

Safety Data Sheet

Regulation EC Nr. 1907/2006 Art.31

Product name: Solid Cobalt in various forms
Document Nr.: SDS00170CO5720

Date: November 12th 2018
Version: 1.0

Section 1: Identification of the substance or mixture and the company

1.1. Product Identifier

Name: Solid Cobalt (Co) in various manufactured forms.

EC #: 231-158-0

CAS #: 7440-48-4

1.2 Relevant applications of the material and uses advised against

Target material for vacuum deposition (sputtering and evaporation)

1.3. Company details

Vof Micro to Nano
Wateringweg 79
2031EK Haarlem
Netherlands
Tel: +31(0)85-2013155
E: info@microtonano.com

1.4 Emergency telephone number

+31(0)85-2013155 (office hours) Vof Micro to Nano, Netherlands

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Physical:	0
Health:	Respiratory irritation, category 1 Skin sensitisation, category 1
Flammability:	0
Environment:	Chronic aquatic hazard, category 4
Other hazards:	None

Classification according to Regulation EC Nr. 1272/2008

Xi: Irritant
Xn: Harmful



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Health:	R42: May cause sensitisation by inhalation R42: May cause sensitisation by skin contact
Physical:	None
Environment:	R5: May cause long-term adverse effects in the aquatic environment
Other hazards:	None

2.2 Labeling elements

Labelling accordance to Regulation EC. Nr 1272/2008

Hazard pictogram(s):



Signal word:

Danger

Hazard statements:

H317: May cause an allergic skin reaction
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H413: May cause long lasting harmful effects to aquatic life

Precautionary statement(s)

Prevention:

P261: Avoid breathing dust/fume/mist/vapours/spray
P273: Avoid release to the environment
P280: Wear eye protection, face protection, protective clothing, protective gloves
P304 +P340: If inhaled: Remove person to fresh air and keep comfortable breathing
P333+P313: If skin irritation or rash occurs: Get medical advice/attention
P342+P311: If experiencing respiratory problems: call a doctor, a poison center

2.3 Other hazards

Not applicable



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Section 3: Composition / information on components

3.1. Substances

Solid cobalt in various forms. EC #: 231-158-0 CAS #: 7440-48-4

3.2 Mixtures

Not applicable

Section 4: First aid measures

4.1. Description of first aid measures

Contact with eyes:	Rinse cautiously with water for several minutes. If possible, remove contact lenses. Continue rinsing.
Contact with skin:	Wash with water and soap. Seek medical attention if irritation persists.
Inhalation:	Fresh air, keep warm and at rest. Seek medical attention if ill effects occur
Ingestion:	If swallowed, do not induce vomiting Seek immediate medical advice

4.2. Important symptoms and effects, either immediate or delayed

Inhalation:	May cause: Cough. Sore throat. Shortness of breath. Asthma reaction
Ingestion:	May cause gastrointestinal irritation, nausea, vomiting and diarrhea
Skin contact:	May an allergic skin reaction, rash.
Eye contact:	May cause erythema (redness)

4.3. Indication of any immediate medical attention and special treatment

General advice:	If you feel unwell, seek medical advice; show product label if possible If symptoms persist, always call a doctor
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Section 5: Firefighting Measures

5.1. Extinguishing media

Dry agent, carbon dioxide. Do not use water.

5.2 Special hazards arising from the substance or mixture

Metal oxide fumes

5.3 Advice to firefighters

Wear self-contained breathing apparatus
Wear full protective suit.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment
Keep unprotected persons away
Ensure adequate ventilation

6.2 Environmental precautions

Do not allow to enter public sewers and waterways

6.3 Methods and material for containment and clean up

Pick up mechanically

6.4 Reference to other sections

For further information see section 7, 8 and 13.



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Section 7: Handling and storage

7.1. Precautions for safe handling

Avoid creating or accumulating dust or fine particles
Provide adequate ventilation
Avoid breathing dust or fumes

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed, in a cool, well ventilated place
Keep away from acids
Keep away from magnets
Keep out of reach of children

7.3 Specific end uses(s)

Not required

Section 8: Exposure control and personal protection

8.1. Control parameters

Occupational exposure limits (OEL)

Ingredient	Material Name	Source	TWA	STEL	Peak	Notes
Cobalt	Cobalt (Co)	EU	0.1 mg/m ³	0.3 mg/m ³	Not available	Not available

8.2 Exposure controls

Control procedures: Avoid creating or accumulating dust or fine particles
Keep sources of ignition away
Wash hands before breaks and at the end of the work
Maintain appropriate working environment

Personal protection: Protective work clothing

Inhalation: Use breathing protection with high concentrations



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Hands and skin: Suitable gloves
Eyes: Wear safety goggles or full-face protection

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance/physical state:	Solid in various forms
Colour:	Gray metallic
Odour:	None
pH	Not applicable
Melting point/range:	1494°C
Boiling point/range:	2927°C
Flash point:	Not determined
Evaporation rate:	Not available
Explosion limits: upper limit:	Not determined
lower limit:	Not determined
Vapour pressure:	Not applicable
Relative density:	8.86 g/cm ³ @ 20°C
Solubility in water:	2.94mg/l @ 20°C
Auto-ignition:	Not determined
Viscosity:	Not applicable

9.2 Other information

None

Section 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions known if used for its intended purposes

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions



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None known

10.4 Conditions to avoid

Avoid creating dust or accumulating dust or fine particles

10.5 Incompatible materials

Strong oxidizing substances. Acids

10.6 Hazardous decomposition products

Metal oxide fume

Section 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure:

Inhalation:	Not classified
Skin contact:	Not classified
Eye contact:	Powder – irritant effect
Sensitisation:	May cause an allergic reaction in sensitized individuals
Carcinogenicity:	Not classified

Toxicological data:

Ingredient	Toxicity	Irritation
Cobalt	Dermal (rat) LD: >2000mg/kg	Not classified
	Inhalation (rat) 4h/LC50: 50mg/l	Not classified
	Oral (rat) LD50: 550 mg/kg	Not classified



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Section 12: Ecological information

12.1. Aquatic toxicity

Environmental properties: May cause long lasting harmful effects to aquatic life.

Environmental data:

Ingredient	Toxicity
Cobalt	LC50 fish 1: >1.5 mg/l (Rainbow trout)
	NOEC chronic fish: 351.4 ug/l Freshwater

12.2 Persistence and degradability

No information available

12.3 Bio-accumulative potential

BCF fish 1; no bioaccumulation

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Hazardous decomposition products

No information available

Section 13: Disposal considerations

13.1. Waste treatment methods

Product: This material and its container must be disposed of in a safe way.



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Do not discharge into drains or the environment, dispose to an authorised waste collection point.

National regulations: Disposal should be in accordance with local, state or national legislation.

Section 14: Transport information

14.1. UN number

UN-number: N/A

14.2 UN proper shipping name

Proper shipping name: N/A

14.3 Transport hazard class(es)

Class: N/A

ADR/RID-Classification code: N/A

14.4 Packing group

Packing: N/A

14.5 Incompatible materials

ADR/RID- Environmentally hazardous: N/A

IMDG-Marine pollutant: N/A

IATA/ICAO-Environmentally hazardous: N/A

14.6 Special precautions for user

ADR/RID-Tunnel code: N/A

IMDG-Ems: N/A

IATA/ICAO-PAX: N/A

IATA/ICAO-CAO: N/A

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Not applicable



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Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

TSCA: All components are listed

15.2 Chemical safety assessment

No information available

Section 16: Other information

This product should be stored, handled and used in accordance with good industrial hygiene practices and in accordance with any legal regulation.

The information contained herewith is based on the present state of our knowledge and is intended to describe the product from the point of view of safety requirements. It does not guarantee any specific properties.

It is the responsibility of the user to query and verify any information seeming suspect or where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, state, federal and international regulations.



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