

Material Safety Data Sheet

1. Product & Company Identification

Product name:	Lithium battery, rechargeable		
Item no.	Voltage	Capacity	Energy content
2812940	3.7 V	10000 mAh	37 Wh
Manufacturer:	Conrad Electronic SE		
Address:	Klaus-Conrad-Str. 1, D-92240 Hirschau		
Telephone:	+49 (0) 9604 / 40 - 8988		
Date of issue:	13.02.2023		

2. Hazards Identification

Dangerous classification



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

Lithium-ion batteries, The Watt-hour rating of the battery is 37Wh

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3. Composition/Information on Ingredients

Chemical Composition	Chemical Formula	CAS No.	Weight (%)
Lithium cobalt oxide	LiCoO ₂	12190-79-3	47.3
Positive Conductive additive	N/A	N/A	5.698
PVDF	(C ₂ H ₂ F ₂) _n	24937-79-9	0.408
NMP	C ₅ H ₉ NO	872-50-4	9.072
Graphite	C ₂₄ X ₁₂	7782-42-5	22.184
Negative conductive additive	N/A	N/A	0.233
CMC	N/A	9000-11-7	0.303
SBR	(C ₈ H ₈ .C ₄ H ₆) _x	9003-55-8	1.165
NMP	C ₅ H ₉ NO	872-50-4	0.444
Aluminum foil	Al	7429-90-5	4.303
Copper foil	Cu	7440-50-8	8.89

4. First Aid Measures

Once battery shell rupture, content contact with the human body will produce harm, once contact, should take the following emergency 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.

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5. Fire Fighting Measures

Flash Point:

N/A.

Auto-Ignition Temperature:

N/A.

Extinguishing Media:

Water, CO2.

Special Fire-Fighting Procedures:

Self-contained breathing apparatus.

Unusual Fire and Explosion Hazards:

Cell may vent when subjected to excessive heat-exposing battery contents.

Hazardous Combustion Products:

Carbon monoxide, carbon dioxide, lithium oxide fumes.

6. Accidental Release Measures

Steps to be Taken in case Material is Released or Spilled

If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

Waste Disposal Method

It is recommended to discharge the battery to the end, to use up the metal lithium inside the battery, and to bury the discharged battery in soil.

7. Handling and Storage

The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

Precautions to be taken in handling and storing

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

Other Precautions

The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

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8. Exposure Controls/Personal Protection

Respiratory Protection:

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory Protection is not necessary under conditions of normal use.

Ventilation:

Not necessary under conditions of normal use.

Protective Gloves:

Not necessary under conditions of normal use.

Other Protective Clothing or Equipment:

Not necessary under conditions of normal use.

Personal Protection is recommended for venting battery:

Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields

9. Physical and Chemical Properties

Appearance:

Prismatic

Odors:

If leaking, smells of medical ether.

PH:

Not applicable as supplied.

Flash Point:

Not applicable unless individual components exposed.

Flammability:

Not applicable unless individual components exposed.

Relative density:

Not applicable unless individual components exposed.

Solubility (water):

Not applicable unless individual components exposed.

Solubility (other):

Not applicable unless individual components exposed.

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10. Stability and Reactivity

Stability:

Product is stable under conditions described in Section 7.

Conditions to Avoid:

Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge. Short circuit. Expose over a long period to humid conditions.

Materials to avoid:

Oxidising agents, alkalis, water.

Hazardous Decomposition Products:

Toxic Fumes, and may form peroxides.

Hazardous Polymerization:

N/A.

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalies, halogenated hydrocarbons.

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 skin.

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.

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12. Ecological Information

Mammalian effects:

None known at present.

Eco-toxicity:

None known at present.

Bioaccumulation potential:

Slowly Bio-degradable.

Environmental fate:

None known environmental hazards at present.

13. Disposal Considerations

Do not incinerate, or subject cells to temperature in excess of 70°C, Such abuse can result in loss of seal leakage, and/or cell explosion. Dispose of in accordance with appropriate local regulations.

14. Transport Information

UN No. and Shipping name:

UN 3480 Lithium ion batteries

UN 3481 Lithium ion batteries packed with equipment

UN 3481 Lithium ion batteries contained in equipment

Label for conveyance:

Lithium Battery Mark, class 9 lithium battery hazard label (Only for UN3480), Cargo Aircraft Only Label (Only for UN3480)

Packaging Group:

N/A

EmS No./EmS:

F-A, S-I

Marine pollutants:

No

ICAO/IATA

Shipped by air in accordance with International Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA), DRG Packing Instructions PI 965 IB, PI 966 II, PI 967 II, DGR 64th (2023) ICAO (2023-2024 edition)

IMDG CODE

Shipped by sea in accordance with International Maritime Dangerous Code (IMDG CODE) Special Provision 188, IMDG CODE (Amdt. 40-20)

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15. Regulatory Information

Law information

Dangerous Goods Regulations

Recommendations on the Transport of Dangerous Goods Model Regulations

International Maritime Dangerous Goods Code

Technical Instructions for the Safe Transport of Dangerous Goods

16. Additional Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.