

## Material Safety Data Sheet

According to ISO11014:2009 & GB16483-2008

### Section 1 - Chemical Product and Company Identification

**Product Name:** Lithium Ion Battery  
**Application:** 71145 10 SMD LED INSPECTION LAMP  
**Supplier:** Draper Tools Ltd  
Hursley Road  
Chandlers Ford  
Eastleigh  
Hampshire  
SO53 1YF  
  
**Draper Helpline +44 (0) 2380 494344**

### Section 2 - Hazards Identification

No harm at the normal use. If contact the electrolyte in the battery, reference as follows:

**Classification of the substance or mixture**

**Classification according to GHS**

Acute toxicity, Oral (Category 4)

Acute toxicity, Dermal (Category 3)

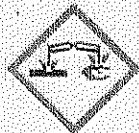
Skin, irritate (Category 1B)

Eyes, irritate (Category 1)

**Label elements**

**Labelling according to Regulation (EC) No 1272/2008[CLP]**

**Hazard pictogram(s):**



**Signal word:** Danger

**Hazard statement(s):** H311: Toxic in contact with skin.

H314: Causes severe skin burns and eye damage  
 H302: Harmful if swallowed.

**Precautionary statement(s):**

**Prevention:** P280: Wear protective gloves/protective clothing/eye protection / face protection.

**Response:** P312: Call a POISON CENTER or doctor/ physician if you feel unwell.  
 P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water  
 P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

**Disposal:** P501: Dispose of contents/container in accordance with local/national regulations

**Other hazards** No information available.

**Section 3 - Composition, Information on Ingredients**

**Chemical characterization: Mixture**

Chemical Composition	CAS No.	EC#	Weight (%)
Lithium Cobalt Oxide	12190-79-3	235-362-0	37
Graphite	7782-42-5	231-955-3	25
Isolating Membrane	---	---	0.1
Copper Foil	7440-50-8	231-159-6	10
Aluminum Foil	7429-90-5	231-072-3	4
Stainless Case	---	---	6.3
Lithium Hexafluorophosphate	21324-40-3	244-334-7	0.5
EC	96-49-1	202-510-0	5.7
DEC	105-58-8	212-786-4	5.7
DMC	616-38-6	210-478-4	5.7

## 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.

### Information for doctor.

#### Indication of any immediate medical attention and special treatment needed

No further relevant information available.

## Section 5 - Fire Fighting Measures

**Flammability:** Not available

#### Extinguishing media

#### Suitable extinguishing agents

Use extinguishing agent suitable for local conditions and the surrounding environment .  
Such as dry powder , CO<sub>2</sub>.

#### 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 clothes proximity.

#### Advice for firefighters

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

## Section 6 - Accidental Release Measures

### **Personal precautions, protective equipment and emergency procedures**

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

### **Environmental precautions**

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

### **Steps to be taken in case material is spilled or released**

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.

### **Waste disposal method**

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

### **Reference to other sections**

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

### **Handling**

#### **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**

**Ingredients with limit values that require monitoring at the workplace:**

12190-79-3 Lithium Cobalt Oxide

TLV (USA) 0.02mg/m<sup>3</sup>

MAK(Germany) 0.1mg/m<sup>3</sup>

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

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 the end of work.

**Respiratory Protection**

Use suitable respirator when high concentrations are present.

**Personal Protection**

**Protection of hands**



*Protective gloves*

**Eye protection**



*Tightly sealed goggles*

## Section 9 - Physical and Chemical Properties

**Information on basic physical and chemical properties**

**General information**

Appearance:	Golden.
Form:	Cylindrial.
Odour:	Odorless.
pH:	Not available.
<b>Change in condition</b>	
Melting point:	Not available.
Boiling point:	Not available.
Freezing point	Not available.
Flash point:	Not available.
Flammability:	Not available.
Ignition temperature:	Not available.
Decomposition temperature:	Not available.
Self-igniting:	Not available.
Danger of explosion:	Not available.
<b>Explosion limits</b>	
Lower:	Not available.
Upper:	Not available.
Oxidizing properties:	Not available.
Vapour pressure:	Not available.
Density:	Not available.
Relative density:	Not available.
Vapour density:	Not available.
Evaporation rate:	Not available.
Solubility in/Miscibility with water:	Not available.
n-octanol/water partition coefficient:	Not available.
<b>Viscosity</b>	
Dynamic:	Not available.
Kinematic:	Not available.
<b>Other information:</b>	
Voltage	3.7V
Electric capacity	2200mAh

## 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**

Oxidizing agents, acid, base.

**Hazardous Combustible Products**

Carbon monoxide, carbon dioxide, lithium oxide fumes.

**Hazardous Polymerization**

N/A.

## Section 11 - Toxicological Information

**Information on toxicological effects**

**Acute toxicity**

**LD/LC50 Values relevant for classification:**

Not available

**Primary irritant effect**

No further relevant information available.

**Sensitization:**

No further relevant information available.

**Additional toxicological information:**

**Toxicological, metabolism and distribution:**

No further relevant information available.

**Acute effects (acute toxicity, irritation and corrosivity):**

No further relevant information available.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**

No further relevant information available.

## Section 12 - Ecological Information

**Toxicity**

**Aquatic toxicity:** No further relevant information available.

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

**Behaviour in environmental systems**

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

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

**Ecological effects**

**Additional ecological information**

**General notes:**

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

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

### Section 13 - Disposal Considerations

**Waste treatment methods**

**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

<b>UN Number</b>	
<b>IATA</b>	UN3480
<b>IMDG</b>	None
<b>Model Regulation</b>	None
<b>UN Proper shipping name</b>	
<b>IATA</b>	Lithium Ion Batteries
<b>IMDG</b>	None
<b>Model Regulation</b>	None
<b>Transport hazard class(es)</b>	
<b>IATA</b>	9
<b>IMDG</b>	None
<b>Model Regulation</b>	None



<b>Packing group</b>	
IATA	None
IMDG	None
Model Regulation	None
<b>Environmental hazards</b>	
Marine pollutant:	No
Special precautions for user	Not applicable.

**Transport information:** The Lithium Ion Battery (ICR18650) has passed the test UN38.3, according to the report ID: H12263041721D~1.

According to the Packing Instruction 965 section II of IATA DGR 55<sup>th</sup> Edition for transportation.

According to the special provision 188 of IMDG (36-12) or the <<Recommendations On The Transport Of Dangerous Goods-Model Regulations>> (18<sup>th</sup>). The products are not subject to dangerous goods.

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

This Material Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

Composition	CAS#	TSCA	EC#	EINECS
Lithium Cobalt Oxide	12190-79-3	Listed	235-362-0	Listed
Graphite	7782-42-5	Listed	231-955-3	Listed
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DEC	105-58-8	Listed	212-786-4	Listed
DMC	616-38-6	Listed	210-478-4	Listed

### Section 16 - Additional Information

#### Abbreviations and acronyms

<b>CLP:</b>	EU regulation (EC) No 1272/2008 on classification, labelling and packaging of chemical substances and mixtures.
<b>CAS:</b>	Chemical Abstracts Service (Division of the American Chemical Society).
<b>ACGIH:</b>	American Conference of Governmental Industrial Hygienists
<b>TLV:</b>	Threshold Limit Value
<b>IATA:</b>	International Air Transport Association
<b>IMDG:</b>	International Maritime Dangerous Goods
<b>LC50:</b>	lethal concentration, 50 percent kill
<b>LD50:</b>	lethal dose, 50 percent kill
<b>TWA</b>	Time Weighted Average
<b>TSCA</b>	United States Toxic Substances Control Act Section 8(b) Inventory
<b>EINECS</b>	European Inventory of Existing Commercial Chemical Substances
<b>Model</b>	Recommendations on the Transport of Dangerous Goods Model
<b>Regulation</b>	Regulations

#### Declare to reader

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.