

# Safety Data Sheet



## 1. Identification of the substance/preparation and of the company/undertaking

### 1.1. Identification of the product

Product name : Lithium Ion Cell  
Chemical System : LiCoO<sub>2</sub>/C  
Model : Coin Type Cells  
Designated for RECHARGE : X Yes No

### 1.2. Details of the supplier of the safety data sheet

Premier Farnell plc  
150 Armley Road  
Leeds  
LS12 2QQ  
+44 (0) 870 129 8608

### 1.3. Emergency telephone number

+44 1865 407333

## 2. Composition/information on ingredients

Ingredient	Percent	CAS Index No./EC No.	Molar mass	Molecular formula	Symbol
Lithium cobaltate	13.4%	12190-79-3	-	LiCoO <sub>2</sub>	-
Graphite	7.2%	7782-42-5		C	
Organic Electrolyte	12.1%	N/A		-	
Polypropylene	2.3%	N/A		-	
Steel	48.7%	7439-89-6		Fe	
Copper	6.8%	7440-50-8		Cu	
Aluminium	9.5%	7429-90-5		Al	

Weight of lithium per cell: 0g. There is no metallic lithium in the lithium ion battery.  
The lithium polymer battery is with a Watt-hour rating  $\leq 2.7$  Wh/Cell (cell).

## 3. Hazards identification

### Health Hazards (Acute and Chronic):

For the battery cell, chemical materials are stored in a hermetically sealed can, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, there is no physical danger of ignition or explosion and chemical danger of hazardous materials leakage.

However, if exposed to a fire, added mechanical shocks, decomposed, or added electric stress by misuse the cell case will be breached and hazardous materials may be released. Moreover, if heated strongly by the surrounding fire, acrid gas may be emitted.

### Carcinogenicity:

NTP: None IARC Monograph: None OSHA Regulated: None

Medical Conditions Generally Aggravated by Exposure:

An acute exposure will not generally aggravate any medical condition.

# Safety Data Sheet



## Human health effects:

Inhalation	: The steam of the electrolyte has an anesthesia action and stimulates a respiratory tract.
Skin contact	: The steam of the electrolyte stimulates a skin. The electrolyte skin contact causes a sore and the stimulation on the skin.
Eye contact	: The steam of the electrolyte stimulates eyes. The electrolyte eye contact causes a sore and the stimulation on the eye. Inflammation of the eyes may occur.
Environmental effects	: Since a battery cell remains in the environment, do not throw out it into the environment.
Specific hazards	: If the electrolyte contacts with water, it may generate detrimental hydrogen fluoride. Since the leaked electrolyte is inflammable liquid, do not bring close to fire.

## 4. First aid measures

After inhalation contact	: Make the victim blow his/her nose, gargle. Seek medical attention if necessary.
After skin contact	: Remove contaminated clothes and shoes immediately. Immediately wash extraneous matter or contact region with soap and plenty of water.
After eye contact	: Do not rub eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention.
After ingestion contact	: Make the victim vomit. Immediately seek medical attention.

## 5. Fire-fighting measures

Extinguishing Media	: Plenty of water, CO <sub>2</sub> gas, nitrogen gas, chemical powder fire extinguishing medium and fire foam.
Specific methods of fire-fighting	: When the battery burns with other combustibles simultaneously, take fire extinguishing method which corresponds to the combustibles. Extinguish a fire from the windward as much as possible.
Flammable Limits	: Not available

## 6. Accidental release measures

The preferred response is to leave the area and allow the batteries to cool and the vapors to dissipate. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

## 7. Handling and storage

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

## 8. Exposure controls/personal protection

Specific control parameter	
Personal protective equipment	
Respiratory protection (Specify Type)	: Not necessary under conditions of normal use.
Ventilation	: Not necessary under conditions of normal use.
Protective Gloves	: Not necessary under conditions of normal use.
Eye protection	: Not necessary under conditions of normal use.
Other Protective (Clothing or Equipment)	: Not necessary under conditions of normal use.

## 9. Physical and chemical properties

### Appearance

Physical state	: Solid
Form	: Coin
Colour	: Metallic Colour
Odor	: No odor
PH	: N/A
Specific temperatures	: Temperature ranges changes in physical state occur.
Flash point	: N/A
Explosion properties	: N/A
Density	: N/A
Solubility	: with indication of the solvent(s): Insoluble in water

## 10. Stability and reactivity

Stability	: Stable
Conditions to Avoid	: When cell is exposed to an external short-circuit, crushes, deformation, high temperature above 100 degree C, it will cause heat generation and ignition. Avoid direct sunlight and high humidity.
Hazardous Decomposition or By-products	: Acrid or harmful gas is emitted during fire.
Materials to avoid	: Conductive materials, water, seawater, strong oxidizers and strong acids.
Hazardous polymerization	will not occur.

## 11. Toxicological information

### Acute toxicity:

Copper	60-100mg sized coarse particulate causes a gastrointestinal disturbance with nausea and inflammation. TDLo, hypodermic - Rabbit 375mg/kg
Organic electrolyte	LD <sub>50</sub> , oral - Rat 2,000mg/kg or more

### Further toxicological information:

Aluminium	By the long-term inhalation of coarse particulate or fume, it is possible to cause lung damage (aluminium lungs).
Lithium Cobaltate	By the long-term inhalation of coarse particulate or vapor of cobalt, it is possible to cause the serious respiratory-organs disease. Skin reaction or a lung disease for allergic or hypersensitive person may be caused.
Graphite	Long-term inhalation of high levels of graphite coarse particulate may cause lung disease or a tracheal disease.

## 12. Ecological information

Ecotoxic effects	: N/A
Further ecological data	: N/A

## 13. Disposal considerations

Dubilier encourages battery recycling. Our Li-ion batteries are recyclable through the Rechargeable Battery Recycling Corporation's (RBRC) Charge Up to Recycle! Program. For information call 1-800-8-BATTERY or see their website at [www.rbrc.org](http://www.rbrc.org). Li-ion batteries must be handled in accordance with all applicable state and federal laws and regulations.

# Safety Data Sheet



DO NOT INCINERATE or subject battery cells to temperatures in excess of 212° F. Such treatment can vaporize the liquid electrolyte causing cell rupture. Do not use in combination with fresh and used lithium batteries neither with other type of battery.

## 14. Transport information

- International transport regulations : 1. International Air Transport Association (IATA) pursuant to Packing Instruction 965-967, Section II  
2. International Maritime Dangerous Goods Code, IMDG 37-14  
3. U.S. hazardous materials regulations pursuant to 49 CFR 173.185 and Special Provision A188.
- UN-No. : 3480 and 3481  
IATA Packaging Instruction : Packing Instruction 965-967 Section II

Dubilier Li-ion coin cells pass the tests defined in UN model regulation section 38.3. Cells and batteries are packed according to the requirement of 59th Edition of the IATA Dangerous Goods Regulations (DGR).

If Dubilier Li-ion coin cells are used to construct battery packs, the assembler of that pack is responsible to ensure the battery has been tested in accordance with the requirements contained in the UN Model Regulations, Manual of Test and Criteria. Part III, subsection 38.3.

## 15. Regulatory information

N/A

## 16. Other information

N/A

<b>Part Number</b>
LIR2450

**Important Notice** : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell Limited 2016.

[www.element14.com](http://www.element14.com)  
[www.farnell.com](http://www.farnell.com)  
[www.newark.com](http://www.newark.com)

