SAFETY DATA SHEET

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

PRODUCT NAME: **Li-Ion Battery**

Nominal voltage: 3.7V Rated capacity: 1500mAh

Electric energy: 5.55Wh Weight: 30g

APPLICATIONS: For Stock No.31102 ULTRA THIN INSPECTION LIGHT

SUPPLIER: Draper Tools Ltd

Hursley Road
Chandlers Ford
Eastleigh
Hampshire
SO53 1YF
Draper Helpline +44 (0) 2380 494344
Opening hours 8:30-17:00 Monday – Friday.
www.drapertools.com

SECTION 2: Hazards identification

Emergency overview: This product is an article which contains a chemical substance.

Safety information is given for exposure to the article as sold intended use of the product.

Should not result in exposure to the chemical substance. This is a battery.

In case of rupture: the below hazards exist.

GAS# 7429-90-5

Classification according to GHS

Substances and mixtures which, in contact with water, emit flammable gases (2,3)

Specific target organ toxicity, repeated exposure (1) (Lung)

Label elements

Hazard pictogram(s):

Signal word:

Hazard statement(s):

H261 In contact with water releases flammable gas

H372 Causes damage to organs through prolonged or repeated exposure (Lung)

H413 May cause long lasting harmful effects to aquatic life

Precautionary statement(s):

Precaution:

P223 Do not allow contact with water.

P231+P232 Handle and store contents under inert gas, Protect from moisture.

P280 Wear protective gloves, protective clothing, eye protection and face protection

P260 Do not breathe dust.

P264 Wash skin and clothing thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

Response:

P302+P335+P334 IF ON SKIN: Brush off loose particles from skim and immerse in cool water.

P370+P378 In case of fire: Use the appropriate media put out the fire.

P314 Get medical advice if you feel unwell.

Storage

P402+P404 Store in dry place. Store in a closed container.

Disposal:

P501 Contents handling to approved wate treatment plants.

CAS#7440-50-8

Classification according to GHS

Sensitisation, skin(1,1A,1B)

Specific target organ toxicity, single exposure (1)(digestive system)

Specific target organ toxicity, single exposure; Respiratory tract irritation (3)

Label elements

Hazard pictogram(s): 

Signal word:

Hazard statement(s):

H317 May cause an allergic skin reaction

H370 Causes damage to organs(digestive system)

H335 May cause respiratory irritation

Precautionary statement(s):

Prevention:

P260 Do not breathe dust:

P272 Contaminated work clothing should not be allowed out of the workplace

P280 Wear protective gloves, eye protection, face protection.

P264 Wash skin and clothing thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

Response:

P302+P352 IF ON SKIN: Wash with plenty water.

P333+P313 IF skin irritation or rash occurs: Get medical advice.

P321 Specific treatment (See additional emergency instructions).

P362+P364 Take off contaminated clothing and wash it before reuse.

P308+P311 IF exposed or concerned: Cell a POISON CENTER.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER or doctor, if you feel unwell.

Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal:

P501 Contents or container handling to approved waste treatment plants.

Other hazards

Physical and chemical hazards: See Section 10

Human health hazards: See Section 11

Environmental hazards: See Section 12

SECTION 3: Composition/information on ingredients

Chemical Name	Molecular formula	CAS Number	Weight (%)
Lithium cobalt acid	$LiCoO_2$	12190-79-3	39.07%
Aluminium foil	AL	7429-90-5	5.21%

graphite	C	7782-42-5	19.54%
Copper foil	Cu	7440-50-8	9.47%
Positive Tab	AL	7429-90-5	0.59%
Negative Tab	Ni	7440-02-0	1.18%
Separator	PE	9002-88-4	0.47%
Electrolyte	LiPF6	21324-40-3	16.57%
Aluminium plastic film	AL	7429-90-5	2.96%
	PP	9003-07-0	
PCM	Epoxy resin	38891-59-7	3.95%
	Sn	7440-31-5	
	Cu	7440-50-8	
wire	Cu	7440-50-8	0.95%
	Silicone rubber	63394-02-5	
Solder wire	Sn	7440-31-5	0.02%
Kapoton Tape	PolyimideFilm	497926-97-3	0.02%
INK	INK	5675-51-4	0.00%

SECTION 4: First aid measures

Description of first aid measures

General information No special measures required.

After eye contact

Flush eyes with plenty of water for several minutes while holding eyelids open. Get medical attention if irritation persists.

After skin contact

Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly. Wash clothing and shoes before reuse. If irritation occurs, get medical attention.

After inhalation

Remove victim to fresh area. Administer artificial respiration if breathing is difficult. Seek medical attention.

After swallowing

Do not induce vomiting. Get medical attention.

Personal protective equipment for first-aid responders: Not available

Most important symptoms/effects, acute and delayed: Not available

Indication of immediate medical attention and special treatment needed: Not data available

SECTION 5: Firefighting measures

Suitable extinguishing agents

Use extinguishing agent suitable for local conditions and the surrounding environment Such as dry powder, CO_2.

Unsuitable extinguishing media:

Not data available.

Special hazards arising from the chemical:

Special hazards arising from the substance or mixture

Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature (>150℃ (302℉)), when damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in clothes proximity.

Specific protective actions fire-fighters:

Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

SECTION 6: Accidental release measure

Protective precautions:

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

Protective equipment:

Not data available.

Emergency procedures:

Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, placed the spilled material into a suitable disposal container. Keep spilled material out of sewers, ditches and bodies of water.

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits

Methods and materials for containment and cleaning up:

All waste must refer to United Nations, the national and regulations for disposal.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

Precautions for safe handling

Consumption of food and beverage should be avoided in work areas.

Wash hands with soap and water before eating, drinking.

Ground containers when transferring liquid to prevent static accumulation and discharge.

Information about fire and explosion protection

Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles

Store in a cool, dry, well-ventilated place.

Information about storage in one common storage facility

Keep away from heat, avoiding the long time of sunlight.

Further information about storage conditions

Keep container tightly sealed.

Specific and use

No further relevant information available.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS No	ACGIH	NIOSH	OSHA
12190-79-3	N/A	N/A	N/A
24937-79-9	N/A	N/A	N/A
7782-42-5	TLV-TWA 2mg/m3	REL-TWA 2.5mg/m3	PEL-TWA 15mppcf PEL-TWA 20mppcf
61789-96-6	N/A	N/A	N/A
96-49-1	N/A	N/A	N/A
7429-90-5	TLV-TWA 1mg/m3	REL-TWA 2mg/m3 REL-TWA 5mg/m3	PEL-TWA 5mg/m3 PEL-TWA 15mg/m3

		REL-TWA 10mg/m3	
7440-50-8	TLV-TWA 0.2mg/m3 TLV-TWA 1mg/m3	REL-TWA 1mg/m3 REL-TWA 0.1mg/m3	REL-TWA 0.1mg/m3 REL-TWA 1mg/m3
9002-88-4	N/A	N/A	N/A
21324-40-3	N/A	N/A	N/A
9003-07-0	N/A	N/A	N/A

Appropriate engineering conteols:

The usual precautionary measures for handing chemicals should be followed

Keep away form foodstuffs,beverages and feed.

Remove all soild and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Personal Protective Equipment

Respiratory protection: Wear suitable protective mask in order to reduce the respiratory System.A large number of leakage, wear chemical protective clothing,including self-contained breating apparatus.

Hand Protection: Wear appropriate protective gloves to reduce skin contact.

Eyes Protection: Wear safety goggles or eye protection cimbined with respiratory protection

Skin and Boby Protection:Working environment required,wear suitable protective clothing to minimize contact with skin.

The type of protective equipment must be accoring to the concentration and the content of certain hazardous

SECTION 9: Physical and chemical properties

Colour: Silver.

Physical State: Prismatic.

Odour: Not available.

Odour threshold: Not available.

pH: Not available.

Melting point/freezing point: Not available.

Initial boiling point and boiling range: Not available.

Flash point: Not available.

Evaporation rate: Not available.

Flammability(solid,gas): Not available.

Explosion Limits(vol% in air): Not available.

Vapour pressure,kPa at 20℃: Not available.

Vapour density: Not available.

Density/Relative density(water=1): Not available.

solubility(ies): Not available.

Partotion coefficient:n-octanol/warter: Not available.

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

Viscosity Not available

Other information:

Voltage 3.7V

Electric capacity 1500mAh

SECTION 10: Stability and reactivity

Reactivity: Data not available.

Chemical stability: Stable.

Possibility of hazardous reactions： Data not available.

Conditions to Avoid: Fiames, sparks,and other sources of ignition, incompatible materials

Incompatibilities materials:Oxidizing agents,acid,base

Hazardous decomposition products:Carbon monoxide,carbon dioxide,lithium oxide fumes

SECTION 11: Toxicological information

Acute Toxicity

CAS No.	LC50/LD50.
12190-79-3	Not available.
24937-79-9	Not available.
7782-42-5	Not available.
61789-96-6	Not available.
96-49-1	LD50Rat(0ral):10g/kg
9003-07-0	Not available.
7429-90-5	Not available.
7440-50-8	Not available.
9002-88-4.	Not available
21324-40-3	Not available

Skin corrosion/irritation: Not available.

Serious eye damage/irritation: Not available.

Respiratory or Skin sensitization: Not available.

Germ Cell mutagenicity: Not available.

Carcinogenicity: Not available.

Reproductive toxicity: Not available.

Specific target organ toxicity-Single exposure: Not available.

Specific target organ toxicity-Repeated exposure: Not available.

Aspiration hazard: Not available.

Information on the likely of exposure: Not available.

Eye: Not available.

Skin: Not available.

Ingestion: Not available.

Inhalation: Not available.

SECTION 12: Ecological information

Ecological 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

Recommendation:

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packaging

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

UN Classes:

Classified as Lithium ion batteries (UN3481), 2024IATA Dangerous Goods regulations 65th edition Packing

Instruction PI967 Section II is applied. The product is handled as Non-Dangerous Goods by meeting the following requirements. (1)

Lithium ion cells and batteries offered for transport are not subject to other additional requirements of the UN Regulations if they meet the following: (1) (3)

1. for cells, the watt-hour rating is not more than 20Wh;
2. for batteries, the watt-hour rating is not more than 100Wh.
3. each cell or battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria Part III subsection 38.3.

All Li Polymer batteries with the necessary testing requirements under the UN38.3 Manual of Tests and Criteria as referenced in the following transportation regulations.

1. UN recommendations on the Transport of Dangerous Goods Model Regulations.
2. U.S Department of Transportation of Dangerous Goods Model Regulations.
3. International Civil Aviation Organization (ICAO) Technical Instructions
4. International Maritime Dangerous Goods (IMDG) code

Li Polymer Battery are exempted from these regulations since they meet all UN testing requirements and contain no more than 8 grams of equivalent lithium content (see 49 CFR 173.185 of the US HMR, IATA Dangerous Goods Regulations and Special Provision 188 of the IMDG Code and UN model Regulations.

According to the Packing Instruction 965~967 Section II IATA DGR 65th Edition for transportation, or the Special provision 188 of IMDG, or the <<Recommendations On The Transport Of Dangerous Goods-Model Regulations>>IMDG Code 2022 Edition（Amdi 41-22）.

More information concerning shipping, testing, marking and packaging can be obtained from Label master at http://www.labelmaster.com.

Separate Lithium-ion batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles and wet by rain.

Transport Fashion: By air, by sea, by railway, by road.

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

CAS No.	TSCA	IECSC	DSL/NDSL	EINECS/ELINCS/
12190-79-3	Listed	Listed	Listed DSL	Listed
24937-79-9	Listed	Listed	Listed DSL	Listed
24937-79-9	Listed	Listed	Listed DSL	Listed
9002-88-4	Listed	Listed	Listed DSL	Listed
7440-50-8	Listed	Listed	Listed DSL	Listed
7429-90-5	Listed	Listed	Listed DSL	Listed
9003-07-0	Listed	Listed	Listed DSL	Not Listed
61789-96-6	Listed	Listed	Listed DSL	Not Listed
21324-40-3	Listed	Listed	Listed DSL	Listed
96-49-1	Listed	Listed	Listed DSL	Listed

SECTION 16: Other information

Abbreviations and acronyms

CAS： Chemical Abstracts Service.

EC: European Commission.

ACGIH： American Conference of Governmental Industrial Hygienists

NIOSH: US National institute for Occupational Safety and Health

OSHA: US Occupational Safety and Health

TLV：Threshold Limit Value
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
PEL: Permissible Exposure Level
PEL: Recommended Exposure Limit
PC-STEL: Permissible concentration-time weighted average
PC-TWA: Permissible concentration-short time exposure limit
LC50: Lethal concentration,50 percent kill
LD50: Lethal dose,50 percent kill
IARC: International Agency for Research on Cancer
EC50: Median effectible concentration
BCF: Bioconcentration Factor
BOD: Biochemical oxygen demand
NOEC: No observed effect concentration
NTP: US National Toxicology Program
RTECS: Registry of Toxic Effects of Chemical Substances
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods
TDG: Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations
TOC: Total Organic Carbon
TSCA: Toxic Substances Control Act of USA
DSL: the Domestic Substances List of Canada
NDSL: the Non-domestic Substances List of Canada

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Reference

Chemical substances information: Japan Advanced Information centre of Safety and Health
International Chemical Safety Cards (ICSCs): International Occupational Safety and Health Information Centre (CIS)
2002 TLVs and BEIs: American Conference of Governmental Industrial Hygienists (ACGIH)
Dangerous Goods Regulations -The65th edition 1 January 2024: International Air Transport Association (IATA)
IMDG Code - 2022 Edition: International Maritime Organization (IMO)
RTECS (CD-ROM)
MSDS of raw materials prepared by the manufacturers.

End