

SAFETY DATA SHEET

Product Name: Rechargeable Lithium-ion Battery Cell

Issue Date: 01/11/2024 Version: 2

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

PRODUCT NAME: Rechargeable Lithium-ion Battery Cell ICR18650 1500mAh 3.7V

APPLICATIONS: For Stock No. 22403 7.2 CORDLESS GRASS SHEAR

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

Lithium-ion cells are not hazardous when used according to the instructions of the manufacturer under normal conditions. In case of abuse, there is a risk of rupture, fire, heat, or leakage of internal components, which could release hazardous materials.

SYMPTOMS OF EXPOSURE

Skin contact

No effect under routine handling and use.

Skin contact

No effect under routine handling and use.

Eye contact

No effect under routine handling and use.

Inhalation

No effect under routine handling and use.

REPORTED AS CARCINOGEN

Not applicable

SECTION 3: Composition/information on ingredients

Material or Ingredient	CAS No.	Wt %
Lithium nickel cobalt manganese oxides	182442-95-1	23.61%
Graphite	7782-42-5	13.53%
Lithium hexafluorophosphate	21324-40-3	2.13%
Polyvinylidene fluoride	24937-79-9	0.64%
Iron	7439-89-6	18.37%
Copper	7440-50-8	17.09%
Aluminium	7429-90-5	7.55%
Nickel	7440-02-0	0.77%
Carbon black	1333-86-4	1.30%
Styrene-butadiene rubber	9003-55-8	0.57%
Carboxymethyl cellulose sodium salt	9004-32-4	0.21%
Electrolyte solvents:		
Ethylene carbonate	96-49-1	9.00%
Dimethyl carbonate	616-38-6	
Propylene carbonate	108-32-7	
Ethyl methyl carbonate	623-53-0	
Polyethylene	9002-88-4	3.70%
Polyethylene terephthalate	25038-59-9	1.53%

FURTHER INFORMATION

For information purposes:

(*) Main ingredients: Lithium hexafluorophosphate, organic carbonates

Because of the cell structure the dangerous ingredients will not be available if used properly.

During charge process a lithium graphite intercalation phase is formed.

Mercury content: Hg < 0.1mg/kg
Cadmium content: Cd < 1mg/kg
Lead content: Pb < 10mg/kg

SECTION 4: First aid measures

INHALATION, EYE CONTACT, and SKIN CONTACT:

Not a health hazard.

INGESTION

If swallowed, obtain medical attention immediately.

If exposure to internal materials within cell due to damaged outer casing, the following actions are recommended.

INHALATION

Leave area immediately and seek medical attention.

EYE CONTACT

Rinse eyes with water for 15 minutes and seek medical attention.

SKIN CONTACT

Wash area thoroughly with soap and water and seek medical attention.

INGESTION

Drink milk/water and induce vomiting; seek medical attention.

SECTION 5: Firefighting measures

GENERAL HAZARD

Cell is not flammable but internal material will burn if the cell is incinerated. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

EXTINGUISHING MEDIA

Use extinguishing media suitable for the materials that are burning.

SPECIAL FIREFIGHTING INSTRUCTIONS

If possible, remove cell(s) from firefighting area.

If heated above 120°C, cell(s) can explode/vent.

FIREFIGHTING EQUIPMENT

Use NIOSH/MSHA approved full face self-contained breathing apparatus (SCBA) with full protective gear.

SECTION 6: Accidental release measure

ON LAND

Place material into suitable containers and call local fire/police department.

IN WATER

If possible, remove from water and call local fire/police department.

SECTION 7: Handling and storage

HANDLING

No special protective clothing required for handling individual cells during normal use.

STORAGE

Store in cool, dry place.

SECTION 8: Exposure controls/personal protection

ENGINEERING CONTROLS

Keep away from heat and open flame.

PERSONAL PROTECTION

Store in a cool dry place.

Respirator:

Not required during normal operations. SCBA required in the event of a fire.

Eye/face protection:

Gloves:

Foot protection:

Not required beyond safety practices of employer.

Not required for handling of cells.

Steel toed shoes recommended for large container handling.

SECTION 9: Physical and chemical properties

Appearance

Form:	Solid
Colour:	Various
Odour:	Odourless

Important health, safety and environmental information

PH Value	N/A
Flash point	N/A
Lower explosion	N/A
Vapor pressure	N/A
Density	N/A
Water solubility	Insoluble
Ignition temperature	N/A

SECTION 10: Stability and reactivity

REACTIVITY None

INCOMPATIBILITIES None during normal operation. Avoid exposure to heat, open flame, and corrosives.

HAZARDOUS DECOMPOSITION PRODUCTS None during normal operating conditions. If cells are opened, hydrogen fluoride and carbon monoxide may be released.

CONDITIONS TO AVOID Avoid exposure to heat and open flame.
Do not puncture, crush or incinerate.

SECTION 11: Toxicological information

Cells are not hazardous when used properly. In case of fire or leakage combustion and decomposition products may cause irritation and toxicity to skin, eye and respiratory systems.

Toxicity data of some substance is listed:

Hydrogen fluoride:

Extremely toxic, May be fatal if inhaled or ingested. Readily absorbed through the skin contact may be fatal. Possible mutagen. LCLO: 50 ppm/30m (human beings) LC50 1276 ppm/1h rats).

Carbon and graphite:

Slightly hazards in case of skin contact (irritant), ingestion, inhalation, which will cause chronic damage to upper respiratory tract and cardiovascular system.

Copper:

File No./Rev.: MSDS 163/C

Dust may cause respiratory irritation. LD50: 3.5 mg kg⁻¹(mouse).

SECTION 12: Ecological information

Some materials within the cell are bioaccumulative. Under normal conditions, these materials are contained and pose no risk to people or the surrounding environment.

SECTION 13: Disposal considerations

Recommended methods for safe and environmentally preferred disposal :

Product (waste from residues)

Do not throw away a used battery cell. Recycle it through the recycling company.

Contaminated packaging

Neither a battery cell nor packing is contaminated during normal use. When internal materials leaked from a battery cell dispose contaminates as industrial wastes subject to special control.

RCRA Waste Code:

No regulated

Dispose of according to all federal, state, and local regulations.

SECTION 14: Transport information

With regard to transport, the following regulations are cited and considered:

The International Civil Aviation Organization (ICAO) Technical Instructions, Packing Instruction 965, Section IB, 966/967 Section II.

The International Air Transport Association (IATA) Dangerous Goods Regulations, Packing Instruction 965, Section IB, 966/967 Section II (64th Edition).

The International Maritime Dangerous Goods (IMDG) Code (2022 Edition).

US Hazardous Materials Regulation 49 CFR (Code of Federal Regulations) Section 175-185 Lithium batteries and cells.

The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries, Rev.7.

The article is nor restricted to IMO IMDG code according to special provision 188 (Amdt.41-22) (2022 Edition)

Hazard Classification:

The goods are complied with the requirements of Section IB of Packing Instructions 965 of 65thDGR Manual of IATA (2024 Edition), Special provision 188 of IMDG CODE(Amdt.41-22) (2022 Edition), including the passing of the UN38.3 test.

Battery Cells are properly classified, described, packaged, marked, and labelled, and are in proper condition for transportation according to all the applicable international and national governmental regulations, not limited to the above mentioned. Battery Cells have been tested and fulfilled the requirements and conditions in accordance with UN Recommendations (T1 – T8) on the Transport of Dangerous Goods Model Regulations and the Manual of Testes and Criteria.

Test results of the UN Recommendation on the Transport of Dangerous Goods

Manual of Test and Criteria (38.3 Lithium battery)		Test results	Remark
No.	Test items		
T1	Altitude Simulation	Pass	
T2	Thermal Test	Pass	
T3	Vibration	Pass	
T4	Shock	Pass	
T5	External Short Circuit	Pass	
T6	Impact	Pass	
T7	Overcharge	Pass	For pack and single cell battery only
T8	Forced Discharge	Pass	

UN code: 3481

SECTION 15: Regulatory information

For shipping regulations see section 14.

SECTION 16: Other information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information and recommendations set forth are made in good faith and believed to be accurate. We make no warranty, expressed or implied, with respect to this information and disclaims all liabilities from reliance on it.

*** End of MSDS ***