



MATERIAL SAFETY DATA SHEET

Version Number:- 02

PRODUCT NAME: COBALT METAL

CAS Number: 7440-48-4

1. IDENTIFICATION:

Product Code : 93402

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

Address : W-279, MIDC, TTC INDUSTRIAL AREA, THANE-BELAPUR ROAD, RABALE,
NAVI MUMBAI - 400 701, MAHARASHTRA, INDIA.

E-mail : sales@adventchembio.com

WEBSITE : www.adventchembio.com

Company Phone Number : +91 77770 84837

2. HAZARDS IDENTIFICATION:

Hazard classification

Health hazards

Acute toxicity, Oral : Category 4

Acute toxicity, Inhalation : Category 1

Eye irritation : Category 2

Skin sensitisation : Category 1

Respiratory sensitisation : Sub-category 1 B

Germ cell mutagenicity : Category 2

Carcinogenicity : Category 1 B

Reproductive toxicity : Category 1 B

Specific target organ
toxicity - repeated
exposure, Oral : Category 2

Short-term (acute) aquatic
hazard : Category 1

Long-term (chronic) aquatic
hazard : Category 1

Labels elements

Hazard symbol



Signal word

: Danger

Hazard statement

: Harmful if swallowed.

: May cause an allergic skin reaction.

: Causes serious eye irritation.



MATERIAL SAFETY DATA SHEET

Version Number:- 02

PRODUCT NAME: COBALT METAL

CAS Number: 7440-48-4

Fatal if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of causing genetic defects.
May cause cancer.
May damage fertility.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary statement**Prevention**

- : Obtain special instructions before use.
- Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety precautions have been read and understood.
- Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- Keep container tightly closed. Ground/ bond container and receiving equipment.
- Use explosion-proof electrical/ ventilating/ lighting/ equipment.
- Use only non-sparking tools. Take precautionary measures against static discharge.

Response

- : IF exposed or concerned: Get medical advice/ attention.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- IF SWALLOWED: Immediately call a poison center or doctor/physician.

Storage

- : Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Disposal

- : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification

- : Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Percent	Hazardous
Cobalt metal	7440-48-4	NLT 99.9%	Yes

4. FIRST AID MEASURES:**General information**

- : Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion

- : Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation

- : Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms persist.



MATERIAL SAFETY DATA SHEET

Version Number:- 02

PRODUCT NAME: COBALT METAL

CAS Number: 7440-48-4

Skin contact	:	Immediately flush with plenty of water for at least 15 minutes. Get medical attention.
Eye contact	:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Most important symptoms/effects, acute and delayed	:	The most important known symptoms and effects are described in the labelling.
Indication of immediate medical attention and special treatment needed	:	No data available.

5. FIRE FIGHTING MEASURES:

General information : No data available.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water Foam Carbon dioxide (CO2) Dry powder.

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards arising from the chemical : Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Vapor from the solvent may accumulate in container headspace resulting in flammability hazard. Heat may cause the containers to explode.

Special protective equipment and precautions for firefighters

Special firefighting procedures : Carbon oxides Sulphur oxides Hydrogen chloride gas Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

Special protective equipment for fire-fighters : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures : Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Methods and material for containment and cleaning up : Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.



MATERIAL SAFETY DATA SHEET

Version Number:- 02

PRODUCT NAME: COBALT METAL

CAS Number: 7440-48-4

7. HANDLING AND STORAGE:**Precautions for safe handling**

Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/ face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a dry, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks.

8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Appropriate engineering controls**

: No data available

Individual protection measures, such as personal protective equipment**General information**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection

: Wear safety glasses with side shields (or goggles).

Hand protection

: Chemical resistant gloves.

Other

: Wear suitable protective clothing.

Respiratory protection

: In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower. Avoid contact with eyes, skin, and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES:**Appearance**

: Silver-Grey metal.

Odor

: No data available.



MATERIAL SAFETY DATA SHEET

Version Number:- 02

PRODUCT NAME: COBALT METAL

CAS Number: 7440-48-4

Solubility	: No data available.
Formula	: Co
Molecular Weight	: 58.93 g/mol
Density	: 8.90 g/mL (25 °C) Method: lit.
pH	: No data available.
% Volatiles by volume @ 21C (70F)	: No data available.
Boiling Point	: 2.927 °C (1.013 hPa) (ECHA)
Melting Point	: 1.493 - 1.495 °C
Flash Point	: No data available.
Vapor Density (Air=1)	: No data available.
Vapor Pressure (mm Hg)	: No data available.
Evaporation Rate (BuAc=1)	: No data available.

10. STABILITY AND REACTIVITY:

The following applies in general to flammable organic substances and mixtures: in	
Reactivity	: correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.
Chemical stability	: Material is stable under ambient conditions.
Possibility of hazardous reactions	: Hazardous reactions : Risk of explosion with: ammonium compounds hydrogen peroxide halogen-halogen compounds Acetylene Strong oxidizing agents.
Conditions to avoid	: Air.
Incompatible materials	: No data available.
Hazardous decomposition products	: In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION:**Information on toxicological effects****Acute toxicity (list all possible routes of exposure)**

Inhalation Product	LD50 Oral - Rat - female - 550 mg/kg (OECD Test Guideline 425) Acute toxicity estimate Oral - 550 mg/kg : (ATE value derived from LD50/LC50 value) LC50 Inhalation - Rat - male and female - 4 h - <= 0.05 mg/l - dust/mist (OECD Test Guideline 436) Dermal: No data available
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MATERIAL SAFETY DATA SHEET

Version Number:- 02

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CAS Number: 7440-48-4

Repeated dose toxicity	: No data available.
Product	
Skin corrosion/irritation	Skin - reconstructed human epidermis (RhE)
Product	: Result: No skin irritation - 15 min (OECD Test Guideline 439)
Serious eye damage/eye	Eyes - Rabbit
irritation Product	: Result: irritating (OECD Test Guideline 405)
Respiratory or skin	: May cause allergic respiratory and skin reactions.
sensitization Product	
Carcinogenicity Product	: Presumed to have carcinogenic potential for humans.
IARC Monographs on the	
Evaluation of Carcinogenic	: No data available
Risks to Humans	
US. National Toxicology	
Program (NTP) Report on	: No data available
Carcinogens	
US. OSHA Specifically	
Regulated Substances (29	: No data available.
CFR 1910.1001-1050	
Germ cell mutagenicity	: Suspected of causing genetic defects.
In vitro Product	: No data available.
Reproductive toxicity	: May damage fertility.
Product	
Specific target organ	
toxicity - single exposure	: No data available.
Product	
Specific target organ	
toxicity - repeated	: May cause damage to organs through prolonged or repeated exposure.
exposure Product	
Aspiration hazard Product	: No data available.
Other effects	: None known.

12. ECOLOGICAL INFORMATION:

Ecotoxicity

Acute hazards to the aquatic environment

Fish Product	LC50 (Ceriodaphnia dubia (water flea)): 0.61 mg/l Exposure time: 48 h Test Type: static test : Analytical monitoring: yes Method: US-EPA Remarks: (ECHA) Based on transformation/dissolution testing and data from soluble metal
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compounds.

**Aquatic invertebrates
Product**

EC50 (Daphnia magna (Water flea)): 3,36 mg/l

End point: Immobilization

Exposure time: 48 h

: Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 202

GLP: yes

Chronic hazards to the aquatic environment**Fish Product**

: No data available.

**Aquatic invertebrates
Product**

: No data available.

**Toxicity to Aquatic Plants
Product:**

EC50 (Pseudokirchneriella subcapitata): 0.14 mg/l

End point: Growth inhibition

Exposure time: 72 h

Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 201

Remarks: (ECHA) Based on transformation/dissolution testing and data from soluble metal

: compounds NOEC (Pseudokirchneriella subcapitata): 0.032 mg/l

End point: Growth inhibition

Exposure time: 72 h

Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 201

Remarks: (ECHA) Based on transformation/dissolution testing and data from soluble metal compounds.

Persistence and degradability**Biodegradation Product**

: Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

BOD/COD ratio Product

: No data available.

Bioaccumulative potential

:

**Bioconcentration factor
(BCF) Product**

: No data available.

**Partition coefficient n-
octanol / water (log Kow)
Product**

: No data available.

Mobility in soil

: No data available.

Other adverse effects

: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.



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13. DISPOSAL CONSIDERATION:

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.

Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION:

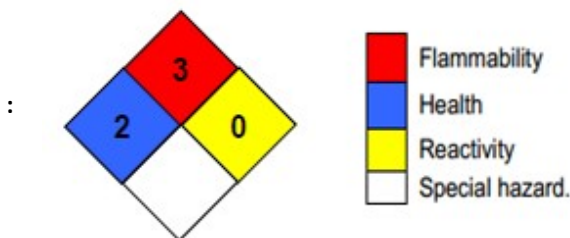
	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Environmental hazards
ADR/RID	UN 3288	Cobalt metal	6.1	I	Yes
IMDG	UN 3288	Cobalt metal	6.1	I	Yes
IATA	UN 3288	Cobalt metal	6.1	I	No

15. REGULATORY INFORMATION:

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

16. OTHER INFORMATION:

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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ADVENT CHEMBIO PRIVATE LIMITED

Pg. 9 of 9

MATERIAL SAFETY DATA SHEET

Version Number:- 02

PRODUCT NAME: COBALT METAL

CAS Number: 7440-48-4

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