

# MSDS Report

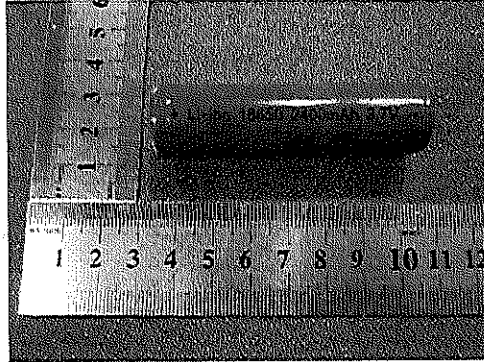
**Safety Data Sheet**  
**According to ST/SG/AC.10/30/Rev.5(GHS)**

## Section 1- Chemical Product and Company Identification

Product Name: 66028 Lithium-Ion Battery

† Applications: 20W Li-Ion Rechargeable Hand Torch

Product Photo :



SUPPLIER:

Draper Tools Ltd  
Hursley Road  
Chandlers Ford  
Eastleigh  
Hampshire  
SO53 1YF  
Draper Helpline +44 (0) 2380 494344

# MSDS Report

## Section 2-Hazards Identification

**Emergency overview:** N/A

**Classification according to GHS**

Not a dangerous substance according to GHS

**Label elements**

<b>Hazard pictogram(s):</b>	No available
<b>Signal word:</b>	No available
<b>Hazard statement(s):</b>	No available
<b>Precautionary statement(s):</b>	
<b>Prevention:</b>	No available
<b>Response:</b>	No available
<b>Disposal:</b>	No available

**Environmental Hazards :** no relevant information.

**Important symptoms:** See Section 11 for more information.

**Emergency overview:** In case of accident or if you feel unwell, seek medical advice immediately. See Section 4 for more information.

# MSDS Report

## Section 3-Composition, Information on Ingredients

Chemical Composition	Molecular Formula	CAS No.	Weight(%)
Lithium Cobalt Oxide	LiCoO <sub>2</sub>	12190-79-3	30-37
Graphite	C	7782-42-5	15-20
acetylene black	C(SP)	1333-86-4	0-1
PVDF/CMC	PVDF/CMC	24937-79-9	0-1
Lithium hexafluorophosphate	LiPF <sub>6</sub>	21324-40-3	12-16
Diaphragm paper	PE	9002-88-4	6-10
	PP	9003-07-0	
Aluminum foil	Al	7429-90-5	2-5
copper	Cu	7440-50-8	5-10
Steel shell	Fe	7439-89-6	10-15
PCB	Epoxy resin	C <sub>11</sub> H <sub>12</sub> O <sub>3</sub>	61788-97-4
	Glass fiber	/	/
	Filler		
			2-5

## Section 4- First Aid Measures

### Description of first aid measures.

**General information No special measures required.**

#### After eyes contact

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

#### After skin contact

Remove contaminated clothing and shoes. Immediately wash 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.

# MSDS Report

**Personal protective equipment for first-aid responders:** No available

**Most important symptoms/effects, acute and delayed:** No available

**Indication of immediate medical attention and special treatment needed:** No available

## Section 5- Fire Fighting Measures

**Suitable extinguishing media:**

Use extinguishing agent suitable for local conditions and the surrounding environment

Such as dry powder, CO2.

**Unsuitable extinguishing media:**

No further relevant information available.

**Specific 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°C (302°F)), 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.

**Specific protective actions for fire-fighters:**

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

## Section 6- Accidental Release Measures

**Personal Precautions:**

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

**Protective equipment:**

No further relevant information 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, place 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 the United Nations, the national and local regulations for disposal.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

# MSDS Report

## 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	TLV-TWA 0.02mg/m <sup>3</sup>	N/A	N/A
7782-42-5	TLV-TWA 2mg/m <sup>3</sup>	RELs-TWA 2.5mg/m <sup>3</sup>	PELs-TWA 15mppcf
1333-86-4	N/A	N/A	N/A
24937-79-9	N/A	N/A	N/A
21324-40-3	N/A	N/A	N/A
9002-88-4	N/A	N/A	N/A
9003-07-0	N/A	N/A	N/A
7429-90-5	TLV-TWA 1mg/m <sup>3</sup>	RELs-TWA 5mg/m <sup>3</sup>	PELs-TWA 5mg/m <sup>3</sup> PELs-TWA 15mg/m <sup>3</sup>
7440-50-8	TLV-TWA 0.2mg/m <sup>3</sup> TLV-TWA 1mg/m <sup>3</sup>	RELs-TWA 1mg/m <sup>3</sup>	PELs-TWA 5mg/m <sup>3</sup> PELs-TWA 15mg/m <sup>3</sup>
7439-89-6	N/A	N/A	N/A
61788-97-4	N/A	N/A	N/A

# MSDS Report

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**Engineering control:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at end of work.

**Personal Protective Equipment**

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

**Hand protection:** Wear appropriate protective gloves to reduce skin contact.

**Eyes protection:** Wear safety goggles or eye protection combined with respiratory protection.

**Skin and Body Protection:** Working environment required, wear suitable protective clothing to minimize contact with skin. The type of protective equipment must be according to the concentration and the content of certain hazardous substances in the workplace.

## Section 9- Physical and Chemical Properties

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**Information on basic physical and chemical properties**

<b>Colour:</b>	Silver.
<b>Physical State:</b>	Cylindrical.
<b>Odour:</b>	Not available.
<b>Odour threshold:</b>	Not available.
<b>Ph:</b>	Not available.
<b>Melting point/freezing point:</b>	Not available.
<b>Initial boiling point and boiling range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	Not available.
<b>Explosion Limits (vol% in air):</b>	Not available.
<b>Vapour pressure, kPa at 20°C:</b>	Not available.
<b>Vapor density:</b>	Not available.
<b>Density/Relative density (water = 1):</b>	Not available.
<b>Solubility(ies):</b>	Not available.
<b>Partition coefficient: n-octanol/water</b>	Not available.
<b>Auto-ignition temperature:</b>	Not available.
<b>Decomposition temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Other information:</b>	

# MSDS Report

<b>Voltage:</b>	3.7V
<b>Electric capacity:</b>	2400mAh
<b>Electric Energy:</b>	8.88Wh

## Section 10- Stability and Reactivity

**Reactivity:** Data not available.

**Chemical stability:** Stable.

**Possibility of hazardous reactions:** Data not available.

**Conditions to avoid:** Flames, 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
7782-42-5	Oral LD50> 10000 mg/kg ( Rat )
1333-86-4	Not available
24937-79-9	Not available
21324-40-3	Not available
9002-88-4	Not available
9003-07-0	Not available
7429-90-5	Not available
7440-50-8	Oral(rat)LD50:5800 mg/kg
7439-89-6	Oral LD50= 984 mg/kg ( Rat )
61788-97-4	Not available

**Skin corrosion/irritation:** Not available

**Serious eye damage/irritation:** Not available

**Respiratory or Skin sensitization:** Not available

**Germ Cell mutagenicity:** Not available

# MSDS Report

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**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 routes of exposure:** Not available

**Eye:** Not available

**Skin:** Not available

**Ingestion:** Not available

**Inhalation:** Not available

## Section 12- Ecological Information

**Ecological Toxicity:** No further relevant information available.

**Persistence and degradability:** No further relevant information available.

**Bioaccumulative Potential:** No further relevant information available.

**Mobility in soil:** No further relevant information available.

**Other adverse effects:** No further relevant information available.

## Section 13- Disposal Considerations

**Disposal methods:**

**Recommendation:**

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

**Uncleaned packaging**

**Recommendation:** Disposal must be made according to official regulations



# MSDS Report

## Section 14- Transport Information

<b>UN Number</b>	
IATA	UN3480
IMDG	UN3480
<b>UN Proper shipping name</b>	
IATA	Lithium Ion Batteries
IMDG	Lithium Ion Batteries
<b>Transport hazard class(es)</b>	
IATA	9
IMDG	9
<b>Packing group</b>	
IATA	N/A
IMDG	N/A
<b>Packaging Sign</b>	
IATA	N/A
IMDG	N/A
<b>Environmental hazards</b>	
Marine pollutant:	No
<b>Special precautions for user</b>	Not applicable

**Transport information:**

The Lithium ion battery (18650) has passed the test UN38.3, according to the report ID: 1114030079.

According to the Packing Instruction 965 section II of IATA DGR 56<sup>th</sup> Edition for transportation.

According to the special provision 188 of IMDG (36-12). The products are not subject to dangerous goods.

Separate 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.

**Note: Batteries weight in the package<5kg(By air, Batteries installed in equipment).**

**Transport Fashion:** By air, by sea.

# MSDS Report

## Section 15- Regulatory Information

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

CAS No.	TSCA	IECSC	DSL/NDSL	EINECS/ELINCS/NLP
12190-79-3	Listed	Listed	Listed DSL	Listed
7782-42-5	Listed	Listed	Listed DSL	Listed
1333-86-4	Listed	Listed	Listed DSL	Listed
24937-79-9	Listed	Listed	Listed DSL	Listed
21324-40-3	Listed	Listed	Listed DSL	Listed
9002-88-4	Listed	Listed	Listed DSL	Listed
9003-07-0	Listed	Listed	Listed DSL	Listed
7429-90-5	Listed	Listed	Listed DSL	Listed
7440-50-8	Listed	Listed	Listed DSL	Listed
7439-89-6	Listed	Listed	Listed DSL	Listed
61788-97-4	Listed	Listed	Listed DSL	Listed

## Section 16- Other Information

Issue Time:2015-7-23

Issue Department: Technical department

Modification record:

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein

Final determination of suitability of any material is the sole responsibility of user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Other Information:

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);

# MSDS Report

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TLV:(Threshold Limit Value);  
TWA:(Time Weighted Average);  
STEL:(Short Term Exposure Limit);  
PEL:(Permissible Exposure Level);  
REL:(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 effective concentration);  
BCF:(Bioconcentration Factor);  
BOD:(Biochemical oxygen demand);  
NOEC:(No observed effect concentration);  
NTP:(US National Toxicology Program);  
RTECS:(Registry of Toxi 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);  
NSDL:(the Non-domestic Substances List of Canada)

\*\*\*\*\*END OF REPORT\*\*\*\*\*