

# SAFETY DATA SHEET: Lithium nickel cobalt aluminum oxide

Version: 3.1

Revision Date: 12-2-2019

## Section 1: Identification

### 1.1) Product identifier:

Product Name : Lithium nickel cobalt aluminum oxide

Synonyms : NCA

Product Number : PO0180, PO5002

CAS Number : 193214-24-3

### 1.2) Company information:

Address: MSE Supplies, LLC  
4400 E Broadway Blvd, Suite 600  
Tucson, AZ 85711, USA

Telephone: +1 520-789-6673

Email: [info@mse Supplies.com](mailto:info@mse Supplies.com)

Emergency Telephone : +1-703-527-3887

### 1.3) Relevant identified uses of the substance or mixture and uses advised against:

Identifies uses: Laboratory chemicals, Synthesis of substances

## Section 2: Hazard(s) Identification

### 2.1) Classification of the substance or mixture GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

Skin sensitisation (Category 1), H317

Carcinogenicity (Category 2), H351

### 2.2) GHS Label elements, including precautionary statements:

Pictograms:



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**Single word Hazard Statement(s)**

**Danger**

H317  
H351

May cause an allergic skin reaction.  
Suspected of causing cancer.

**Precautionary Statement(s)**

P201  
P202

Obtain special instructions before use.  
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.

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.

**2.3) Hazards not otherwise classified (HNOC) or covered by GHS:**

None

Section 3: Composition/Information on Ingredients

**3.1) Substances:**

Synonyms: NCA  
Formula:  $\text{LiNi}_{0.8}\text{Co}_{0.15}\text{Al}_{0.05}\text{O}_2$   
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For the full text of the H-Statements mentioned in this Section, see Section 16.

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Section 4: First-Aid Measures

**4.1) Description of first aid measures:**

**General advice**

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

**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**

Flush eyes with water as a precaution.

**If swallowed**

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

**4.2) Most important symptoms and effects, both acute and delayed:**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

**4.3) Indication of any immediate medical attention and special treatment needed:**

No data available

Section 5: Fire-Fighting Measures

**5.1) Suitable extinguishing media:**

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

**5.2) Special hazards arising from the substance or mixture:**

Nickel/nickel oxides, Lithium oxides, Cobalt/cobalt oxides, Aluminum oxide

**5.3) Advise for firefighters:**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4) Further information:**

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No data available

Section 6: Accidental Release Measures

**6.1) Personal precautions, protective equipment, and emergency procedures:**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

**6.2) Environmental precautions:**

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

**6.3) 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.

**6.4) Reference to other sections:**

For disposal see section 13.

Section 7: Handling and Storage

**7.1) Precautions for safe handling:**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

**7.2) Conditions for safe storage, including any incompatibilities:**

Keep container tightly closed in a dry and well-ventilated place.  
Keep in a dry place.  
Storage class (TRGS 510): 13: Non Combustible Solids

**7.3) Specific end use(s):**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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### Section 8: Exposure Controls/Personal Protection

#### **8.1) Control parameters:**

##### **Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

#### **8.2) Exposure controls:**

##### **Appropriate engineering controls:**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

##### **Personal protective equipment**

###### **Eye/face 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 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.

###### **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.

###### **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).

###### **Control of environmental exposure:**

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

Section 9: Physical and Chemical Properties

**9.2) Information on basic physical and chemical properties:**

a) Appearance (physical state, color, etc.)	Form: Powder Color: Black
b) Upper/lower flammability or explosive limits	No data available
c) Odor	No data available
d) Odor threshold	No data available
e) Vapor pressure	No data available
f) Vapor density	No data available
g) pH	No data available
h) Density	No data available
i) Melting point/freezing point	>1,000 °C (> 1,832 °F) - lit.
j) Solubility(ies)	No data available
k) Initial boiling point and boiling range	No data available
l) Flash point	No data available
m) Evaporation rate	No data available
n) Flammability (solid, gas)	No data available
o) Partition coefficient: n-octanol/water	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Viscosity	No data available
t) Explosive properties	No data available
u) Oxidizing properties	No data available

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**9.2) Other Safety information:**

No data available

Section 10: Stability and Reactivity

**10.1) Reactivity:**

No data available

**10.2) Chemical Stability:**

Stable under recommended storage conditions.

**10.3) Possibility of hazardous reactions:**

No data available

**10.4) Conditions to avoid:**

No data available

**10.5) Incompatible materials:**

Strong oxidizing agents

**10.6) Hazardous decomposition products:**

Other decomposition products - No data available  
Hazardous decomposition products formed under fire conditions. - Nickel/nickel oxides,  
Lithium oxides, Cobalt/cobalt oxides, Aluminum oxide  
In the event of a fire: see section 5.

Section 11: Toxicological Information

**11.1) Information on toxicological effects:**

**Acute toxicity:**

No data available  
Inhalation: No data available  
Dermal: No data available  
No data available

**Skin corrosion/irritation:**

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No data available

**Serious eye damage/ eye irritation:**

No data available

**Respiratory or skin sensitization:**

**Germ cell mutagenicity:**

No data available

**Carcinogenicity:**

Limited evidence of a carcinogenic effect.

**IRAC:** 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 on OSHA's list of regulated carcinogens.

**Reproductive toxicity:**

No data available

**Specific target organ toxicity – single exposure:**

No data available

**Specific target organ toxicity – repeated exposure:**

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



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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., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Section 12: Ecological Information

#### **12.1) Toxicity:**

No data available

#### **12.1) Persistence and degradability:**

No data available

#### **12.3) Bioaccumulative potential:**

No data available

#### **12.4) Mobility in soil:**

No data available

#### **12.5) Results of PBT and vPvB assessment:**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

#### **12.6) Other adverse effects:**

No data available

### Section 13: Disposal Considerations

#### **13.1) Waste treatment methods:**

##### **Product:**

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.



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**Contaminated packaging:**

Dispose of as unused product.

Section 14: Transport Information

**DOT (US):**

Not dangerous goods

**IMDG:**

Not dangerous goods

**IATA:**

Not dangerous goods

Section 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 Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components:**

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**New Jersey Right To Know Components:**



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## **California Prop. 65 Components:**

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

## Section 16: Other Information

### **Further information**

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 is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. MSE Supplies LLC and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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