

MSDS# 05294

Section 1 - Chemical Product and Company Identification

MSDS Name: Cobalt oxide

Catalog Numbers: AC206220000, AC206220250, AC206220500, C382-500

Synonyms: Cobaltic-cobaltous oxide; Cobaltous oxide; Tricobalt tetraoxide; Cobalt oxide Co₃O₄; Cobalt (II,III) oxide; Cobalto-cobaltic oxide.

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

Risk Phrases:

CAS#: 1308-06-1
Chemical Name: Cobalt oxide Co₃O₄
%: 100
EINECS#: 215-157-2
Hazard Symbols:

Text for R-phrases: see Section 16

Hazard Symbols:

XN N



Risk Phrases:

22 43 50/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! May cause allergic skin reaction. Hygroscopic (absorbs moisture from the air). May be harmful if swallowed. May cause cancer based on animal studies. May cause eye, skin, and respiratory tract irritation. This product contains cobalt(II) oxide, a chemical known to the state of California to cause cancer. Target Organs: Lungs, skin.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.

Inhalation: May cause respiratory tract irritation. May cause chronic airway hyperreactivity and asthma, with changes in pulmonary function.

Chronic: Cobalt compounds may cause cancer based upon animal studies. May cause chronic heart disease due to effects on the heart muscle.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin: In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical aid if symptoms occur. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Runoff from fire control or dilution water may cause pollution.

Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Not available

Lower:

Explosion Limits: Not available

Upper:

NFPA Rating: health: 2; flammability: 0; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Cobalt(II) oxide	0.02 mg/m3 TWA (as Co) (listed under Cobalt, inorganic compounds).	none listed	none listed
Cobalt oxide Co3O4	0.02 mg/m3 TWA (as Co) (listed under Cobalt, inorganic compounds).	none listed	none listed

OSHA Vacated PELs: Cobalt(II) oxide: None listed Cobalt oxide Co3O4: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder

Color: black-gray

Odor: Not available

pH: Not available

Vapor Pressure: Not applicable.

Vapor Density: Not applicable.

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: Not available

Freezing/Melting Point: 895 deg C (1,643.00°F)

Decomposition Temperature:

Solubility in water: insoluble

Specific Gravity/Density: 6.11 g/cm³

Molecular Formula: O₄Co₃

Molecular Weight: 240.80

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Dust generation, moisture, excess heat.

Incompatibilities with Other Materials: No information found..

Hazardous Decomposition Products: Cobalt/cobalt oxides.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 1307-96-6: GG2800000

CAS# 1308-06-1: GG2500000

RTECS:

CAS# 1307-96-6: Oral, rat: LD50 = 202 mg/kg;

Oral, rat: LD50 = 202 mg/kg;

LD50/LC50:

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RTECS:

CAS# 1308-06-1: Oral, rat: LD50 = >5 gm/kg;

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Carcinogenicity: Cobalt(II) oxide - California: carcinogen, initial date 7/1/92 IARC: Group 2B carcinogen

Cobalt oxide Co₃O₄ - IARC: Group 2B carcinogen

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Other: No information available.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN N

Risk Phrases:

R 22 Harmful if swallowed.

R 43 May cause sensitization by skin contact.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 22 Do not breathe dust.

S 24 Avoid contact with skin.

S 37 Wear suitable gloves.

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 1307-96-6: 2

CAS# 1308-06-1: 0

Canada

CAS# 1307-96-6 is listed on Canada's DSL List

CAS# 1308-06-1 is listed on Canada's DSL List

Canadian WHMIS Classifications: D2B, D2A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 1307-96-6 is listed on Canada's Ingredient Disclosure List

CAS# 1308-06-1 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 1307-96-6 is listed on the TSCA Inventory.

CAS# 1308-06-1 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 9/02/1997

Revision #10 Date 7/20/2009

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 event shall the company 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 the company has been advised of the possibility of such damages.
