KEYSIGHT TECHNOLOGIES

Sanyo

PRODUCT INFORMATION AND DATA SHEET

This product is a manufactured article as described in 29 CFR 1910.1200 and is not subject to OSHA's Hazard Communication Standard requirements for preparation of material safety data sheets (MSDS).

SANYO Batteries SANYO Energy (USA) Corp. 2055 Sanyo Ave. San Diego, CA 92154 Telephone No.: (619) 661-4888 www.sanyobatteries.com	**Manufacturer's Name** SANYO Electric Co., Ltd. Tokonabe-Cho Kasai-City Hyogo, 675-2332, Japan Telephone No.: 0790-43-2043	**In case of emergency contact:** CHEMTREC at (800) 424-9300

Section I – Product Information

Product: Lithium Ion Battery

Designated for Recharge? _X_ Yes ____ No

Chemical System: Lithium ion

Model: Cylindrical and Prismatic Type Cells

Section II – Composition / Information on Ingredients

The ingredients are contained in a hermetically sealed case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, hazardous materials are fully contained inside the battery. The battery should not be opened or exposed to heat because exposure to the following ingredients contained within could be harmful under some circumstances. The following information is provided for the user's information only.

Chemical Name	CAS No.	PEL	TLV
Lithium Cobaltate ($LiCoO_2$)	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
Polyvynilidene difluoride (PVdF)	24937-79-9	None Established	None Established

Weight of lithium per cell: 0g. There is no metallic lithium in the lithium ion battery.

Section III – Physical Data

Specific Gravity: (H20=1): LiCo02: 4.95
Graphite: 2.09~2.2

Melting Point: (°C): LiCo02 about 1130 C

Appearance and Odor:
LiCo02 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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March 2006

Section IV – Fire and Explosion Hazard Data

Extinguishing Media: Water

Flammable Limits: Not available

Section V – 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 IARC Monograph: None OSHA Regulated: None

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 copious amounts of water for 15 minutes. Do not inhale leaked material. If irritation persists, get medical help.

Section VI – Reactivity Data

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

Section VII – Safe Handling and Use

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: Open cells should be disposed of in accordance with local regulations

Precautions to be Taken in Handling and Storing: 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.

Section VIII Control Measures

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.

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Section IX – Recycling and Disposal

SANYO encourages battery recycling. Our lithium 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. Lithium ion batteries must be handled in accordance with all applicable state and federal laws and regulations.

DO NOT INCINERATE or subject battery cells to temperatures in excess of 212 F. Such treatment can vaporize the liquid electrolyte causing cell rupture. Incineration may result in cadmium emissions.

Section X – Transportation

Sanyo lithium ion cells and batteries are not subject to the requirements of the U.S. hazardous materials regulations pursuant to 49 CFR 173.185(b), IATA Dangerous Goods Regulations pursuant to Special Provision A45, and IMDG Code pursuant to Special Provision 188. Each Sanyo cell or battery has been tested under provisions of the UN Manual of Tests and Criteria, Part III, Sub-section 38.3. **If Sanyo lithium ion 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 Manual of Tests and Criteria and shipped in accordance with applicable regulations.**

Batteries must be packaged and offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals) and protects against short circuits.

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. SANYO ENERGY CORP. makes no warranty, expressed or implied, with respect to this information and disclaims all liabilities from reliance on it.

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