

RECHARGEABLE LI-ON BATTERY
UE-48Li100T
48V 100Ah 4800Wh



Prepared For Master Battery S.L.

Dimensions (mm)	
Height	120
Width	221.6
Lenght	125
Weight:	Approx 38.7kg

Prepared by	UPOWER BATTERIES 66A Tzar Asen Srt. Sofia, Republic of Bulgaria / ID-Nr: BG203345523
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Material Safety Data Sheet

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	Rechargeable Li-ion Battery
Product Model	UE-48Li100T
Manufacture	UPOWER BATTERIES
Address	66A Tzar Asen Srt. / Sofia, Republic of Bulgaria
Tel	-
Emergency Tel	-
E-mail	info@upowerbatteries.com

SECTION 2 - HAZARDS IDENTIFICATIONS

Classification of Danger	See section 14.
Primary Route (s) of Exposure	Eye, skin contact, ingestion.
Health Hazard	The batteries are not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there's risk of rupture, fire, heat, leakage of internal components, with could cause casualty loss. Abuses include but not limited to the following cases: charged for long time, short circuited, put into fire, whacked with hard object, punctured with acute object, crushed, and broken.

SECTION 3 - COMPOSITION/INFORMATION OF INGREDIENTS

Chemical Composition	CAS No.	Concentration or concentration ranges (%)
Lithium Iron Phosphate (LiFePO ₄)	15365-14-7	18-22
Lithium Hexafluorophosphate	21324-40-3	10.5-16
Aluminum (Al)	7429-90-5	3.5-6
Graphite	7782-42-5	5.5-9
Copper (Cu)	7440-50-8	7-11
Iron (Fe)	7439-89-6	15.2-22
ABS	9003-56-9	11-12
Other	-	1-3

Labeling according to EC directives.
No symbol and risk phrase are required.

Note: CAS number is Chemical Abstract Service Registry Number.

N/A=Not apply.

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SECTION 4 - FIRST AID MEASURES

Eye	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
Inhalation	Remove from exposure and move to fresh air immediately. Use oxygen if available.
Ingestion	Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician.

SECTION 5 - FIRE FIGHTING MEASURES

Characteristics of Hazard	Dusts at sufficient concentrations can form explosive mixtures with air. Combustion generates toxic fumes.
Hazardous Combustion Products	Carbon dioxide.
Fire-extinguishing Methods and Extinguishing Media	For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.
Attention in Fire-extinguishing	Wear self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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

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SECTION 7 - HANDLING AND STORAGE

Handling	In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.
Storage	Store in a cool, dry, well-ventilated area away from incompatible substances. Store locked up. Keep out of the reach of children.
Other Precautions	The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls	Use adequate ventilation to keep airborne concentrations low. If used under conditions that generate particulates, the ACGIH TLV-TWA of 3mg/m ³ respirable fraction (10mg/m ³ total) should be observed.
Personal Protective Equipment	<p>Eye and Face Protection: None required for consumer use. If there is a risk of contact: Tight sealing safety goggles. Face protection shield.</p> <p>Skin and Body Protection: None required for consumer use. If there is a risk of contact: Wear protective gloves and protective clothing.</p> <p>Respiratory Protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.</p>

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Appearance: Prismatic
	Color: Black
	Odour: If leaking, smells of medical ether.
Change in condition	
pH	Not applicable as supplied.
Melting point/freezing point	Not applicable as supplied.
Initial boiling point and boiling range	Not applicable as supplied.
Flash Point	Not applicable as supplied.
Explosion Limits	Not applicable as supplied.
Vapour pressure	Not applicable as supplied.
Vapor density	Not applicable as supplied.
Density/Relative density:	Not applicable as supplied.
Solubility	Not applicable as supplied.
Partition coefficient: n-octanol/water	Not applicable as supplied.
Auto-ignition temperature	Not applicable as supplied.
Decomposition temperature	Not applicable as supplied.
Odour threshold	Not applicable as supplied.
Evaporation rate	Not applicable as supplied.
Flammability (solid, gas)	Not applicable as supplied.

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SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability	Stable.
Possibility of Hazardous Reactions	Not Available.
Conditions to Avoid	Flames, sparks, and other sources of ignition, incompatible materials.
Incompatible materials	Oxidizing agents, acid, base.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, lithium oxide fumes.

SECTION 11 - TOXICOLOGICAL INFORMATION

Irritation	In the event of exposure to internal contents, vapour fumes may be very irritating to the eyes and skin.
Sensitization	Not Available.
Reproductive Toxicity	Not Available.
Toxicologically Synergistic Materials	Not 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 environment/possible environmental impact / ecotoxicity	Not Available.

SECTION 14 - TRANSPORT INFORMATION

UN number	UN3480 or UN3481
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)
Class or division	9
Marine pollutant (Yes/No)	No
Packing group	II
Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises	
ICAO / IATA	Can be shipped by air in accordance with International Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA), DGR Packing Instructions (PI) 965 Section IA, or (PI) 966 Section I, or (PI) 967 Section I appropriate of IATA DGR 66th (2025 Edition) for transportation.
IMDG CODE	Can be shipped by sea in accordance with IMDG Code 2022 Edition (Amdt 41-22) Packing Instructions P903.

In addition, to be permitted in transport each lithium cell and battery types must have passed the applicable tests set out in Subsection 38.3 of the UN Manual of Tests and Criteria.

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SECTION 15 - REGULATORY INFORMATION

- Dangerous Goods Regulations
- Recommendations on the Transport of Dangerous Goods-Model Regulations
- Recommendations on the Transport of Dangerous Goods-Manual of Tests and Criteria
- International Air Transport Association (IATA)
- International Maritime Dangerous Goods (IMDG)
- Technical Instructions for the Safe Transport of Dangerous Goods
- Classification and code of dangerous goods (GB 6944-2012)
- 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
- Toxic Substance Control Act (TSCA)
- Code of Federal Regulations

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.

Sample photo:

