Intec Industries Co., Ltd.
Room 2703, Well Tech Centre
9 Pat Tat Street, San Po Kong, Hong Kong
Tel : (852) 2885 1100
Fax : (852) 2947 0588

MATERIAL SAFETY DATA SHEET

The information and set forth is provided in good faith and generally descriptive only and is not intended to make or imply any representation of warranty with respect to any product. Intec Industries Co., Ltd. reserves the rights on modification of this document without prior notice.

Potential hazards may arise from the improper use of cells or battery packs. Manufacturers and assemblers of battery-using systems, that are properly designed and that adequate battery handling procedures should be in place.

Section A – Product

Product series : Lithium Ion rechargeable cell or battery pack

Section B – Hazardous Ingredients

IMPORTANT NOTE: 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.

Chemical Name	**CAS No.**	**PEL**	**TLV**
Lithium Cobalt ($LiCoO_2$)	12190-79-3	None Established	None Established
Graphite (C)	7782-42-5	2.5 mg/m3 (as dust)	2.5 mg/m3 (as dust)
Organic Solvent		None Established	None Established
Lithium Salt		None Established	None Established

Weight of lithium per cell: 0g

Remarks: Concentrations may vary under different condition of charging or discharging

Section C – Physical Data

Specific Gravity: (H_2O=1):	$LiCoO_2$: 4.95, Graphite: 2.09~2.20
Melting Point: (^oC):	$LiCoO_2$ about 1130 ^oC
Appearance and Odor:	$LiCoO_2$ is a black, odorless powder.
	C is a black, odorless powder.
	Organic solvent is a colorless or light yellow liquid.
	Lithium salt is a white, crystalline and odorless powder.

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Section D – Fire and Explosion Hazard Data

If fire or explosion occurs when the cells or battery packs are being charged, stop charging immediately.

Any class of extinguishing medium should be considered on the cells/battery packs or packing material.

Special Fire Fighting Procedure: Should ware self-contained breathing apparatus. In case of fire in an adjacent area, use water, CO_2 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 Base). In this case, do not use water.

Section E – Reactivity Data

Stability:	Stable
Conditions to Avoid:	Do not heat, disassemble or overcharge.
Hazardous Decomposition or By-products:	N/A

Section F – Health Hazard Data

Inhalation:
Do not dispose of cells or battery packs in fire or mutilate, they may burst explosively or release toxic fumes. Inhalation of those may cause significant harm to human body. Provide fresh air at once and seek medical attention.

Ingestion:
Cells of any size should never be placed in the mouth, nose, or ears. Damage to tissue may result from chemical and/or electrical burning. In all cases of ingestion, seek medical attention immediately. The progress of the cell through the body should be carefully monitored and surgical interventions.

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 IARC Monograph: None OSHA Regulated: None

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Medical Conditions Generally Aggravated by Exposure:
An Acute exposure will not generally aggravate any medical condition.

Emergency and First Aid Procedures:
In case of skin contact with contents of battery, flush immediately with water. For eye contact, flush with large quantity of water for 15 minutes. Do not inhale leaked material. If irritation persists, seek medical attention immediately.

Section G – Safe Handling and Use

Storage:
Cells or Battery packs should be stored in a cool, dry and well ventilated area. Cell life degradation is a function of time, even if the battery is never used. As temperature increases, the degradation rate of the cell increases, making it desirable to keep inventory between 0℃ to 30℃ when practical. Cells or battery packs that will be stored for extended periods should undergo regular OCV checks and receive boost charges on a regular schedule.

Short Circuit:
Care must be exercised in the handling and use of the cells or battery packs to avoid external shorts. A current-limited device such as a fuse, resistor, diode, or circuit breaker, may be used in the discharge circuit to prevent short-circuit current.

Soldering or Welding:
Avoid solder or weld to cells directly, contact Intec Industries Co. Ltd. for the proper handling procedures whenever in doubt.

Charging:
Incorrect chargers or reverse charging may result high temperature and gas formation, which risk fire or cell rupture. Do not leave the cell or battery packs charging over extend period unless it is specifically designed to do so.

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

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 H – Control Measure

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.

Section I – Transportation Requirements

Intec sealed Lithium Ion batteries comply with all applicable shipping regulations as prescribed by Industry and regulatory standards. Intec sealed Lithium Ion batteries are considered to be “dry cell” batteries. Improperly packed cells or battery packs when exposed to the vibration of long-distance transportation can be caused short circuit. The keys to proper shipment are as the follows:

a. Possible insulate the tables to prevent contact.
b. Cells or battery packs are heavy and deserve the protection of adequate strength boxes.
c. If stacking cells vertically, insulation between layers of cells must resist breaking down under the stress of transportation.
d. Avoid overstacking boxes of cells or battery packs so that the packaging of the lower tier is damaged.

Section J – Recycle and Disposal

Intec Industries Co. Ltd. has participated in the Rechargeable Battery Recycling Corporation‘s (RBRC) batteries recycle program. RBRC will provide methods and means for the disposal of batteries with the RBRC’s logo. For more information, you may contact Intec Industries Co. Ltd. or visit RBRC website (www.rbrc.org).

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