

MATERIAL SAFETY DATA SHEET

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MSDS#: BA0067-01-020725

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Name: Lithium Ion Battery

Product Code: BP-512

Company Name: Canon Inc.

Address: 30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo 146-8501, Japan

Use of the Product: Battery for Digital camera and Video camera

Supplier: Canon Singapore Pte Ltd

Address: 1 HarbourFront Avenue, #04-01 Keppel Bay Tower, 098632, Singapore

Phone number: +65-6799-8888

SECTION 2 HAZARDOUS INGREDIENTS / IDENTIFY INFORMATION

This Battery Pack applies 2 cells and a protection circuit module. (LGR18500P x 2)

Components (chemicals) are firmly sealed within a metal case. Each value (below) shows the quantity for one cell.

(1) Organic Electrolyte

Solute: LiPF₆ (CAS: 21324-40-3) 0.60 g/cell

Solvents: Ethylene-carbonate (CAS: 96-49-1) + Methyl-ethyl-carbonate (CAS: 623-53-0) 3.90 g/cell
+ Diethyl carbonate (CAS: 105-58-8)

For organic electrolyte Ingestion: rat LD₅₀ > 5000mg/kg

Skin: rabbit LD₅₀ > 5000mg/kg

U.N. number: 1993 (similitude) U.N. class: 3.3(similitude)

Methylethyl carbonate: inflammable

(2) Lithium Cobaltate (LiCoO₂) 9.60 g/cell

(3) Carbon (C) 4.20 g/cell

This battery contains no mercury in its components or material.

This battery is not subject to IA TA Dangerous Goods Regulations under the special provision A45.

(according to the equivalent lithium content)

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SECTION 3 PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point <p style="text-align: center;">Not apply</p>	Specific Gravity (H ₂ O=1) LiCoO ₂ : 4.95 Graphitic Carbon :2.2
Vapor Pressure(Pa) <p style="text-align: center;">Not apply</p>	Melting Point LiCoO ₂ : about 1130 degree C
Vapor Density (AIR=1) <p style="text-align: center;">Not apply</p>	Evaporation Rate (Butyl Acetate =1) Not apply
Solubility in Water <p style="text-align: center;">Not apply</p>	

Appearance and Odor

LiCoO₂ :black odorless powder

Organic Electrolyte: colorless liquid, ester odor

Graphitic Carbon: black odorless powder

*These chemicals of the cell are firmly sealed within metal case, so the cell is odorless.

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash Point (method Used) <p style="text-align: center;">Not apply</p>	Flammable Limit	LEL	UEL
Extinguishing Media Chemical extinguisher, CO ₂ , (Water)			
Special Fire Fighting Procedures In adjacent area, use dry chemical extinguisher or CO ₂ . Large quantity of water is available for big fire.			
Unusual Fire and Explosion Hazards Incineration, Short-circuit or unusual high current charge may cause fire or rupture.			

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SECTION 5 REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable		Short-circuiting, heating and contacting waters shall be avoided
Incompatibility (Materials to Avoid)			
Do not contact water			
Hazardous Decomposition or Byproducts			
Combustion may produce CO gas, hydrocarbon, H ₂ , CO ₂ , LiF, HF, H ₃ PO ₄ , tetrafluoroethylene (TEE), vinylidene fluoride (VF ₂), and hexafluoropropylene (HFP).			
Hazardous	May Occur		Conditions to Avoid
Polymerization	Will Not Occur		

SECTION 6 HEALTH HAZARD DATA

Route(s) of Entry	Inhalation?	Skin?	Ingestion?
	Yes	Yes	Yes
Health Hazards (Acute and Chronic)			
As the chemicals are contained in a metal case , exposure will occur only if the battery is mechanically or electrically abused. Organic Solvent has slight toxicity and irritates to skin and eyes. Lithium Salt is irritating to skin , eyes and mucous membranes. It should be avoided contacting of electrolyte with skin and eyes			
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	Not apply	None	None
Signs and Symptoms of Exposure			
If electrolyte leaks , it absorbs humidity and generates irritant HF gradually			
Medical Conditions Generally Aggravated by Exposure			
An acute exposure will not generally aggravate any medical conditions			
Emergency and First Aid Procedures			
Leaked electrolyte may irritate bronchial tubes and eyes. Wash out in abundant water immediately.			

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SECTION 7 PRECAUTIONS FOR SAFE HANDLING AND USE

<p>Steps to be Taken in Case Material is Released or Spilled</p> <p style="padding-left: 20px;">Avoid skin and eye contact or do inhalation of vapors. Wash out in abundant water immediately.</p>
<p>Waste Disposal Method</p> <p style="padding-left: 20px;">Dispose of according to appropriate local, state and Federal waste regulations.</p>
<p>Precautions to Be Taken in Handling and Storing</p> <p style="padding-left: 20px;">Keep batteries in a dark and cool place. Short-circuiting and heating shall be avoided</p>
<p>Other Precautions</p> <p style="padding-left: 20px;">Incineration and disassemble shall be avoided.</p>

SECTION 8 CONTROL MEASURES

<p>Respiratory Protection (Specify Type)</p> <p style="padding-left: 20px;">Not necessary under condition of normal use.</p>		
Ventilation	Local Exhaust	Special
	Mechanical (General)	Other
<p>Protective Gloves</p> <p style="padding-left: 20px;">Not necessary under condition of normal use.</p>		<p>Eye Protection</p> <p style="padding-left: 20px;">Not necessary under condition of normal use.</p>
<p>Other Protective Clothing of Equipment</p> <p style="padding-left: 20px;">Not necessary under condition of normal use.</p>		
<p>Work/Hygienic Practices</p> <p style="padding-left: 20px;">Not necessary under condition of normal use.</p>		