# MATERIAL SAFETY DATA SHEET

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### Section I-Product Identification

Product name: Lithium ion Battery

Model: Prismatic Type Cells Nominal Voltage: 3.7V
Chemical System: Lithium ion Designed for Recharge

X Yes No

### Section II-Hazardous Ingredients

IMPORTANT NOTICE: The battery cell should not be opened or exposed to heat because exposure to the following ingredients contained within could be harmful under some circumstances.

	CAS No.	PEL	TLV
Lithium Cobaltite (LiCoO2)	12190-79-3	None Established	None Established
Graphite (C)	7782-42-5	2.5 mg/m <sup>3</sup> (as dust)	2.5 mg/m <sup>3</sup> (as dust)
Organic Solvent		None Established	None Established
Lithium Salt		None Established	None Established
Poly-vinylidene di-fluoride (PVdF)	24937-79-9	None Established	None Established

Weight of lithium per cell: 053048 about 0.3480g

### Section III - Physical Data

Specific Gravity (H<sub>2</sub>O=1) LiCoO<sub>2</sub>: 4.95 Graphite: 2.09-2.2

Melting Point:(°C): LiCoO<sub>2</sub> about 1130°C

Appearance and Odor: LiCoO<sub>2</sub> is a black, odorless powder.

Organic solvent is a colorless or light yellow liquid. Lithium salt is a white, crystalline and odorless powder

## Section IV - Fire and Explosion and Hazard Data

Extinguishing Media: LITH-X (graphite powder)

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Flammable Limits: Not available

Special Fire Fighting Procedure: In case of fire in an adjacent area, use water, CO2 or dry chemical extinguishers if cells are packed in their original containers since the fuel of the fire is basically paper products. For bulk quantities of unpackaged cells use LITH-X (Graphite powder). In this case, DO NOT use water! Page 2 of 3

### Section V-Reactivity Data

Stability: Stable

Conditions to Avoid: Do not heat, or disassemble.

Hazardous Decomposition or By-products: N/A

Hazardous polymerization will not occur.

#### Section VI-Health Hazard Data

Routes of Entry: Inhalation Yes

> Skin Yes

Ingestion Yes

Health Hazards (Acute and chronic):

These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. The most likely risk is an acute exposure when the gas release vent

works. Organic solvent has slight toxicity and can irritate skin and eyes. Lithium salt is irritating to skin, eyes and mucous membranes and should be avoided.

Carcinogenicity:

NTP: None OSHA Regulated: None IARC Monograph: None

Medical Conditions Generally Aggravated by Exposure:

An acute exposure will not generally aggravate any medical condition.

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### Emergency and First Aid Procedures:

In case of skin contact with contents of battery, flush immediately with water. For eye contact, flush with copious amounts of water for 15 minutes. Do not inhale leaked material. If Irritation persists, get medical help.

### Section VII-Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled:

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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 vapor. Remove spilled liquid with absorbent and incinerate.

#### Waste Disposal Method:

Dispose in accordance with appropriate regulations. Open cells should be treated as hazardous waste.

Precautions to be Taken in Handling and Storing:

Avoid mechanical or electrical abuse.

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#### Other Precautions:

Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures.

Do not short or install with incorrect polarity.

### **Section VIII-Control Measure**

Respiratory Protection (Specify Type): Not necessary under conditions of normal use

Ventilation: 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

## Section IX-Recycling and Disposal

B&K encourages battery recycling. Lithium ion batteries are safe for disposal in the normal municipal waste stream since they are not the defined by the federal government as hazardous waste. However, lithium ion batteries are recyclable. For more detailed information, please refer our website at <a href="https://www.bkbattery.com">www.bkbattery.com</a>

DO NOT INCINERATE or subject battery cells to temperatures in excess of 212. Such treatment can cause cell rupture.

#### Section X-Transportation

disclaims all liabilities from reliance on it.

B&K sealed Lithium batteries are considered to be "dry cell" batteries and are not subject to dangerous goods regulation for the purpose of transportation by the U.S. Department of Transportation (DOT), the International Civil Aviation Administration (ICAO), the international Air Transport Association (IATA) or the international Maritime Dangerous Goods regulations (IMDG). The only DOT requirement for shipping Lithium ion batteries is Special Provision 130 which states: "Batteries, dry cells are not subject to the requirements of this The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. B&K TECHNOLOGY Co., LTD makes no warranty, expressed or implied, with respect to this information and

subchapter only when they are offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals). IATA requires that batteries being transported by air must be protected from short-circuiting and protected from movement that could lead to short-circuiting.

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