

SAFETY DATA SHEET

Lithium-ion Rechargeable Battery

Issue Date: 23/10/2024 Version: 2

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

Product identifier

Product Name: Lithium-ion Rechargeable Battery
Model: 21700
Nominal Voltage: 3.7V
Capacity/Wh Rating: 4000mAh, 14.8Wh

Applications: For: Rechargeable Work Light and Power Bank with Clamp (23942)

Details of the supplier of the safety data sheet

Draper Tools Ltd
Hursley Road, Chandlers Ford, Eastleigh
Hampshire SO53 1YF
United Kingdom
www.drapertools.com

Emergency telephone number

Draper Helpline +44 (0) 2380 494344
Opening hours 8:30-17:00 Monday – Friday.

Recommended use of the chemical and restrictions on use

Recommended Use: Used in portable electronic equipment.

Uses advised against:

- a) Do not dismantle, open or shred secondary cells or batteries.
- b) Keep batteries out of the reach of children.
Battery usage by children should be supervised. Especially keep small batteries out of reach of small children.
- c) Seek medical advice immediately if a cell or a battery has been swallowed.
- d) Do not expose cells or batteries to heat or fire. Avoid storage in direct sunlight.
- e) Do not short-circuit a cell or a battery. Do not store cells or batteries haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.
- f) Do not remove a cell or battery from its original packaging until required for use.
- g) Do not subject cells or batteries to mechanical shock.
- h) In the event of a cell leaking, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with copious amounts of water and seek medical advice.
- i) Do not use any charger other than that specifically provided for use with the equipment.
- j) Observe the plus (+) and minus (–) marks on the cell, battery and equipment and ensure correct use.
- k) Do not use any cell or battery which is not designed for use with the equipment.
- l) Do not mix cells of different manufacture, capacity, size or type within a device.
- m) Always purchase the battery recommended by the device manufacturer for the equipment.
- n) Keep cells and batteries clean and dry.
- o) Wipe the cell or battery terminals with a clean dry cloth if they become dirty.
- p) Secondary cells and batteries need to be charged before use. Always use the correct charger and refer to the manufacturer's instructions or equipment manual for proper charging instructions.
- q) Do not leave a battery on prolonged charge when not in use.
- r) After extended periods of storage, it may be necessary to charge and discharge the cells or batteries several times to obtain maximum performance.
- s) Retain the original product literature for future reference.

- t) Use the cell or battery only in the application for which it was intended.
u) When possible, remove the battery from the equipment when not in use.
v) Dispose of properly.

SECTION 2: Hazards identification

Classification

Acute toxicity - Dermal	Category 3
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

GHS Label elements, including precautionary statements

Danger Hazard statements

Toxic in contact with skin
Causes serious eye irritation
Suspected of causing cancer
Causes damage to organs through prolonged or repeated exposure



Precautionary statements-Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapours/spray
Do not eat, drink or smoke when using this product

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing If eye irritation persists: Get medical advice/attention

Skin

IF ON SKIN: Wash with plenty of water and soap.
Call a POISON CENTER or doctor if you feel unwell.
Take off immediately all contaminated clothing and wash it before reuse.

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other information

harmful if swallowed. Very toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

Chemical characterisation: Mixtures

Description:

Product: Consisting of the following components.

Common Chemical Name	Concentration (%)	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

Note: CAS number is Chemical Abstract Service Registry Number.

SECTION 4: First aid measures

First aid measures

Eye Contact: Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact: Remove contaminated clothing and shoes. Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Inhalation: Move to fresh air. If symptoms persist, call a physician.

Ingestion: Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

Swallowing: Do not induce vomiting. Get medical attention.

Most Important Symptoms/Effects, both acute and delayed: No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

SECTION 5: Firefighting measures

Suitable Extinguishing Media

CO₂, dry chemical powder, water spray.

Unsuitable Extinguishing Media: No information available.

Specific Hazards Arising from the Chemical

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide

Other irritating and toxic gases.

Hazardous Combustion Products

Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact: No

Sensitivity to Static Discharge: No

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. For example: Wear self-contained respiratory protective device. Wear suitable protective clothing and eye/face protection.

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°C), When damaged or abused (e.g. mechanical damage or electrical overcharging); may

burn rapidly with flare-burning effect; may ignite other batteries in close proximity.

SECTION 6: Accidental release measure

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Avoid contact with eyes.

Refer to section 8 for personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Environmental precautions

Environmental Precautions Refer to protective measures listed in Sections 7 and 8.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning up: Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other Non-combustible absorbent material. Pick up and transfer to properly labelled containers. Clean contaminated surface thoroughly.

SECTION 7: Handling and storage

Precautions for safe handling

Handling: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Wear personal protective equipment.

Wash thoroughly after handling. Use this material with adequate ventilation.

The product is not explosive.

Conditions for safe storage, including any incompatibilities

If the Lithium-ion Rechargeable Battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the Lithium-ion Rechargeable Battery periodically.

3 months: -10°C~+40°C, 45 to 85%RH

And recommended at 0°C~+35°C for long period storage.

The capacity recovery rate in the delivery state (50% capacity of fully charged) after storage is assumed to be 80% or more.

The voltage for a long-time storage shall be 3.7V~4.2V range.

Do not storage Lithium-ion Rechargeable Battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.

Keep out of reach of children.

Do not expose Lithium-ion Rechargeable Battery to heat or fire. Avoid storage in direct sunlight.

Do not store together with oxidizing and acidic materials.

Keep ignition sources away- Do not smoke.

Store in cool, dry and well-ventilated place.

Incompatible Products

None known.

SECTION 8: Exposure controls/personal protection

Control parameters

Ingredients with limit values that require monitoring at the workplace:	
12190-79-3 Lithium Cobalt Oxide	
TLV (USA)	0.02mg/m3
MAK (Germany)	0.1mg/m3

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962(11th Cir., 1992).

Appropriate engineering controls

Engineering Measures

Showers

Eyewash stations

Ventilation systems

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Ensure adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/Face Protection:



Tightly sealed goggles

Body protection:

Protective work clothing.

Skin protection:



Protective gloves

Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

Physical State

Form:	Prismatic
Colour:	Silver
Odour:	Odourless
Odor Threshold:	No information available.
Change in condition:	Not determined.
pH, with indication of the concentration	

Not determined.

Melting point/freezing point Not determined.

Initial boiling point and Boiling range: Not determined.

Flash Point Not determined.

Evaporation rate Not determined.

Flammability (solid, gas) Not determined.

Upper/lower flammability or explosive limits

	Not determined.
Vapor Pressure:	Not determined.
Vapor Density:	Not determined.
relative density:	Not determined.
Solubility in Water:	Not determined.
Solubility in other solvents	Not determined.
n-octanol/water partition coefficient	Not determined.
Auto-ignition temperature	Product is not self-igniting.
Decomposition temperature	Not determined.
Odour threshold	Not determined.
Evaporation rate	Not determined.
Viscosity	Not determined.
Other Information	No further relevant information available.

SECTION 10: Stability and reactivity

Reactivity:

Stable under recommended storage and handling conditions (see section 7, Handling and storage).

Chemical stability:

Stable under normal conditions of use, storage and transport.

Thermal decomposition/conditions to be avoided:

No decomposition if used according to specifications.

Possibility of Hazardous Reactions:

None under normal processing.

Hazardous Polymerization:

Hazardous polymerization does not occur.

Conditions to avoid:

Strong heating, fire, Incompatible materials.

Incompatible materials:

Strong oxidizing agents. Strong acids, Base metals.

Hazardous Decomposition Products:

Carbon oxides, other irritating and toxic gases.

SECTION 11: Toxicological information

Acute toxicity: No data available.

LD/LC50 values relevant for classification:
Not available.

Skin corrosion/irritation: No irritant effect.

Serious eye damage/irritation: Cause serious eye irritation.

Respiratory or skin sensitization: No sensitizing effects known.

Specific target organ system toxicity: No information available.

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction): No information available.

SECTION 12: Ecological information

Toxicity:

Aquatic toxicity:
No further relevant information available.

Persistence and degradability: No further relevant information available.

Bio accumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No information available.

SECTION 13: Disposal considerations

Waste treatment methods

Recommendation: Must not be disposed together with household garbage.

Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

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

The Lithium-ion Rechargeable Battery must be of a design type proved to meet the testing requirements of the Manual of test and criteria, Part III, subsection 38.3;

The Lithium-ion Rechargeable Battery 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.

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

- *The International Civil Aviation Organization (ICAO) Technical Instructions.*
- *The International Air Transport Association (IATA) Dangerous Goods Regulations.*

14.1. UN number or ID number: UN3481

14.2. UN Proper shipping name/Description (technical name): Lithium-ion batteries packed with equipment or Lithium-ion batteries contained in equipment.

14.3. Transport hazard class(es): /

14.4. Packing group: /

14.5. Environmental hazards: 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.

14.6. Special precautions for user: 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.

Cell and batteries 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.

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design shall be chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of moisture.

The package must be handled with care and that a flammability hazard exists if the package is damaged.

14.7. Maritime transport in bulk according to IMO IMDG Code (Amend.40-20) according to special provision 188.

SECTION 15: Regulatory information

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

EU Regulation:

Authorisations: No information available.
Restrictions on use: No information available.

Regulatory information

CAS No.	EU (EINECS)	US (TSCA)	Japan (ENCS)	Canada (DSL/NDSL)	Australia (AICS)	Korea (ECL)	China (IECSC)
12190-79-3	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
7429-90-5	Listed	Listed	Listed	DSL	Listed	Listed	Listed
24937-79-9	Listed	Listed	Listed	DSL	Listed	Listed	Listed
7782-42-5	Not listed	Listed	Not listed	DSL	Listed	Listed	Listed
7440-50-8	Not listed	Listed	Not listed	DSL	Listed	Listed	Listed
9003-55-8	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
21324-40-3	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
96-49-1	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
616-38-6	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
623-53-0	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
7440-02-0	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed

Chemical safety assessment A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Issue Date: 23/10/2024 Version: 2

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

*** End of SDS ***