

SAFETY DATA SHEET

Product Name: LI-ION BATTERY

Issue Date: 01/10/2024 Version: 2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

PRODUCT NAME: LI-ION BATTERY Model: 18650
Nominal Voltage 3.7V Capacity: 2000mAh Wh rating: 7.4Wh

APPLICATIONS: For Stock No. 90081 LED Rechargeable Spotlight

SUPPLIER: **Draper Tools Ltd**
Hursley Road
Chandlers Ford
Eastleigh
Hampshire
SO53 1YF
www.drapertools.com

Emergency telephone number: Draper Helpline +44 (0) 2380 494344
Opening hours 8:30-17:00 Monday – Friday.

SECTION 2: Hazards identification

The product is outside of the scope of GHS system.

Main Hazards:

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 battery's electrolyte 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: Composition/information on ingredients

Product name: Li-ion Cell HYLN-IMR18650-2000mAh 3.7V 2000mAh 7.4Wh

Ingredient	Concentration	CAS No.	EC No.
Lithium manganite	30-34%	12057-17-9	601-724-5
Steel shell	20-25%	/	/
Lithium hexafluorophosphate	13-18%	21324-40-3	244-344-7
Graphite	12.9-17.8%	7782-42-5	231-955-3
Copper	4-6%	7440-50-8	231-159-6
Aluminium	2-4%	7429-90-5	231-072-3
NR50AFI0NNR50	0.3-0.5%	31175-20-9	680-985-7
Acetylene B1ack	0.1-0.2%	1333-86-4	643-032-6

SECTION 4: First aid measures

Skin Exposure

If the internal battery's materials of an opened battery cell come into contact with the skin, remove the contaminated clothing and footwear, immediately flush with plenty of water for at least 20 minutes. If irritation persists, call a physician,

Eye Exposure

In case of the internal battery's materials in contact with eyes, lift your eyelids immediately and rinse them with running water for more than 20 minutes. If irritation persists, call a physician.

Inhalation Exposure

If inhaled the internal battery's materials, immediately remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician.

Oral Exposure

If swallowed the internal battery's materials, do not induce vomiting. 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

Suitable: 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.

Special Protective Action for Fire fighters

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 measure

Personal Precautions, protective equipment, and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. 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 enter the earth, ditches or waters. Avoid directly release the cleaning 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. Such batteries must be packed in inner packaging in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. In case of leakage of the material in the battery. Avoid directly contact 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 and Corrosives. Such batteries must be packed in inner packaging in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

SECTION 8: Exposure controls/personal protection

Control Parameters

GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace - Part 1: Chemical Hazardous Agents.

Manganese and inorganic compounds, as MnO_2 : PC-TWA $0.15\text{mg}/\text{m}^3$

Graphite dust: PC-TWA $4\text{mg}/\text{m}^3$ (total dust) $2\text{mg}/\text{m}^3$ (inhalable dust)

Carbon black dust: PC-TWA $4\text{mg}/\text{m}^3$ (total dust) Remarks: G2B

Copper: Copper dust PC-TWA $1\text{mg}/\text{m}^3$ Copper smoke PC-TWA $0.2\text{mg}/\text{m}^3$

Aluminium metal and aluminium alloy dust: PC-TWA $3\text{mg}/\text{m}^3$ (total dust)

ACGIH:

Graphite: TLV-TWA $2\text{mg}/\text{m}^3$

Acetylene Black: TLV-TWA $3\text{mg}/\text{m}^3$ Inhalable dust

Copper: TLV-TWA $1\text{mg}(\text{Cu})/\text{m}^3$, dust, mist TLV-TWA $0.2\text{mg}(\text{Cu})/\text{m}^3$, fume

Aluminium: TLV-TWA $1\text{mg}/\text{m}^3$

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 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 and chemical properties

Appearance: Violet cylinder plastics film shell

Odour: Odourless

pH Value: 8-9

Solubility: Partial soluble in water

Boiling Point, Initial Boiling Point and Boiling Range:

No data available

Melting 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

Autoignition 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

Reactivty: 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. Prevent movement which could lead to short circuits.

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 Averse Effects:	No data available

SECTION 13: Disposal considerations

Disposal Methods:

The disposal of discarded battery shall comply with the requirements of relevant laws, regulations, policies and standards. 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

UN Number: UN 3481

Proper shipping name

Lithium-ion batteries packed with equipment (including lithium-ion polymer batteries) or Lithium-ion batteries contained in equipment (including lithium-ion polymer batteries).

The product has passed the test items of Manual of Tests and Criteria Section 38.3 and UN Model Regulation, SP188, 1.2m drop test. The total net weight of the Lithium batteries is less than 10kg.

RID/ADR (2023 Edition): The product is not subject to RID/ADR according to special provision 188.

IATA DGR (65th Edition): Hazard Class: 9

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.

IMO IMDG CODE (2022 Edition):

The product is not subject to IMO IMDG CODE according to special provision 188.

SECTION 15: Regulatory information

Domestic Regulations:

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

UN Number: UN 3481

Proper shipping name

Lithium-ion batteries packed with equipment (including lithium-ion polymer batteries) or Lithium-ion batteries contained in equipment (including lithium-ion polymer 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.

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.

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.

*** End of MSDS ***