

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

Product Name: Polymer Li-ion Cell

Model/Type: 3.7V 3000mAh 11.1Wh

Component of:

Ledino LED Ceiling Lamp with Emergency Function „Billbrook“

Art.-Nr. 11150258001020

Importer: Ledino Deutschland GmbH
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Section 2 - Composition/Information on Ingredient

Chemical Composition	CAS No:	Weight (%)
Lithium nickel-cobalt manganese oxides	113066-89-0	25%-40%
Graphite	7782-42-5	20%-30%
polyvinylidene Fluoride (PVDF)	24937-79-9	0.5%-1%
Styrene-Butadiene Rubber (SBR)	9003-55-8	0.5%-1%
Copper Foils	7440-50-8	7%-10%
Aluminum Foils	7429-90-5	5%-8%
Aluminum packing foil	12042-91-0	2%-4%
PE Separator	90989-93-8	1%-2%
Nickel	7440-02-0	0.5%-1%
Lithium Hexafluorophosphate	21324-40-3	10%-14%
Other	N/A	1-2%

Section 3 - Hazards Identification

Health Hazards (Acute and Chronic)

Explosive risk	This article does not belong to the explosion dangerous goods
Flammable risk	This article does not belong to the flammable material
Oxidation risk	This article does not belong to the oxidation of dangerous goods
Toxic risk	This article does not belong to the toxic dangerous goods
Radioactive risk	This article does not belong to the radiation of dangerous goods
Mordant risk	This article does not belong to the corrosion of dangerous goods
other risk	This article is the Polymer Li-ion Cell, Watt hour rate 11.1Wh.

Section 4 - First Aid Measures

- Eye:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
- Skin:** Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
- Inhalation:** Remove from exposure and move to fresh air immediately. Use oxygen if available.
- Ingestion:** Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician.

Section 5 - Fire Fighting Measures

Characteristics of Hazard: Toxic fumes; gases or vapors may evolve on burning.

Hazardous Combustion Products: CO, CO₂, HF, phosphorus fluoride.

Fire-extinguishing Methods and Extinguishing Media: Copious amounts of cold water are an effective extinguishing medium for lithium batteries. Don't use warm or hot water. Don't use Halon type extinguishing material.

May use dry powder, sand, earth.

Attention in Fire-extinguishing: The Firemen should put on antigas masks and full fire-fighting suits.

Section 6 - Accidental Release Measures

When leakage of batteries happens, liquid could be absorbed with sands, earth, or other inert substance, and the contaminated area should be ventilated meantime.

Damaged batteries that are not hot or burning should be placed in a sealed plastic bag or container.

Section 7 - Handling and Storage

Precautions for safe handling: Consumption of food and beverage should be avoided in work areas. Wash hands with soap and water before eating, drinking. Ground containers when transferring liquid to prevent static accumulation and discharge.

Information about fire and explosion protection: Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

Conditions for safe storage, including any incompatibilities: Requirements to be met by storerooms and receptacles. Store in a cool, dry, well-ventilated place. Keep away from heat, avoiding the long time of sunlight.

Section 8 - Exposure Controls, Personal Protection

Maximum Allowable Concentration: No Standard available.

Engineering Controls: no engineering controls are required for handling batteries that have not been damaged. Personal protective equipment for damaged batteries should include chemical resistant gloves and safety glasses.

Section 9 - Physical and Chemical Properties

Appearance: Silvery
Form: Prismatic
Odour: Odorless

Section 10 - Stability and Reactivity

Stability: Stable under normal temperatures and pressures.

Incompatibility: Oxidizing agents.

Conditions to Avoid: Heat and open flame, short circuit, and water.

Hazardous polymerization: Will not occur.

Decomposition Products: CO, CO₂, HF, Phosphorus fluoride.

Section 11 - Toxicological Information

Signs & symptoms: None, unless battery ruptures.

In the event of exposure to internal contents, vapour fumes may be very irritating to the eyes and nskin.

Inhalation: Lung irritant.

Skin contact: Skin irritant.

Eye contact: Eye irritant.

Ingestion: Poisoning if swallowed.

Medical conditions generally aggravated by exposure: In the event of exposure to internal contents, moderate to server irritation, burning and dryness of the skin may occur. Target organs nerves, liver and kidneys.

Section 12 - Ecological information

Ecological Toxicity: N/A

Biodegradability: N/A

Non-biodegradability: N/A

Other Hazardous: Will not effect environmental evidently.

Section 13 - Disposal Considerations

Waste Treatment: Recycle or dispose of in accordance with government, state & local regulations.

Attention for Waste Treatment: Deserted batteries couldn't be treated as ordinary trash. Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. Best way is recycling.

Sections 14 -Transport Information

According to packing instruction PI965~970 section II of IATA 60th Edition for transportation or the special provision 188 of IMDG.

IATA:

Proper Shipping Name: Lithium batteries

UN Number:UN 3480

Hazard Class: 9

Packaging requirement: According to IATA DGR 61th Edition, PACKING INSTTUCTION 965 of section IB for transportation.

Proper Shipping Name: Lithium batteries contained in equipment.

“Lithium batteries packed with equipment”, UN Number: UN 3481

Hazard Class: Not restricted

Packaging requirement: According to IATA DGR 61 th Edition, PACKING INSTTUCTION 966 and 967of section II for transportation.

IMO:

Proper Shipping Name: Lithium batteries

UN Number:UN 3480 & UN 3481

Hazard Class: N ot restricted

Packing Group: Not restricted

The goods are not restricted to IMO IMDG Code (Amend 38-2016) according to special provision 188.

Separate Lithium-ion batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain.

Transport Fashion: By air, by sea

Section 15 - Regulatory Information

Law Information

《Dangerous Goods Regulation》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《International Maritime Dangerous Goods》

《Technical Instructions for the Safe Transport of Dangerous Goods》

《Classification and code of dangerous goods》

《Occupational Safety and Health Act》 (OSHA)

《Toxic Substances Control Act 》 (TSCA)

《Federal Environmental Pollution Control Act 》 (FEPCA)

《The Oil Pollution Act 》 (OPA)

《Superfund Amendments and Reauthorization Act Title III(302/311/312/313) 》 (SARA)

《Resource Conservation and Recovery Act 》 (RCRA)

《Safety Drinking Water Act 》 (CWA)

《California Proposition 65》

《Code of Federal Regulations 》 (CFR)

In accordance with all Federal, State and Local laws.

Section 16 - Additional Information

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Photo of sample:

