

**Material Safety Data Sheet
for LSE175-001**

**Mar, 2010
GS Yuasa Technology Ltd.**

1 . PRODUCT IDENTIFICATION

Product

Model : LSE175-001
Common Name : Lithium-ion Secondary Cell
Rated Capacity : 175 Ah
Nominal Voltage : 3.7 V
Chemical System : Lithium Cobalt Dioxide / Organic Electrolyte / Carbon

Manufacturer

Company : GS Yuasa Technology Ltd.
Large-scale Lithium-ion Battery Engineering Dept.
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Japan
Phone : +81-75-312-0043 (office)
Fax Number : +81-75-312-0283 (office)
Emergency contact : CHEMTREC +1-800-424-9300

2 . HAZARDOUS INGREDIENTS

Important Note : The cell should not be opened or burned, since the following ingredients are contained within the cell.
Positive Electrode : Lithium Cobalt Dioxide (active material)
Polyvinylidene Fluoride (binder)
Carbon (conductor)
Negative Electrode : Carbon (active material)
Polyvinylidene Fluoride (binder)
Electrolyte : Organic Solvent (mixture of alkylcarbonate solvents)
Lithium hexafluorophosphate (Li salt)
Others : No heavy metals such as mercury, cadmium, lead and chromium.

3 . PHYSICAL PROPERTIES

Lithium-Cobalt Dioxide

Melting Point : Above 1,000 degrees C
Vapor Pressure : Effectively Zero at 20 degrees C

Appearance & Odor : Black Powder, Odorless

Electrolyte

Appearance & Odor : Colorless Liquid

Density : 1.22 at 20 degrees C

Vapor Pressure : 2.7 kPa (20 mmHg) at 20 degrees C

Flash point : 27 degrees C

4 . FIRE and EXPLOSION

Lithium Cobalt Dioxide

Not Flammable material.

Electrolyte

Flammable. HF and PF₅ gases are formed in contact with moisture.

Fire extinguishing materials: Spray water, dry chemical, and carbon dioxide.

NOTE: Cool the cell completely, or the cell may cause re-ignition.

5 . FIRST AID PROCEDURE

Lithium Cobalt Dioxide

Skin contact: Wash off with soap and water.

Eye contact: Flush off with plenty of water for about 15 minutes.

Swallowed: Wash the stomach with large quantity of a dilute brine solution.

Electrolyte

Skin contact: Immediately wash thoroughly with soap and water.

Eye contact: Immediately flush off with plenty of water for at least 15 minutes and receive medical treatment.

Inhalation: Immediately move to the place filled with fresh air and receive medical treatment.

Swallowed: Wash mouth with water and drink one or two cups of water or milk, and then receive medical treatment immediately.

6 . LEAK and DISPOSAL PROCEDURE

Lithium Cobalt Dioxide

Wear dust protector to avoid inhalation. Wash the area thoroughly after the material is picked up.

Dispose of clean-up water properly.

Waste Disposal Method: Follow state and local regulations

Electrolyte

Remove all sources of ignition. Wear suitable protector such as self-contained breathing apparatus or organic canister mask, safety goggles and gloves. Absorb it using absorbent and inert material, and seal it up in a suitable container. Burn it in chemical incinerator equipment.

7 . SPECIAL HANDLING INFORMATION

Storage: Keep in a cool, dry, ventilated area. Protect against physical damage. Keep away from heat, sparks and flames (combustible electrolyte). To prevent short-circuit, do not store the cell together with a metal plate, a metal bar and a material covered with metal.

8 . TRANSPORT INFORMATION

LSE175-001 is confirmed to meet the criteria for assignment to Class 9 on the basis of tests carried out in accordance with the United Nations Recommendations on the Transportation of Dangerous Goods: Manual of Tests and Criteria (UN Document ST/SG/AC.10/27).

United Nations	Hazard Class	: 9
	UN/ID	: 3480
Water, IMO	Hazard Class	: 9
	Packing Group	: II
Air, IATA	Hazard Class	: 9
	Packing Group	: II