells or batteries 111anufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

IMO IMDG Code (2022 Edition): The product is not subject to the other provisions of IMO IMDG CODE according to special provision 188. According to 2.9.4.7, Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part Ill, sub-section 38.3, paragraph 38.3.5.

SECTION 15 REGULATORY INFORMATION

Domestic Regulations:

Only Lithium Battery during Transport:

Regulations Concerning Road Transportation of Dangerous Goods (JT/T 617-2018):

UN Number: UN3480
Name and Description: Lithium-ion batteries
The product has passed the test items of Manual of Tests and Criteria Section 38.3.
The product is not subject to JT/T 617-2018 according to special provision 188.

List of Dangerous Goods (GB 12268-2012):
UN Number: UN3480
Shipping Name: Lithium-ion batteries
Packing Group: II
The product has passed the test items of Manual of Tests and Criteria Section 38. 3. The product is not subject to GB 12268-2012 according to special provision 188.

List of Dangerous Goods by Rail (TB/T 30006-2022):
Number: 91045
Name of Product: Lithium-ion batteries
The product has passed the test items of Manual of Tests and Criteria Section 38. 3. The product is not subject to TB/T 30006-2022 according to special provision 79.

International Regulations:

Directive (EU) 2023/1542 and 2013/56/EU: The label, disposal and recycling of the battery shall meet the requirements of EU Directive (EU) 2023/1542 and 2013/56/EU.

ICAO TI:

I. Unless exempted according to ICA0 T1, the lithium-ion cell/batteries (UN 3480, PI 965) and lithium metal cell/batteries (UN 3090, Pl 968) are forbidden for carriage on passenger aircraft.

2. Unless approved according to ICA0 TI, lithium-ion ce11s/batteries (UN 3480, PI 965) must be offered for transport for transport at state of charge (SoC) not· exceeding 30% of their rated design capacity.

SECTION 16 OTHER INFORMATION

Preparation Date: 2024-01-01

Prepared By: Spectro-UV, LLC

Revision: 0

Abbreviations and Acronyms:

CAS: Chemical Abstracts Service EC: European Commission PC-TWA: Permissible concentration-time weighted average PC-STEL: Permissible concentration-short term exposure limit TLV-TWA: Threshold limit value-time weighted average ACGIH: American Conference of Governmental Industrial Hygienists GI: Carcinogenic to humans G2B: Possibly carcinogenic to humans Sensitization: The substance may have allergenic effects RID: Regulations concerning the International Carriage of Dangerous Goods by Rail ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road IATA DGR: International Air Transport Association Dangerous Goods Regulations IMO IMDGCODE: International Maritime Organization International Mari time Code for Dangerous Goods EmS: Emergency schedule EU: European Union ICAO TI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air PI: Packaging Instruction

Other Information:

This SDS is only compiled for battery and based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. If the battery is used as a component in another product, the information in this SDS may not be applicable. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation. The users should take the relevant legal responsibility for the consequences of use.


Model 1034R-18
RP-B-01
LI-ION RECHARGEABLE BATTERY
4.2V | 5000mAh | 21Wh
MANUFACTURED FOR: SPECTRO-UV