

Cobalt
05250

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Cobalt

Catalog Numbers:

C363 100, C363-100, C363100

Synonyms:

None

Company Identification: Fisher Scientific

1 Reagent Lane

Fairlawn, 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	%	EINECS#
7440-48-4	COBALT	100	231-158-0

Hazard Symbols: XN

Risk Phrases: 42/43

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: silver gray or bluish white or black.

Danger! Flammable solid. May cause allergic respiratory reaction.

May cause allergic skin reaction. May cause lung damage. Causes eye

and skin irritation. Can be explosive when exposed to heat or

flames. May cause digestive tract irritation with nausea, vomiting,

and diarrhea. May cause cancer based on animal studies.

Target Organs: Lungs.

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 soap and 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 to fresh air immediately. Get medical aid if cough or other symptoms appear.

Notes to Physician:

Treat symptomatically and

**** 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!

**** 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-FinalPELs
COBALT	elemental, as Co: 0.02 mg/m3	as Co: 0.05 mg/m3 TWA as Co: 20 mg/m3 IDLH	0.1 mg/m3 TWA

OSHA Vacated PELs:

COBALT:

as Co: 0.05 mg/m3 TWA

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 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** 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: 5198 deg F
 Freezing/Melting Point: 2723 deg F
 Autoignition Temperature: Not applicable.
 Flash Point: Not applicable.
 NFPA Rating: Not published.
 Explosion Limits, Lower: Not available.
 Upper: Not available.
 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
LD50/LC50:
CAS# 7440-48-4: Oral, rat: LD50 = 6171 mg/kg.
Carcinogenicity:
COBALT -
ACGIH: elemental, as Co: A3 - animal carcinogen
California: carcinogen; initial date 7/1/92
OSHA: Possible Select carcinogen
IARC: Group 2B carcinogen
Epidemiology:
No data available.
Teratogenicity:
No data available.
Reproductive Effects:
No data available.
Neurotoxicity:
No data available.
Mutagenicity:
No data available.
Other Studies:
No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Chemical waste generators must determine whether a discarded chemical is class if as a hazardous waste.
US EPA guidelines for the classification determination are listed in 40 CFR Part Additionally, waste generators must consult state and local hazardous waste regu ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
Shipping Name: METAL POWDER FLAMMABLE, N.O.S.
(COBALT)

Hazard Class: 4.1
UN Number: UN3089
Packing Group: III
Canadian TDG
No information available.

**** 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 Date: June 1, 1987; Sunset Date: June 1,
1997
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.

SARA

Section 302 (RQ)
None of the chemicals in this material have an RQ.
Section 302 (TPQ)
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 7440-48-4: acute, chronic, flammable.
Section 313
This material contains COBALT (CAS# 7440-48-4, 100%), which is
Subject to the reporting requirements of Section 313 of SARA Title
III and 40 CFR Part 372.

Clean Air Act:

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

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

COBALT can be found on the following state right to know lists:
California, New Jersey, Florida, Pennsylvania, Minnesota,
Massachusetts.
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.

Safety Phrases:

S 22 Do not breathe dust.

S 24 Avoid contact with skin.

S 37 Wear suitable gloves.

WGK (Water Danger/Protection)

CAS# 7440-48-4: 1

United Kingdom Occupational Exposure Limits

Canada

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

This product has a WHMIS classification of D2B, D2A.

CAS# 7440-48-4 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 7440-48-4: OEL-ARAB Republic of Egypt:TWA 0.1 mg/m3

OEL-AUSTRALIA:TWA 0.05 mg/m3

OEL-BELGIUM:TWA 0.05 mg/m3

OEL-CZECHOSLOVAKIA:TWA 0.05 mg/m3;STEL 0.1 mg/m3

OEL-DENMARK:TWA 0.05 mg/m3

OEL-FINLAND:TWA 0.05 mg/m3;Skin

OEL-GERMANY;Carcinogen

OEL-HUNGARY:TWA 0.1 mg/m3;STEL 0.2 mg/m3

OEL-THE NETHERLANDS:TWA 0.1 mg/m3

OEL-THE PHILIPPINES:TWA 0.1 mg/m3

OEL-POLAND:TWA 0.05 mg/m3

OEL-RUSSIA:STEL 0.5 mg/m3

OEL-SWEDEN:TWA 0.05 mg/m3

OEL-SWITZERLAND:TWA 0.1 mg/m3;Carcinogen

OEL-UNITED KINGDOM:TWA 0.1 mg/m3

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 12/12/1997 Revision #2 Date: 8/02/2000

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 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.
