

## SECTION 1: PRODUCT & COMPANY IDENTIFICATION

### 1.1 Product Identifiers

NEI Product Number: CBP-20  
 Product Description: Lithium Cobalt Oxide powder  
 CAS Number: 12190-79-3

### 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified Uses: Cathode material for lithium-ion batteries

### 1.3 Details of the Supplier of the Safety Data Sheet

Company: NEI Corporation  
 Address: 400 Apgar Drive, Unit E – Somerset, NJ 08873 – United States of America  
 Phone: +1 (732) 868-3141 Fax: +1 (732) 868-3143  
 Email: productinfo@neicorporation.com

### 1.4 Emergency Telephone Number

Manufacturer: +1 (732) 868-3142 (9am to 6pm EST / UTC -0500)  
 U.S. Poison Control Center: +1-800-222-1222



## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the Substance or Mixture

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

Carcinogenicity (Category 2), H351  
 Reproductive toxicity (Category 1B), H360  
 Short-term (acute) aquatic hazard (Category 1), H400  
 Long-term (chronic) aquatic hazard (Category 1), H410

### 2.2 GHS Label elements, including precautionary statements

Pictogram(s):  

Signal Word: Danger

Hazard Statement(s):

H351 Suspected of causing cancer  
 H360 May damage fertility or the unborn child  
 H410 Very toxic to aquatic life with long lasting effects

Precautionary Statement(s):

P202 Do not handle until all safety precautions have been read and understood.  
 P273 Avoid release to the environment  
 P280 Wear protective gloves, protective clothing, & eye protection.  
 P308 + P313 If exposed or concerned: Get medical advice / attention.  
 P391 Collect spillage  
 P501 Dispose of contents/ container to an approved waste disposal plant.

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

None

## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1 Substances

Component Name	Synonym	Formula	CAS #	Weight %
Lithium Cobalt (III) Oxide	LCO	LiCoO <sub>2</sub>	12190-79-3	100%
<b>Hazard Classifications:</b> Carcinogenicity (Category 2, H351); Reproductive toxicity (Category 1B, H360); Aquatic Chronic (Category 1, H400 & H410)				

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## SECTION 4: FIRST AID MEASURES

### 4.1 Description of First Aid Measures

**General Advice:**

Move out of exposed area. Seek medical attention if irritation occurs. Show this SDS to the doctor in attendance.

**After Inhalation:**

If breathed in, move person into fresh air. If not breathing, give artificial respiration and seek medical attention.

**After Skin Contact:**

Immediately remove all contaminated clothing. Rinse off skin with water. Consult a physician

**After Eye Contact:**

Rinse thoroughly with plenty of water for at least 15 minutes. Remove contact lenses if possible. Consult a physician.

**After Swallowing:**

Immediately drink water (2 cups at most) and seek medical attention. Never give anything by mouth to an unconscious person.

### 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

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## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. No limitations of extinguishing agents are given for this substance/mixture.

### 5.2 Special Hazards Arising from the Substance or Mixture

Lithium oxides, Cobalt oxides; Not combustible. Ambient fire may liberate hazardous vapors.

### 5.3 Advice for Firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Other Information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

Use personal protective equipment. Avoid inhalation of dust. Ensure adequate ventilation. Avoid direct contact with substance. Evacuate personnel to safe areas.

### 6.2 Environmental Precautions

Do not let product enter drains.

### 6.3 Methods and Materials for Containment and Cleaning Up

Cover drains. Pick up and arrange disposal without creating dust. Keep in closed containers for disposal.

### 6.4 Reference to Other Sections

For safe handling, see Section 7; for personal protection, see Section 8; for disposal, see Section 13.

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## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for Safe Handling

Work under hood. Do not inhale substance/mixture. Avoid contact with skin and eyes. Appropriate personal protective equipment should be used at all times. Immediately change contaminated clothing. For precautions see Section 2.2

### 7.2 Conditions for Safe Storage (including any incompatibilities)

Store in a tightly closed container, in a dry and well-ventilated place. **Storage Class (TRGS 510):** 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

**7.3 Specific End Uses**

A part from the uses mentioned in section 1.2 no other specific uses are stipulated.

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**8.1 Control Parameters**

**Components with workplace control parameters:**

Component	CAS #	Value	Control Parameters	Basis
Lithium Cobalt (III) Oxide	12190-79-3	TWA	0.02 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
<b>Remarks:</b> Dermal Sensitization; Respiratory sensitization; Confirmed animal carcinogen with unknown relevance to humans.				

**Biological occupational exposure limits**

Component	CAS #	Parameters	Value	Biological Specimen	Basis
Lithium Cobalt (III) Oxide	12190-79-3	Cobalt	15 µg/l	Urine	ACGIH – Biological Exposure Indices (BEI)
<b>Remarks:</b> End of shift at end of workweek.					

**8.2 Exposure Controls**

**Appropriate Engineering Controls**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**Personal Protective Equipment**

Eye / Face Protection:

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

Skin Protection:

Handle with impervious 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:

Required where dust is generated. Recommended filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of Environmental Exposure**

Do not let product enter drains.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on Basic Physical and Chemical Properties**

- Form: Powder
- Color: Black
- Odor: No data available
- pH (20 °C): No data available
- Melting Point / Freezing Point: > 600 °C (> 1112 °F) at 1,014 hPa (OECD Test Guideline 102)
- Specific Gravity: No data available
- Density: 4.82 g/cm<sup>3</sup> at 22.5 °C (72.5 °F) (OECD Test Guideline 109)
- Relative Density: No data available
- Viscosity: No data available
- Boiling Point: No data available

Flashpoint: Not applicable  
 Ignition Temperature: No data available  
 Auto-ignition Temperature: No data available  
 Lower Explosion Limit: No data available  
 Upper Explosion Limit: No data available  
 Vapor Pressure (32 °C): No data available  
 Vapor Density: No data available  
 Water Solubility: 0.0003 g/l at 20 °C (68 °F) (OECD Test Guideline 105)  
 Evaporation Rate: No data available  
 Decomposition Temperature: No data available

## 9.2 Other Information

None

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

No Data Available

### 10.2 Chemical Stability

Stable under standard ambient conditions (room temperature)

### 10.3 Possibility of Hazardous Reactions

No Data Available

### 10.4 Conditions to Avoid

Avoid exposure to humidity & moisture

### 10.5 Incompatible Materials

Strong oxidizing agents

### 10.6 Hazardous Decomposition Products

Other Decomposition Products: No Data Available (in the event of fire: see Section 5)

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological Effects

#### Acute Toxicity

Component	Oral LD50	Dermal LD50	Inhalation LC50
LCO	> 5,000 mg/kg (rat, female)	No data available	5.05 mg/l - dust/mist (rat, 4hrs)

#### 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

Suspected of causing cancer

No component of this product (present at levels greater than or equal to 0.1%) is identified as a carcinogen or potential carcinogen by IARC, ACGIH, NTP, or OSHA.

#### Reproductive toxicity

May damage fertility. Suspected of damaging the unborn child.

**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

Stomach - Irregularities - Based on Human Evidence

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

**SECTION 12: ECOLOGICAL INFORMATION**

**12.1 Toxicity**

Component	Freshwater Green Algae (ECHA)	Freshwater Zebra Fish (ECHA)	Water Flea (OECD 211)
LCO	0.144 mg/l – 72 hours	85.3 mg/l – 96 hours	0.0063 mg/l – 21 days

**12.2 Persistence and Degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**12.3 Bioaccumulative Potential**

No Data Available

**12.4 Mobility in Soil**

No Data Available

**12.5 PBT and vPvB Assessment**

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

**12.6 Other Adverse Effects**

Discharge into the environment must be avoided.

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1 Waste Treatment Methods – Product**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste.

**13.2 Waste Treatment Methods – Contaminated Packaging**

Handle uncleaned containers like the product itself.

**SECTION 14: TRANSPORT INFORMATION**

**14.1 Department of Transportation (DOT - US)**

Not dangerous goods

**14.2 International Maritime Dangerous Goods (IMDG)**

Not dangerous goods

**14.3 International Air Transport Association (IATA)**

Not dangerous goods

**14.4 Additional Transport Information**

**HS Code:** 2825.90

**Schedule B:** 2825.90.9000

**SECTION 15: REGULATORY INFORMATION**

**15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture**

**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

Lithium Cobalt (III) Oxide (CAS #12190-79-3)

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

**Right To Know Components**

<b>Component</b>	<b>CAS #</b>	<b>State</b>
Lithium Cobalt (III) Oxide	12190-79-3	PA, NJ

**CALIFORNIA PROPOSITION 65**

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

**Toxic Substances Control Act (TSCA) Chemical Substance Inventory**

**Components:** Lithium Cobalt (III) Oxide (CAS #12190-79-3)

**15.2 Chemical Safety Assessment**

A chemical safety assessment was not carried out for this product.

**SECTION 16: OTHER INFORMATION**

**REACH Number**

A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

**Further Information**

NEI has attempted to provide current and accurate information to the best of its knowledge. NEI makes no representations regarding the accuracy or completeness of the information and assumes no liability for any loss, damage, injury of any kind which may result from or arise out of the use of or reliance on the information by any person. Employers should use this information only as a supplement to other information gathered by them and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.