

# Material Safety Data Sheet

## Cobalt, certified powder, mesh 300 and finer

ACC# 05250

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Cobalt, certified powder, mesh 300 and finer**Catalog Numbers:** C363-100**Synonyms:** Color Index No. 77320.**Company Identification:**

Fisher Scientific

1 Reagent Lane

Fair Lawn, NJ 07410

**For information, call:** 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

| CAS#      | Chemical Name | Percent | EINECS/ELINCS |
|-----------|---------------|---------|---------------|
| 7440-48-4 | Cobalt        | >98     | 231-158-0     |

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: silver gray or bluish white or black solid.

**Danger!** Flammable solid. Can be explosive when exposed to heat or flames. May cause allergic respiratory reaction. Causes eye and skin irritation. May cause allergic skin reaction. May cause lung damage. May cause cancer based on animal studies.

**Target Organs:** Lungs, skin.

#### Potential Health Effects

**Eye:** Causes eye irritation. May cause conjunctivitis.**Skin:** Prolonged and/or repeated contact may cause irritation and/or dermatitis. 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 cause allergic reaction.**Inhalation:** Causes respiratory tract irritation. May cause asthmatic attacks due to allergic sensitization of the respiratory tract. May cause asthma and shortness of breath.**Chronic:** Repeated exposure may cause sensitization dermatitis. Repeated exposure may cause allergic respiratory reaction (asthma). Chronic inhalation of dust may lead to restricted pulmonary function and

interstitial fibrosis.

## Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** Remove from exposure and move to fresh air immediately. Get medical aid if cough or other symptoms appear.

**Notes to Physician:** Treat symptomatically and supportively.

## 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. Dusts at sufficient concentrations can form explosive mixtures with air. Material can spontaneously ignite (pyrophoric) when exposed to air at normal or slightly elevated temperatures. Flammable solid.

**Extinguishing Media:** Use dry sand or earth to smother fire. DO NOT USE WATER!

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 2; Instability: 1

## 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. Avoid generating dusty conditions.

## Section 7 - Handling and Storage

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

**Storage:** Keep away from sources of ignition. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits**

| Chemical Name | ACGIH                      | NIOSH   | OSHA - Final PELs                         |
|---------------|----------------------------|---|---|
| Cobalt        | 0.02 mg/m <sup>3</sup> TWA | 0.05 mg/m <sup>3</sup> TWA (dust and fume)<br>20 mg/m <sup>3</sup> IDLH (dust and fume) | 0.1 mg/m <sup>3</sup> TWA (dust and fume) |

**OSHA Vacated PELs:** Cobalt: 0.05 mg/m<sup>3</sup> TWA (dust and fume)

**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:** Solid

**Appearance:** silver gray or bluish white or black

**Odor:** none reported

**pH:** Not available.

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not applicable.

**Evaporation Rate:** Not available.

**Viscosity:** Not applicable.

**Boiling Point:** 2870 deg C

**Freezing/Melting Point:** 1495 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Insoluble in water.

**Specific Gravity/Density:** 8.92

**Molecular Formula:** Co

**Molecular Weight:** 58.9332

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, ignition sources, dust generation, strong acids, oxidizers.

**Incompatibilities with Other Materials:** Pyrophoric cobalt decomposes acetylene in the cold and the metal becomes incandescent. Fused ammonium nitrate can react explosively with powdered cobalt. Pyrophoric cobalt, a black powder, burns brilliantly when exposed to air.

**Hazardous Decomposition Products:** Oxides of cobalt.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 7440-48-4: GF8750000; GF8850000; GG0375000

**LD50/LC50:**

CAS# 7440-48-4:

Oral, rat: LD50 = 6171 mg/kg;

**Carcinogenicity:**

CAS# 7440-48-4:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** carcinogen, initial date 7/1/92 (powder)
- **NTP:** Not listed.
- **IARC:** Group 2B carcinogen

**Epidemiology:** No data available.

**Teratogenicity:** No data available.

**Reproductive Effects:** No data available.

**Mutagenicity:** No data available.

**Neurotoxicity:** No data available.

**Other Studies:**

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

|                       | US DOT                           | Canada TDG                |
|-----------------------|----------------------------------|---------------------------|
| <b>Shipping Name:</b> | METAL POWDERS, FLAMMABLE, N.O.S. | No information available. |
| <b>Hazard Class:</b>  | 4.1                              |                           |
| <b>UN Number:</b>     | UN3089                           |                           |
| <b>Packing Group:</b> | III                              |                           |

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 7440-48-4 is listed on the TSCA inventory.

#### Health & Safety Reporting List

CAS# 7440-48-4: Effective 6/1/87, Sunset 6/1/97

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 7440-48-4: immediate, delayed, fire.

#### Section 313

This material contains Cobalt (CAS# 7440-48-4, >98%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 7440-48-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

#### California Prop 65

#### The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains Cobalt, a chemical known to the state of California to cause cancer.

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

XN

#### Risk Phrases:

R 42/43 May cause sensitization by inhalation and skin contact.

R 53 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 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

**WGK (Water Danger/Protection)**

CAS# 7440-48-4: 1

**Canada - DSL/NDSL**

CAS# 7440-48-4 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of 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.

**Canadian Ingredient Disclosure List**

CAS# 7440-48-4 is listed on the Canadian Ingredient Disclosure List.

|  |
|--|
| <b>Section 16 - Additional Information</b> |
|--|

**MSDS Creation Date:** 12/12/1997

**Revision #5 Date:** 11/06/2007

*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 Fisher 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 Fisher has been advised of the possibility of such damages.*