

SAFETY DATA SHEET

Product Name: POLYMER LI-ION CELL

Issue: 22/02/2023

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: POLYMER LI-ION CELL

Nominal Voltage 3.7V

Rated Capacity 500mAh

Rated Energy 1.85Wh

APPLICATIONS: For Stock No.23850 POCKET LIGHT

SUPPLIER: Draper Tools Ltd

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Chandlers Ford
Eastleigh
Hampshire
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Draper Helpline +44 (0) 2380 494344

Opening hours 8:30-17:00 Monday – Friday.

www.drapertools.com

2. HAZARDS IDENTIFICATION

1) Important Physical and chemical hazards

When the battery is in extreme pressure deformation, high-temperature environment, overload, short-circuit condition, or disassemble the battery, an explosion of fire and chemical burn hazards may occur.

2) Effects of the human health.

Eyes

In normal condition, contact between the battery and eyes will not cause any harms. However, the gas Volatilize from a damaged battery may be harmful to eyes.

Skin

In normal condition, contact between the battery and skin will not cause any harms. Contact with a damaged battery may cause skin allergies or chemical burns.

Inhalation

A battery volatilizes no gas unless it was damaged. Damaged battery will volatilize little gas that may stimulate the respiratory tract or cause an anaphylaxis in serious condition.

Ingestion

Swallowing battery will be damaged to the respiratory tract and cause chemical burns to the stomach; in serious conditions it will cause Permanent damage.

3 COMPOSITION INFORMATION ON INGREDIENT

Chemical Name	Concentration or concentration ranges (%)	CAS Number
Lithium Cobalt Oxide (LiCoO ₂)	35.5	12190-79-3
Aluminum Foil (Al)	9	7429-90-5
1,1-Difluoroethylene polymer	1	24937-79-9
Graphite (C)	18	7782-42-5
Copper Foil (Cu)	15	7440-50-8
Styrene-Butadiene polymer	1.5	9003-55-8
/Lithium hexafluorophosphate	2.8	21324-40-3
Ethylene carbonate	5	96-49-1
Dimelene carbonate	5	616-38-6
Carbonate, methyl ethyl	5	623-53-0

Nickel	2.2	7440-02-0
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4 FIRST AID MEASURES

Eyes

If your eyes contact with a damaged battery, flush with copious amount of water for at least 15 minutes until the stinging and irritation subside and seek immediate medical attention.

Skin

If your skin contacts with a damaged battery, immediately take off contaminated clothing and flush your skin with copious amount of water or have a shower. Seek immediate medical attention if burning sensation continues.

Inhalation

Remove to fresh air immediately and have a rest, if you feel dyspnoea, dizziness or headache, seek immediate medical attention.

Ingestion

If battery or open battery is ingested, do not induce vomiting or give food or drink. Seek medical attention immediately.

5 FIRE FIGHTING MEASURES

This battery can get fire easily and made a lot of smoke under the forced bending and short-circuit condition, so it should be properly used and placed in a cool environment and Avoid placing the battery package under heat, pressure and direct sunlight. In the event of fire, wear gas masks and cool the adjacent batteries and control the spread of fire with water or extinguishers, separate the fire batteries with other batteries as conditions permit, let the fire naturally extinguished, otherwise put out the fire with lots of water. In normal condition the fire is not extinguished until the reactions that between the chemicals contained in the battery are completed. In the event of a big fire, report the fire immediately and evacuate to a safe place.

6. ACCIDENTAL RELEASE MEASURES

Clean the spills and batteries, place them in a dry sealed metal container or non-flammable material container, and bring them to battery recycling companies to deal with environmental protection. Do not throw away the damaged batteries or waste batteries.

7. HANDLING AND STORAGE

Handling

Do not assemble and disassemble a battery, battery short-circuit is not allowed too. Keep the battery away from the fire. When transporting these batteries, the battery should be careful handling to avoid the battery being squeezed or excessive vibration.

Storage

The battery should be fully charged before long term storage. The battery should be stored in a cool environment.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering control

Choose the suitable ventilation equipment; provide sufficient quantity of fire extinguishers, gas mask and water; equip with metal storage containers and bathing equipment.

Respiratory protection

Normally there is no need to do protection.

Eye protection

Normally there is no need to do protection.

The body and skin protection

Normally there is no need to do protection.

9. PHYSICAL AND CHEMICAL PROPETIES

Object appearance and shape

Prismatic

Odour

None

10. STABILITY AND REACTIVITY

Stability

Stable under the regular environment.

Should avoid conditions

High temperature, wet environment, mechanical shock, vibration, crush, reverse polarity used should be avoided.

Incompatible materials

None

Hazardous decomposition products

When the battery catches fire, it will release pungent thick smoke.

11. TOXICOLOGICAL INFORMATION

In normal condition, contact with the battery is non-toxic.

12. ECOLOGICAL INFORMATION

Proper disposal of battery does not present ecological hazard.

13. DISPOSAL CONSIDERATION

It needs to be referred to the waste battery recycling companies for recycling disposal, cannot arbitrarily discarded in the environment. Specific conditions reference to the relevant national laws and regulations.

14. TRANSPORTATION INFORMATION

This report applies to by sea, by air and by land;

This battery sample is Polymer Li-Ion Cell and This battery type is proved to meet the Requirements tests in the UN Manual of Tests and Criteria, Part III, subsection 38.3.

Polymer Li-Ion Cell Can be transport by air according to the International Air transport Association (IATA) Dangerous Goods Regulations relevant regulations (64th) for section 3.9.2.6.1(e).

Can be transport by air according to the Packing Instructions PI965 IB、PI966 II and PI 967 II Section of IATA

Polymer Li-Ion Cell was protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit;

Polymer Li-Ion Cell offered for transport must be packed in inner packaging's that completely enclose the cell or battery; to provide protection from damage or compression to the batteries, the inner packaging's must be placed in a strong rigid outer packaging;

UN No.	Proper shipping name/Description (technical name)	Class or Div. (Sub Hazard)	Packing Group	Packing Instruction	Remark

UN3480	Lithium ion batteries	--	--	Section IB of PI 965	Lithium-ion cells and batteries must be transported in a state of charge (SoC) not exceeding 30% of their rated capacity;
UN3481	contained in equipment or Lithium ion batteries packed with equipment	--	--	Section II of PI 967 or Section II of PI 966	

Can be transport by sea according to the special provision 188 of IMO International Maritime Dangerous Goods Code relevant regulations.

According to 2.9.4.7 of IMO IMDG Code (2020 Edition), Manufacturers and subsequent distributors of 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;

According to 2.2.9.1.7(g) of ADR-2021 (2023 Edition), Manufacturers and subsequent distributors of 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;

15. REGULATORY INFORMATION

Dangerous Goods Regulations

IMO International Maritime Dangerous Goods Code relevant regulations.

Refer to U. N., national, local regulations.

16. OTHER INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. however, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their

particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This material safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export-controlled information.
