

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Cobalt Oxide Nanopowder

**Product Code:** CO3-OX-04-NP

**CAS Number:** 1308-04-9

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Carcinogen, Harmful by ingestion., Skin sensitiser

GHS Classification

Acute toxicity, Oral(Category 4)

Skin sensitization(Category 1)

Carcinogenicity(Category 2)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed.

H317

May cause an allergic skin reaction.

H351

Suspected of causing cancer.

Precautionary statement(s)

P280

Wear protective gloves.

HMIS

Classification

Health hazard: 2

Chronic Health Hazard:\*

Flammability: 0

Physical hazards: 0

NFPA Rating

Health hazard: 2

Fire: 0

Reactivity Hazard: 0

Potential Health Effects

Inhalation

May be harmful if inhaled. May cause respiratory tract irritation.

Skin

May be harmful if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

Ingestion

Toxic if swallowed.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula:  $\text{Co}_2\text{O}_3$

Molecular Weight: 165.86 g/mol

CAS-No.

1308-04-9

EC-No.

215-156-7

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## SECTION 4. 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.

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## **SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions.-Cobalt/cobalt oxides

Hazardous decomposition products formed under fire conditions.-Cobalt/cobalt oxides

Further information

The product itself does not burn.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions

Use personal protective equipment. Avoid dust formation. 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.

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## **SECTION 7. HANDLING AND STORAGE**

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.

Conditions for safe storage

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

Keep in a dry place.

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## **SECTION 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 chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

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

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance

Form

powder

Colour

black

Safety data

pH

no data available

Melting point/freezing point

no data available

Boiling point

no data available

Flash point

not applicable

Ignition temperature

no data available

Autoignition temperature

no data available

Lower explosion limit

no data available

Upper explosion limit

no data available

Vapor pressure

no data available

Density

5.700 g/cm<sup>3</sup> at 20 °C (68 °F)

5.700 g/cm<sup>3</sup> at 20 °C (68 °F)

Water solubility

no data available

Partition coefficient: n-octanol/water

no data available

Relative Vapor density

no data available

Odor

odourless

Odor Threshold

no data available

Evaporation rate

no data available

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## **SECTION 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  
Hazardous decomposition products formed under fire conditions.-Cobalt/cobalt oxides  
Hazardous decomposition products formed under fire conditions.-Cobalt/cobalt oxides  
Other decomposition products-no data available

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## SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity  
Oral LD50  
Inhalation LC50  
no data available  
Dermal LD50  
no data available  
Other information on acute toxicity  
LD50 Subcutaneous-mouse-2,064 mg/kg  
LD50 Subcutaneous-mouse-2,064 mg/kg  
Skin corrosion/irritation  
no data available  
Serious eye damage/eye irritation  
no data available  
Respiratory or skin sensitization  
May cause allergic skin reaction.  
Germ cell mutagenicity  
no data available  
Carcinogenicity  
This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.  
Limited evidence of carcinogenicity in animal studies  
IARC:  
2B-Group 2B: Possibly carcinogenic to humans(Dicobalt trioxide)  
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  
Potential health effects  
Inhalation  
May be harmful if inhaled. May cause respiratory tract irritation.  
Ingestion  
Toxic if swallowed.  
Skin  
May be harmful if absorbed through skin. May cause skin irritation.  
Eyes  
May cause eye irritation.  
Synergistic effects  
no data available  
Additional Information  
RTECS: GG2900000

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## **SECTION 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

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## **SECTION 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.  
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.  
Contaminated packaging  
Dispose of as unused product.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT (US)  
Not dangerous goods  
IMDG  
Not dangerous goods  
IATA  
Not dangerous goods

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## SECTION 15. REGULATORY INFORMATION

OSHA Hazards

Carcinogen, Harmful by ingestion., Skin sensitiser

SARA 302 Components

SARA 302: 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 reporting levels established by SARA Title III, Section 313:

Dicobalt trioxide

CAS-No.

1308-04-9

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

Dicobalt trioxide

CAS-No.

1308-04-9

New Jersey Right To Know Components

Dicobalt trioxide

CAS-No.

1308-04-9

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.

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.