

MATERIAL SAFETY DATA SHEET

SANYO Batteries

SANYO Energy
2055 Sanyo Ave.
San Diego, CA 92154

Telephone No.: (619) 661-4888
www.sanyobatteries.com
In case of emergency contact:
CHEMTREC at (800) 424-9300

Date of Preparation: 1/5/02

Section I – Product Identification

Product Name: Lithium Ion Battery

Model: Cylindrical and Prismatic Type Cells Nominal Voltage: 3.6V

Chemical System: Lithium Ion Designated for Recharge:
 X Yes No

Section II – 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 Cobaltate (LiC ₀ O ₂) | 12190-79-3 | None Established | None Established |
| Graphite (C) | 7782-42-5 | 2.5 mg/m ³ (as dust) | 2.5 mg/m ³ (as dust) |
| Organic Solvent | | None Established | None Established |
| Lithium Salt | | None Established | None Established |
| Polyvinylidene difluoride (PVdF) | 24937-79-9 | None Established | None Established |

Weight of lithium per cell: 0g

Section III – Physical Data

Specific Gravity: (H₂O=1):
Melting Point: (°C):
Appearance and Odor:

LiC₀O₂:4.95, Graphite:2.09~2.2
LiC₀O₂ about 1130 C
LiC₀O₂ 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.

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.

Precautions to be Taken in Handling and Storing:

Avoid mechanical or electrical abuse.

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. |
| 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 IX - Recycling and Disposal

SANYO encourages battery recycling. Lithium ion batteries are safe for disposal in the normal municipal waste stream since they are not defined by the federal government as hazardous waste. However, lithium ion batteries are recyclable. For information contact Kinsbursky Brothers Inc. at (800)548-8797 or see their website at www.kinsbursky.com.

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

Section X - Transportation

SANYO sealed Lithium ion 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 are not subject to the requirements of this 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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