



# SAFETY DATA SHEET

**MATERION**

## 1. Product and company identification

Name of the chemical	Cobalt Product	
Other means of identification		
SDS number	44	
Recommended use of the chemical and restrictions on use		
Recommended use	Not available.	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/ Distributor information	Materion Advanced Materials Group	
Address	42 Mt. Ebo Road South Brewster NY 10509 United States	
Telephone	Supplier Phone	1+845.279.0900
E-mail	Not available.	
Contact person	Not available.	
Emergency telephone number	Chemtrec	1+703.527.3887

## 2. Hazards identification

Hazard classification		
Physical hazards	Flammable solids	Category 2
Health hazards	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 2
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 4

### Label elements

#### Symbols



#### Signal word

None.

#### Hazard statement

The Material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.

#### Precautionary statement

None.

#### Other hazards

None known.

#### Supplemental information

None.

## 3. Composition/information on ingredients

### Substance

Chemical name	CAS Number	Concentration (%)
Cobalt	7440-48-4	99.9 - 100

## 4. First aid measures

### First aid measures for different exposure routes

Inhalation	Not available.
Skin contact	Not available.

Eye contact	Not available.
Ingestion	Not available.
Most important symptoms and effects	Not available.
Personal protection for first-aid responders	Not available.
Notes to physician	Not available.

## 5. Fire-fighting measures

Extinguishing media	Not available.
Extinguishing media to avoid	None.
Specific hazards during fire fighting	None.
Special fire fighting procedures	None.
Protection of fire-fighters	None.

## 6. Accidental release measures

Personal precautions	Not available.
Environmental precautions	Not available.
Spill cleanup methods	Not available.

## 7. Handling and storage

Handling	Not available.
Storage	Not available.

## 8. Exposure controls/personal protection

### Exposure limits

Taiwan. OELs (Standards of Permissible Exposure Limits at Workplace, OSHA No. 10302007931), as amended

Material	Type	Value	Form
Cobalt Product	STEL	0.15 mg/m3	Dust and fume.
<b>Components</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>

Cobalt (CAS 7440-48-4)	STEL	0.15 mg/m3	Dust and fume.
------------------------	------	------------	----------------

Taiwan. OELs. (Standards of Permissible Exposure Limits at Workplace)

Material	Type	Value	Form
Cobalt Product	TWA	0.05 mg/m3	Dust and fume.
<b>Components</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>

Cobalt (CAS 7440-48-4)	TWA	0.05 mg/m3	Dust and fume.
------------------------	-----	------------	----------------

US. ACGIH Threshold Limit Values

Material	Type	Value
Cobalt Product	TWA	0.02 mg/m3
<b>Components</b>	<b>Type</b>	<b>Value</b>

Cobalt (CAS 7440-48-4)	TWA	0.02 mg/m3
------------------------	-----	------------

### Biological limit values

ACGIH Biological Exposure Indices

Material	Value	Determinant	Specimen	Sampling Time
Cobalt Product	15 µg/l	Cobalt	Urine	*
<b>Components</b>	<b>Value</b>	<b>Determinant</b>	<b>Specimen</b>	<b>Sampling Time</b>

Cobalt (CAS 7440-48-4)	15 µg/l	Cobalt	Urine	*
------------------------	---------	--------	-------	---

\* - For sampling details, please see the source document.

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

Eye/face protection Not available.

<b>Skin protection</b>	
<b>Hand protection</b>	Not available.
<b>Other</b>	Not available.
<b>Respiratory protection</b>	Not available.
<b>Thermal hazards</b>	Not available.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Not available.
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>Melting point/freezing point</b>	2723 °F (1495 °C)
<b>pH</b>	Not available.
<b>Boiling point, initial boiling point, and boiling range</b>	5300.6 °F (2927 °C)
<b>Flammability (solid, gas)</b>	Not available.
<b>Flash point</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	< 0.0000001 kPa at 25 °C
<b>Vapor density</b>	Not available.
<b>Density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Other data</b>	
<b>Molecular formula</b>	Co
<b>Molecular weight</b>	58.93 g/mol

## 10. Stability and reactivity

<b>Stability</b>	Not available.
<b>Possibility of hazardous reactions</b>	Not available.
<b>Conditions to avoid</b>	None.
<b>Incompatible materials</b>	None.
<b>Hazardous decomposition products</b>	None.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Not available.
<b>Skin contact</b>	Not available.

Eye contact	Not available.
Ingestion	Not available.
Symptoms	Not available.

#### Information on toxicological effects

Acute toxicity	Not available.
----------------	----------------

#### Respiratory or skin sensitization

##### ACGIH sensitization

HARD METALS CONTAINING COBALT AND TUNGSTEN CARBIDE, THORACIC FRACTION, AS CO (CAS 7440-48-4)      Respiratory sensitization

Respiratory sensitization	Not available.
---------------------------	----------------

Skin sensitization	Not available.
--------------------	----------------

Germ cell mutagenicity	Not available.
------------------------	----------------

#### Carcinogenicity

##### ACGIH Carcinogens

Cobalt (CAS 7440-48-4)      A2 Suspected human carcinogen.  
A3 Confirmed animal carcinogen with unknown relevance to humans.

##### IARC Monographs. Overall Evaluation of Carcinogenicity

Cobalt (CAS 7440-48-4)      2B Possibly carcinogenic to humans.

Reproductive toxicity	Not available.
-----------------------	----------------

Specific target organ toxicity - single exposure	Not available.
--	----------------

Specific target organ toxicity - repeated exposure	Not available.
--	----------------

Aspiration hazard	Not available.
-------------------	----------------

Chronic effects	Not available.
-----------------	----------------

## 12. Ecological information

Ecotoxicity	No ecotoxicity data noted for the ingredient(s).
-------------	--

Persistence and degradability	Not available.
-------------------------------	----------------

Bioaccumulation	Not available.
-----------------	----------------

Mobility in soil	Not available.
------------------	----------------

Other hazardous effects	Not available.
-------------------------	----------------

## 13. Disposal considerations

Disposal instructions	Not available.
-----------------------	----------------

Residual waste	Not available.
----------------	----------------

Contaminated packaging	Not available.
------------------------	----------------

Local disposal regulations	Not available.
----------------------------	----------------

## 14. Transport information

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.
--	----------------

## 15. Regulatory information

### Applicable regulations

**Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste**

Not listed.

**Standards on Workplace Atmosphere of Dangerous and Hazardous Materials**

Cobalt (CAS 7440-48-4)

Listed.

**GHS Classification List: GHS implementation phase 1, 2 and 3 (CLA No. 0980145063, 0990146707, and 1020146801)**

Cobalt (CAS 7440-48-4)

**International regulations**

**Stockholm Convention**

Not applicable.

**Rotterdam Convention**

Not applicable.

**Montreal Protocol**

Not applicable.

**Kyoto protocol**

Not applicable.

**Basel Convention**

Not applicable.

**16. Other information**

<b>References</b>	Not available.
<b>Issued by</b>	Not available.
<b>Prepared by</b>	Not available.
<b>Issue date</b>	02-11-2018
<b>Revision information</b>	Product and Company Identification: Product Review Composition / Information on Ingredients: Ingredients