

1. PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Lithium Nickel Cobalt Oxide

Chemical Formula: $\text{LiNi}_{1-x}\text{Co}_x\text{O}_2$

Manufacturer Item Number: LI-2845

Manufacturer: Lorad Chemical Corporation
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2. HAZARD IDENTIFICATION

Signal Word: Warning

Pictograms:



Hazard Statements: H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.

Precautionary Statements: P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have 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 clothing.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P308+313 IF EXPOSED OR CONCERNED: Get medical advice / attention.
P321 Specific treatment (see supplemental first aid instructions on this SDS).
P333+313 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 Health Ratings (0-4)

- Health: 2*
- Flammability: 0
- Physical: 0

3. COMPOSITION

Additional Names: No Data Available.

Percentage: 100 wt%

CAS #: 113066-89-0

EC #: No Data Available.

4. FIRST AID PROCEDURES

General Treatment	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Special Treatment:	No Data Available.
Important Symptoms:	The most important known symptoms and effects are described in Section 2 and Section 11.
Inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Ingestion:	never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Skin:	Wash off with soap and plenty of water. Consult a physician.
Eyes:	Flush eyes with water as a precaution.

5. FIREFIGHTING MEASURES

Flammability:	Not flammable.
Special Hazards from Substance:	No Data Available.
Extinguishing Media:	Use water-spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

If Material is Released / Spilled:	Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Sweep up or vacuum up spillage and collect in a suitable closed container for disposal. Dispose of waste in accordance with applicable federal, state, local, and provincial environmental regulations.
Environmental Precautions:	Prevent further leakage or spills if safe to do so. Do not allow to enter drains, sewers, or watercourses. Discharge into the environment must be avoided.

7. HANDLING AND STORAGE

Handling Conditions:	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide adequate exhaust ventilation at places where dust is formed. For additional precautions see Section 2.
Storage Conditions:	Keep container tightly closed in a dry and well ventilated place.
Work / Hygienic Maintenance:	Do not eat, drink, or smoke when working with this product. Wear protective gloves, protective mask, protective eyewear, and protective clothing and wash skin thoroughly with soap after handling. Keep formation of airborne dust to a minimum. Guard against dust accumulation. In case of insufficient ventilation, wear suitable respiratory equipment. For additional precautions see Section 2.
Ventilation:	Keep in a well ventilated area.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible Exposure Limits:	NOISH recommended exposure limit: TWA 0.015 mg/m ³ ACGIH biological exposure indices: 15 µg/l (in urine)
Threshold Limit Value:	No Data Available.
Special Equipment:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.
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).
Protective Gloves:	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).
Body Protection:	Complete suit protecting against chemicals. This type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

9. PHYSICAL AND CHEMICAL CHARACTERISTICS

Color:	black
Forms:	powder
Odor:	No Data Available.
Water Solubility:	No Data Available.
Boiling Point:	No Data Available.
Melting Point:	> 1,000°C (>1,832°F)
Flash Point:	No Data Available.
Autoignition Temperature:	No Data Available.
Density:	No Data Available.
Molecular Weight:	365.38 g/mol

10. REACTIVITY

Stability:	Stable under recommended storage conditions.
Reacts with:	No Data Available.
Incompatible Conditions:	Strong oxidizing agents.
Hazardous Decomposition Products:	Hazardous decompositions products formed from fire conditions: nickel oxides, lithium oxides, cobalt oxides

11. TOXICOLOGICAL INFORMATION
Potential Health Effects:

- Eyes	No Data Available.
- Skin	No Data Available.
- Ingestion	No Data Available.
- Inhalation	No Data Available.
- Chronic	Diarrhea, vomiting, and neuromuscular effects such as tremor, clonus, and hyperactive reflexes may occur as a result of repeated exposure to lithium ion. The chemical, physical, and toxicological properties have not been thoroughly investigated.

Signs and Symptoms:

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.

Aggravate Medical Conditions:

No Data Available.

Median Lethal Dose:

No Data Available.

Carcinogen:

Limited evidence of a carcinogenic effect.

IARC: Group 2B: Possible carcinogenic to humans; Group 1: Carcinogenic to humans.
 NTP: Known to be human carcinogen.
 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.

12. ECOLOGICAL INFORMATION
Aquatic Toxicity:

No Data Available.

Persistence and degradability:

No Data Available.

Bioaccumulative potential:

No Data Available.

Notes:

No Data Available.

13. DISPOSAL CONSIDERATIONS
Disposal:

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

14. TRANSPORTATION DATA
Hazardous:

DoT: Not Dangerous Goods.
 IMDG: Not Dangerous Goods.
 IATA: Not Dangerous Goods.

Pictogram:

N/A

Hazard Class:

N/A

Packing Group:

N/A

UN Number:

N/A

Proper Shipping Name:

N/A

15. REGULATORY INFORMATION

SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	The following components are subject to the reporting levels established by SARA Title III, Section 313: Cobalt Lithium Nickel Oxide (Cas No. 113066-89-0)
SARA 311/312 Hazards	Acute Health Hazard, Chronic Health Hazard
Massachusetts Right to Know Components	No components are subject to the Mass. Right to Know Act.
Pennsylvania Right to Know Components	Cobalt Lithium Nickel Oxide (CAS No. 113066-89-0)
New Jersey Right to Know Components	Cobalt Lithium Nickel Oxide (CAS No. 113066-89-0)
California Prop. 65 Components	WARNING! This product contains a chemical known to the State of California to cause cancer. (Cobalt Lithium Nickel Oxide (CAS No. 113066-89-0))

16. OTHER INFORMATION

Copyright 2017 Lorad Chemical Corporation. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document does not constitute a hazard assessment and should not be used in place of the user's own assessment of work place risks as required by other health and safety legislation. The information in this sheet does not represent a guarantee of the properties of the product. Lorad Chemical Corporation and its Affiliates make no warranty with respect to the accuracy of the information or the suitability of this product for any particular application, and shall not be held liable for any damage resulting from handling or from contact with the above product.

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