

1. PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Lithium Nickel Cobalt Aluminum Oxide

Chemical Formula: $\text{LiNi}_{0.8}\text{Co}_{0.15}\text{Al}_{0.05}\text{O}_2$

Manufacturer Item Number: LI-2991

Manufacturer: Lorad Chemical Corporation
1200 19th Street North
Saint Petersburg, Florida, 33713
United States of America

Telephone: +1 (727) 826-5511

Fax: +1 (727) 826-5510

Emergency Contact: (800) 255-3924 (US & Canada)
+1 (813) 248-0573 (International)

2. HAZARD IDENTIFICATION

Signal Word: Warning

Pictograms:



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

Precautionary Statements: H201 Obtain special instructions before use.
H202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust / fumes / gas / mist / vapors / spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.
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 label).
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:	NCA
Percentage:	100wt%
CAS #:	193214-24-3
EC #:	803-110-4

4. FIRST AID PROCEDURES

General Treatment	Consult a physician. Show this SDS to the doctor in attendance. Move out of dangerous area.
Special Treatment:	No Data Available.
Important Symptoms:	The most important 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. Avoid breathing dust. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed container for disposal.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

7. HANDLING AND STORAGE

Handling Conditions:	Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Storage Conditions:	Keep container tightly closed in a dry and well-ventilated place.
Work / Hygienic Maintenance:	Handle in accordance with good industrial hygiene and safety practices. Do not eat, drink, or smoke when using this product.
Ventilation:	Provide appropriate exhaust ventilation at places where dust is formed.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible Exposure Limits:	Contain no substance with occupational exposure limit values.
Threshold Limit Value:	Contain no substance with occupational exposure limit values.
Special Equipment:	No Data Available.
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. The 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:	4.45 g/cm ³
Molecular Weight:	No Data Available.

10. REACTIVITY

Stability:	Stable under recommended storage conditions.
Reacts with:	Strong oxidizing agents.
Incompatible Conditions:	No Data Available.
Hazardous Decomposition Products:	Hazardous decomposition products formed under fire conditions include Nickel / Nickel Oxides, Lithium Oxides, Cobalt / Cobalt Oxides, Aluminum Oxide

11. TOXICOLOGICAL INFORMATION

Potential Health Effects:

- **Eyes** No Data Available.
- **Skin** May cause allergic skin reaction.
- **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.

Signs and Symptoms:

Large doses of lithium ion may cause 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 carcinogenic effect.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

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

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.

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	This material does not contain any chemical components with known CAS numbers that exceed the threshold (de minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	Acute Health Hazard, Chronic Health Hazard
Massachusetts Right to Know Components	No components are subject to the Ma. Right to Know Act.
Pennsylvania Right to Know Components	Lithium Nickel Cobalt Aluminium Oxide (CAS No. 193214-24-3).
New Jersey Right to Know Components	Lithium Nickel Cobalt Aluminium Oxide (CAS No. 193214-24-3).
California Prop. 65 Components	This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Copyright 2018 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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