

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Lithium Cobalt Oxide (LiCoO₂) Powder for Li-ion Battery Cathode, Research Grade

Catalog Number: NovaLIB-LiCoO₂

Supplier: Novarials Corporation
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2. HAZARDS IDENTIFICATION

Emergency Overview

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin sensitization (Category 1), H317

Carcinogenicity (Category 1B), H350

GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H317	May cause an allergic skin reaction.
H350	May cause cancer.

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water
P308 + P313	If exposed or concerned: Get medical advice/ attention.
P321	Specific treatment (see supplemental first aid instructions on this label).
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P363	Wash contaminated clothing before reuse.

P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Ratings

Health Hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical Hazard: 0

NFPA Ratings

Health Hazard: 2
Fire Hazard: 0
Reactivity Hazard: 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Lithium Cobalt Oxide
Formula: LiCoO₂

Component	Concentration
Lithium Cobalt Oxide	
CAS-No.	12190-79-3

4. FIRST AID MEASURES**General advice**

Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse eyes thoroughly with plenty of water. Consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions – Lithium oxides, Cobalt/cobalt oxides

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact with skin and eyes.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemical. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

General industrial hygiene practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Form

powder

Color

black

Safety data

pH	no data available
Melting point/freezing point	no data available
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Auto ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	no data available
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Other decomposition products -no data available

11. TOXICOLOGICAL INFORMATION**Acute toxicity****Oral LD50**

no data available

Inhalation LC50

no data available

Dermal LD50

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Lithium cobalt oxide)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity -single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity -repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Additional Information

RTECS: Not available

Large doses of lithium ion have caused dizziness and prostration, and can cause kidney damage if sodium intake is limited. Dehydration, weight loss, dermatological effects, and thyroid disturbances have been reported. Central nervous system effects that include slurred speech, blurred vision, sensory loss, ataxia, and convulsions may occur. Diarrhea, vomiting, and neuromuscular effects such as tremor, clonus, and hyperactive reflexes may occur as a result of repeated exposure to lithium ion., May cause irritation of the: nose, Throat., Rash, Vomiting, Diarrhea, sensation of heat, Exposure can cause damage to the:, Kidney, Lungs, Thyroid.

Stomach – Irregularities – Based on Human Evidence

Stomach – Irregularities – Based on Human Evidence

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components

Not required

SARA 313 Components

Not required

SARA 311/312 Hazards

Acute Health Hazard. Chronic Health Hazard

Massachusetts Right To Know Components

Not required

Pennsylvania Right To Know Components

Lithium cobalt oxide

CAS-No. 12190-79-3

New Jersey Right To Know Components

Lithium cobalt oxide

CAS-No. 12190-79-3

California Prop. 65 Components

This product does not contain any chemical known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. DISCLAIMER

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