



ARLIMIN
FORMERLY ARLINGTON INTERNATIONAL

SAFETY DATA SHEET

Reviewed
June 2016

Section 1 - Product and Company Information

Product detail

Product Name: Cobalt Oxide
Synonyms: Cobalt (II,III) oxide
Molecular Formula: Co_3O_4

Manufacturer/Supplier

Arlimin Industries LLC
333 West Drake Road, Suite 220
Fort Collins, CO 80526
Tel: (001) 970-494-0244
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Section 2 - Hazards Identification

Emergency overview

Harmful.
Limited evidence of a carcinogenic effect. May cause sensitization by skin contact.
Target organ(s): Lungs.

HMIS rating

Health: 2
Flammability: 0
Reactivity: 0

NFPA rating

Health: 2
Flammability: 0
Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 3 - Composition/Information on Ingredients

Product Name: Cobalt Oxide
CAS No.: 1308-06-1

EINECS/ELINCS: 2151572

Hazard Symbols: Xn

Section 4 - First Aid Measures

Oral exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation exposure

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

Eye exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Flash point

N/A

Autoignition temp

N/A

Flammability

N/A

Extinguishing media

Suitable: Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be followed in case of leak or spill

Evacuate area.

Procedure(s) of personal precaution(s)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

Methods for cleaning up

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable: Keep tightly closed.

Special requirements

Hygroscopic.

Section 8 - Exposure Controls / Personal Protection

Engineering controls

Safety shower and eye bath required. Mechanical exhaust required.

Personal protective equipment

Respiratory: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

General hygiene measures

Wash thoroughly after handling.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Cobalt oxide Co ₃ O ₄	0.02mg/m ³ TWA (as Co)	none listed	none listed
Cobalt(II) oxide	0.02mg/m ³ TWA (as Co)	none listed	none listed

Section 9 - Physical/Chemical Properties

Physical State: Solid

Color: Black-gray

Form: Powder

Molecular Weight: 240.80

Molecular Formula: Co₃O₄

pH: N/A

Boiling Point: N/A

Freezing/Melting Point: 895 °C

Flash Point: N/A

Decomposition Temperature: N/A

Autoignition Temperature: N/A

Vapor Pressure: N/A

Vapor Density: N/A

Saturated Vapor: N/A

Density: 6.11g/ml at 25°C

Bulk Density: N/A

Odor Threshold: N/A

Volatile: N/A

Evaporation Rate: N/A

Viscosity: N/A

Surface Tension: N/A

Partition Coefficient: N/A

Explosion Limits: N/A

Flammability: N/A

Refractive Index N/A
Optical Rotation N/A
Solubility: Insoluble in water
N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable: Stable.
Conditions to Avoid: Moisture.
Materials to Avoid: Reducing agent.

Hazardous decomposition products

Hazardous Decomposition Products: N/A

Hazardous polymerization

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

Route of exposure

Skin Contact: Causes skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes eye irritation.
Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

Sensitization

Skin: May cause allergic skin reaction.

Signs and symptoms of exposure

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

Target organ(s) or system(s)

Lung.

Toxicity data

Oral
LD50: >5000 mg/kg (rat)
Intraperitoneal
LD50: 1890mg/kg (mouse)

Section 12 - Ecological Information

Acute ecotoxicity tests

Test Type: LC50 Fish
Species: Brachydanio rerio
Time: 96 h
Value: > 136 mg/l
Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h

Value: > 136 mg/l

Test Type: EC50 Algae

Species: Selenastrum capricornutum resp.

Time: 72 h

Value: 88 mg/l

Environmental

Cobalt uptake and phytotoxicity are affected by soil pH. More acidic soils absorb cobalt less strongly.

Section 13 - Disposal Considerations

Appropriate method of disposal of substance or preparation

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.

Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU additional classification

Symbol of Danger: Xn

Indication of Danger: Harmful.

R: 40-43

Risk Statements: Limited evidence of a carcinogenic effect. May cause sensitization by skin contact.

S: 36/37

Safety Statements: Wear suitable protective clothing and gloves.

US classification and label text

Indication of Danger: Harmful.

Risk Statements: Limited evidence of a carcinogenic effect. May cause sensitization by skin contact.

Safety Statements: Wear suitable protective clothing.

US Statements: Target organ(s): Lungs.

US regulatory information

SARA listed: Yes

DEMINIMIS: 0.1 %

NOTES: This product is subject to SARA section 313 reporting requirements - chromium compounds.

TSCA inventory item: Yes

Canada regulatory information

WHMIS classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Warranty

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall **Arlimin Industries LLC** be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if **Arlimin Industries LLC** has been advised of the possibility of such damages.