

SAFETY DATA SHEET

Rechargeable Li-ion Battery

Issue Date: 23/02/2026 Version: 2

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

1.1 Product identifier

Rechargeable Li-ion Battery

IFR18650E 2000mAh 3.2V2000mAh 6.4Wh

1.2 Relevant identified used:

For Defender Slim LED Rechargeable Light (Stock No. 35616)

1.3 Details of the supplier of the safety data sheet

Draper Tools Ltd

Hursley Road, Chandlers Ford, Eastleigh

Hampshire SO53 1YF

United Kingdom

www.drapertools.com

1.4 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°), 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: Composition/information on ingredients

Substance/Mixture:

Mixture

Ingredient(s):

Ingredient	Molecular formula	CAS No.	Weigh
Ethylene Carbonate	C ₃ H ₄ O ₃	96-49-1	5%
Dimethyl Carbonate	C ₃ H ₆ O ₃	616-38-6	5%
Lithium Hexafluorophosphate	LiPF ₆	21324-40-3	15%
Lithium Metal	Li	7439-93-2	3%
Lithium Iron Phosphate	LiFePO ₄	15365-14-7	40%
Copper	Cu	7440-50-8	10%
Graphite	C ₂₄ X ₁₂	7782-42-5	8%
Polyvinylidene Fluoride	(C ₂ H ₂ F ₂) _n	24937-79-9	6%
Aluminium	Al	7429-90-5	5%
Nickel	Ni	7440-02-0	3%

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.

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: Firefighting measures

Suitable Extinguishing Media:

Suitable: Water spray or regular foam.

Special 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 Firefighting:

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 ventilation, Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off. Remove all sources of ignition

Environmental Precautions:

Avoid leakage getting into the earth, ditches or waters. Avoid directly releasing the washing wastewater 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 or 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 material and corrosives.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in a cool, dry, and well-ventilated areas. 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 controls/personal protection

Control Parameters:

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

Cobalt and compounds, as Co PC-TWA 0.05mg/m³ PC-STEL. 0.1mg/m³ (Remarks: G2B)

Sensitization

Nickel metal and insoluble compounds PC-TWA 1mg/m³ (Remarks: G2B.) (metal and alloy)

Manganese and inorganic compounds. as MnO₂ PC-TWA 0.15mg/m³

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

Copper: Copper dust PC-TWA 1mg/m³, Copper smoke PC-TWA 0.2mg/m³

aluminium metal and aluminium alloy dust; PC-TWA 3mg/m³ (total dust)

ACGIH:

Graphite: TLV-TWA 2mg/m³

Aluminium: TLV-TWA 1mg/m³

Copper: TLV-TWA 1 mg (Cu)/m³ dust, mist TLV-TWA 0.2 mg (Cu)/m³ fume

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: Blue plastic 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/ 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

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

Reactivity:

No data available.

Chemical Stability:

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions:

No data available.

Conditions to Avoid:

Avoid mis operation, 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 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

Lithium-ion Battery PACK

Transport:

The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section 38.3.

RID/ADR (2021 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)of RID/AD (2021 Edition), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified to the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

TATA DGR (65th Edition)

The product shall meet the General Requirements and section II of Packaging Instruction 967.

According to 3.9.2.6.1(g) of IATA DGR (63rd Edition), Manufactures and subsequent distributors of cells or batteries manufactured 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 (2024 Edition)

The battery is not restricted according to IMO IMDG Code (inc. Amendment 41-22) Special Provision188.

According to 2.9.4.7 or IMO IMDG Code (2024 Edition), 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.

UN Number: UN3481

Name and Description: Lithium-ion batteries packed with/contained in equipment.

SECTION 15: Regulatory information

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

Sensitization: The substance may have allergenic effects

ACGIH: American Conference of Governmental Industrial Hygienists

TLV-TWA: Threshold Limit value-time weighted average

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulations concerning the international Carriage of Dangerous Goods by Rail

IMO IMDG CODE: International Maritime Organization International Maritime Code for Dangerous Goods

IATA DGR: International Air Transport Association Dangerous Goods Regulations

ICAOTI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air

PI: Packaging Instruction

SECTION 16: Other information

This SDS is compiled based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation.

***End of SDS ***