

MATERIAL SAFETY DATA SHEET (MSDS)

Product Name: Rechargeable Li-ion Battery

Issued and Revised Date: 18th-February -2019

Report Number: T1860879 01A

1. PRODUCTS AND COMPANY IDENTIFICATION

Product Name: Li-ion Cell

Applicable Models/Sizes: 18650 3.7v 3000mAh
WL-10

Supplier Identification:

Cluson Engineering Limited Limited Unit 6 Bedford Road Petersfield Hampshire GU32 3LJ

Tel: 01730 264672 E-mail: sales@clulite.co.uk

2. HAZARDS IDENTIFICATION

Most important hazards:

The product is not classified as dangerous in accordance with Regulation (EC) 1272/2008, Regulation (EC) 453/2010 and Regulation EC 1907/2006 (REACH) Annex 11.

Environmental properties: Not hazardous

3 COMPOSITION ON INGREDIENTS

Information about the chemical nature of product:

Substance Name	CAS No.	Weight (%)
NMC	12190-79-3	32
Carbon Black	133-86-4	0.50
Graphite	7782-42-5	0.50
PVDF	24937-79-9	0.80
Graphite	7782-42-5	14.80
SBR	61789-96-6	0.30
CMC	9000-11-7	0.20
Copper Foil	7440-50-8	11.40
Aluminium foil	7429-90-05	5.70
Nafion	31175-20-9	0.10
Carrier ampholyte	37348-94-0	12.40
Stell shell cap	65997-19-5	21.00
Others	-	0.10

4. FIRST-AID MEASURES

► Inhalation: No special measures as there is no hazard for normal contact. Concentrated powder or dust from processing may cause unpleasant obstruction in the nasal passages. Remove to fresh air.

► Skin: Not applicable for finished product.

► Eyes: No special measures as there is no hazard for normal contact.

► Ingestion: Do not induce vomiting without professional instruction. Get medical attention immediately.

Additional advice: Never give anything by mouth to an unconscious person. Show this safety data sheet to the doctor in attendance. Treat symptomatically.

5. FIRE-FIGHTING MEASURE

► Suitable extinguishing media: Dry chemical powder, sandy soil. Avoid using water and carbon dioxide.

► Specific Hazards: No information available

► Protective Equipment and precautions for firefighters: As for any fire, evacuate the area and fight the fire from a safe distance.

Wear a pressure-demand, self-contained breathing apparatus and full protective gear. Fight fire from a protected location or a safe distance.

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6. ACCIDENTAL RELEASE MEASURES

- ▶ Personal Precautions, Wear personal protective equipment. Ensure adequate ventilation.
- ▶ Environmental Precautions: Prevent material from contaminating soil and from entering sewers or waterways.
- ▶ 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.

7. HANDLING AND STORAGE

- ▶ Storage conditions
Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Avoid long-time direct contact in sunlight.
- ▶ Handling
Do not breathe vapors or fumes that may be evolved during processing.
Do not disassemble or burn batteries.
Do not squeeze or pierce batteries.
Do not put batteries into water.
Workers must wear proper protective equipment and must operate strictly according to relative rules.
Packaging materials: Keep in properly labelled containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- ▶ Engineering controls: Use local exhaust ventilation or other engineering control sources of dust, mist fumes and vapor. Keep away from heat and open flame. Store in a cool, dry place.
- ▶ Personal Protective: Respiratory Protection: Not necessary under normal circumstances. Skin and body Protection: Not necessary under normal conditions. Wear suitable protective clothing and gloves if handling an open or leaking battery. Hand protection: Wear suitable gloves if handling an open or leaking battery. Eye Protection: Not necessary under normal conditions. Wear safety glasses if handling an open or leaking battery.
- ▶ Other protective Equipment: Have a safety shower and eye wash fountain readily available in the immediate work area.
- ▶ Hygiene Measures: Do not eat, drink, or smoke in work area. Maintain good housekeeping.

9. PHYSICAL AND CHEMICAL PROPERTIES

Voltage: 3.7v
Capacity: 2200mAh
Appearance: Blue, cylindrical, odorless, sold lithium battery

10. STABILITY AND REACTIVITY

- ▶ Stability: The product is stable under normal conditions.
- ▶ Conditions to Avoid: Oxidising agents, strong acids and alkalis if batteries rupture.
- ▶ Incompatible Materials: Acids, Oxidizing agents, Bases
- ▶ Hazardous Decomposition Products: No information available

11. TOXICOLOGICAL INFORMATION

Inhalation, skin contact and eye contact are possible when the battery is not opened. Exposure to internal contents, the corrosive fumes will be very irritation to skin, eyes and mucous membranes. Over exposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

12. ECOLOGICAL INFORMATION

Bioaccumulation: No data available. If manganese concentration reach to 0.1mg/L in the water, BoD5 will reduce.
Ecotoxicity effects: If Chromium concentration reach to 1mg/L in the water, BoD5 will reduce 18%.
Mobility: Mobility

13. DISPOSAL CONSIDERATIONS

Waste from residues:
Do not allow product to reach sewage system.
Do not throw it into any open bodies of water.
Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

According to PACKING INSTRUCTION 965 of IATA DGR 57th Edition for transportation, the special provision 188 of IMDG, or the Technical instructions for the Safe Transport of Dangerous Goods (TI)
The goods are not subject to dangerous goods.
More information concerning shipping, testing, marking and packaging can be obtained from Label master at: <http://www.labelmaster.com>.
Transport Fashion: By air, by sea, by railway, by road.

15. REGULATORY INFORMATION

Labelling: The product is not classified as dangerous in accordance with Regulation (EC) 1272/2008, Regulation (EC) 453/2010 and Regulation EC 1907/2006 (REACH) Annex 11.
Symbol(s): No data available R-Phrase(s): No data available S-phrase(s): No data available

16. ADDITIONAL INFORMATION

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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