



PRODUCT INFORMATION SHEET

MATERION

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name of the substance Cobalt Product
Identification number 027-001-00-9 (Index number)
Registration number -
Document number 44
Synonyms None.
Issue date 28-May-2015
Version number 04

1.3. Details of the supplier of the product information sheet

Supplier

Company name Materion Advanced Materials Group
Address 42 Mt. Ebo Road South
Brewster, NY 10509
United States

Division

Telephone 1+845.279.0900
e-mail Not available.
Contact person Not available.

1.4. Emergency telephone number Chemtrec 1+703.527.3887

Revision date 21-February-2019

Supersedes date 14-February-2019

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Not available.

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Materion Advanced Materials Group
Address 42 Mt. Ebo Road South
Brewster, NY 10509
United States

Division

Telephone 1+845.279.0900
e-mail Not available.
Contact person Not available.

1.4. Emergency telephone number Chemtrec 1+703.527.3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Respiratory sensitisation Category 1

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitisation Category 1

H317 - May cause an allergic skin reaction.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard Category 4

H413 - May cause long lasting harmful effects to aquatic life.

Hazard summary Not available.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Cobalt

Hazard pictograms



Signal word Danger

Hazard statements

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.

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 statements

Prevention

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves.
P285 In case of inadequate ventilation wear respiratory protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.
P363 Wash contaminated clothing before reuse.

Storage

Not available.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information

None.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Cobalt	99,9 - 100	7440-48-4 231-158-0	01-2119517392-44-0000	027-001-00-9	
Classification:	Skin Sens. 1;H317, Resp. Sens. 1;H334, Carc. 2;H351				

SECTION 4: First aid measures

General information Not available.

4.1. Description of first aid measures

Inhalation Not available.

Skin contact Not available.

Eye contact Not available.

Ingestion Not available.

4.2. Most important symptoms and effects, both acute and delayed Not available.

4.3. Indication of any immediate medical attention and special treatment needed Not available.

SECTION 5: Firefighting measures

General fire hazards Not available.

5.1. Extinguishing media

Suitable extinguishing media Not available.

Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Not available.

For emergency responders Not available.

6.2. Environmental precautions Not available.

6.3. Methods and material for containment and cleaning up Not available.

6.4. Reference to other sections Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Not available.

7.2. Conditions for safe storage, including any incompatibilities Not available.

7.3. Specific end use(s) Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. TRK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Material	Type	Value	Form
Cobalt Product	STEL	0,4 mg/m ³	Inhalable fraction.
	TWA	0,1 mg/m ³	Inhalable fraction.

Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	STEL	0,4 mg/m ³	Inhalable fraction.
	TWA	0,1 mg/m ³	Inhalable fraction.

Belgium. Exposure Limit Values.

Material	Type	Value	Form
Cobalt Product	TWA	0,02 mg/m ³	Dust and fume.
	Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m ³	Dust and fume.

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Material	Type	Value
Cobalt Product	TWA	0,1 mg/m ³
	Components	Type
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m ³

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Material	Type	Value
Cobalt Product	MAC	0,1 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	MAC	0,1 mg/m ³

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Material	Type	Value	Form
Cobalt Product	TWA	0,1 mg/m ³	Dust and fume.
Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m ³	Dust and fume.

Czech Republic. OELs. Government Decree 361

Material	Type	Value
Cobalt Product	Ceiling	0,1 mg/m ³
	TWA	0,05 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	Ceiling	0,1 mg/m ³
	TWA	0,05 mg/m ³

Denmark. Exposure Limit Values

Material	Type	Value	Form
Cobalt Product	TLV	0,01 mg/m ³	Dust and fume.
Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TLV	0,01 mg/m ³	Dust and fume.

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Material	Type	Value
Cobalt Product	TWA	0,05 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,05 mg/m ³

Finland. Workplace Exposure Limits

Material	Type	Value
Cobalt Product	TWA	0,02 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m ³

Greece. OELs (Decree No. 90/1999, as amended)

Material	Type	Value	Form
Cobalt Product	TWA	0,1 mg/m ³	Dust and fume.
Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m ³	Dust and fume.

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value
Cobalt Product	STEL	0,4 mg/m ³
	TWA	0,1 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	STEL	0,4 mg/m ³
	TWA	0,1 mg/m ³

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Material	Type	Value	Form
Cobalt Product	TWA	0,02 mg/m ³	Dust and fume.
Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m ³	Dust and fume.

Ireland. Occupational Exposure Limits

Material	Type	Value
Cobalt Product	TWA	0,1 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m ³

Italy. Occupational Exposure Limits

Material	Type	Value
Cobalt Product	TWA	0,02 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m ³

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Material	Type	Value
Cobalt Product	TWA	0,5 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,5 mg/m ³

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Material	Type	Value
Cobalt Product	TWA	0,05 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,05 mg/m ³

Netherlands. OELs (binding)

Material	Type	Value	Form
Cobalt Product	TWA	0,02 mg/m ³	Dust and fume.
Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m ³	Dust and fume.

Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value	Form
Cobalt Product	TLV	0,02 mg/m ³	Fume.
Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TLV	0,02 mg/m ³	Fume.

Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

Material	Type	Value
Cobalt Product	TWA	0,02 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m ³

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Material	Type	Value
Cobalt Product	TWA	0,02 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m ³

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Material	Type	Value
Cobalt Product	STEL	0,1 mg/m ³
	TWA	0,05 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	STEL	0,1 mg/m ³
	TWA	0,05 mg/m ³

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Material	Type	Value
Cobalt Product	TWA	0,05 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,05 mg/m ³

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Material	Type	Value	Form
Cobalt Product	TWA	0,1 mg/m ³	Inhalable fraction.
Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m ³	Inhalable fraction.

Spain. Occupational Exposure Limits

Material	Type	Value
Cobalt Product	TWA	0,02 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m ³

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

Material	Type	Value	Form
Cobalt Product	TWA	0,02 mg/m ³	Inhalable dust.
Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,02 mg/m ³	Inhalable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Material	Type	Value	Form
Cobalt Product	TWA	0,05 mg/m ³	Inhalable fraction.
Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	TWA	0,05 mg/m ³	Inhalable fraction.

UK. EH40 Workplace Exposure Limits (WELs)

Material	Type	Value
Cobalt Product	TWA	0,1 mg/m ³
Components	Type	Value
Cobalt (CAS 7440-48-4)	TWA	0,1 mg/m ³

Biological limit values**Finland. HTP-arvot, App 2., Biological Limit Values, (BRA/BGV) , Social Affairs and Ministry of Health**

Material	Value	Determinant	Specimen	Sampling Time
Cobalt Product	130 nmol/l	Cobalt	Urine	*
Components	Value	Determinant	Specimen	Sampling Time
Cobalt (CAS 7440-48-4)	130 nmol/l	Cobalt	Urine	*

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

France. Biological indicators of exposure (IBE) (National Institute for Research and Security (INRS, ND 2065)

Material	Value	Determinant	Specimen	Sampling Time
Cobalt Product	15 µg/l	Cobalt	Urine	*
	1 µg/l	Cobalt	Blood	*

France. Biological indicators of exposure (IBE) (National Institute for Research and Security (INRS, ND 2065))

Components	Value	Determinant	Specimen	Sampling Time
Cobalt (CAS 7440-48-4)	15 µg/l	Cobalt	Urine	*
	1 µg/l	Cobalt	Blood	*

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

Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices

Material	Value	Determinant	Specimen	Sampling Time
Cobalt Product	0,03 mg/g	Cobalt	Creatinine in urine	*
	0,058 µmol/mmol	Cobalt	Creatinine in urine	*
Components	Value	Determinant	Specimen	Sampling Time
Cobalt (CAS 7440-48-4)	0,03 mg/g	Cobalt	Creatinine in urine	*
	0,058 µmol/mmol	Cobalt	Creatinine in urine	*

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

Slovakia. BLVs (Biological Limit Value). Regulation no. 355/2006 concerning protection of workers exposed to chemical agents, Annex 2

Material	Value	Determinant	Specimen	Sampling Time
Cobalt Product	20,03 µg/g	Cobalt	Creatinine in urine	*
	30 µg/l	Cobalt	Urine	*
Components	Value	Determinant	Specimen	Sampling Time
Cobalt (CAS 7440-48-4)	20,03 µg/g	Cobalt	Creatinine in urine	*
	30 µg/l	Cobalt	Urine	*

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

Spain. Biological Limit Values (VLBs), Occupational Exposure Limits for Chemical Agents, Table 4

Material	Value	Determinant	Specimen	Sampling Time
Cobalt Product	15 µg/l	Cobalto	Urine	*
	1 µg/l	Cobalto	Blood	*
Components	Value	Determinant	Specimen	Sampling Time
Cobalt (CAS 7440-48-4)	15 µg/l	Cobalto	Urine	*
	1 µg/l	Cobalto	Blood	*

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

Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)

Material	Value	Determinant	Specimen	Sampling Time
Cobalt Product	30 µg/l	Cobalt	Urine	*
Components	Value	Determinant	Specimen	Sampling Time
Cobalt (CAS 7440-48-4)	30 µg/l	Cobalt	Urine	*

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

Recommended monitoring procedures Not available.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

General information Not available.

Eye/face protection	Not available.
Skin protection	
- Hand protection	Not available.
- Other	Not available.
Respiratory protection	Not available.
Thermal hazards	Not available.
Hygiene measures	Not available.
Environmental exposure controls	Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Solid.
Form	Not available.
Colour	Not available.
Odour	Not available.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	1495 °C (2723 °F)
Initial boiling point and boiling range	2927 °C (5300,6 °F)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	< 0,0000001 kPa (25 °C (77 °F))
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information

Molecular formula	Co
Molecular weight	58,93 g/mol

SECTION 10: Stability and reactivity

10.1. Reactivity	Not available.
10.2. Chemical stability	Not available.
10.3. Possibility of hazardous reactions	Not available.
10.4. Conditions to avoid	Not available.
10.5. Incompatible materials	Not available.
10.6. Hazardous decomposition products	Not available.

SECTION 11: Toxicological information

General information Not available.

Information on likely routes of exposure

Inhalation Not available.

Skin contact Not available.

Eye contact Not available.

Ingestion Not available.

Symptoms Not available.

11.1. Information on toxicological effects

Acute toxicity No data available.

Skin corrosion/irritation Not available.

Serious eye damage/eye irritation Not available.

Respiratory sensitisation Not available.

Skin sensitisation Not available.

Germ cell mutagenicity Not available.

Carcinogenicity

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

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.

Mixture versus substance information Not available.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity No toxicity data noted for the ingredient(s).

12.2. Persistence and degradability Not available.

12.3. Bioaccumulative potential Not available.

Partition coefficient n-octanol/water (log Kow) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Not available.

12.7. Additional information

Estonia Dangerous substances in groundwater Data

Cobalt (CAS 7440-48-4)

Cobalt (Co) 300 ug/l

Cobalt (Co) 5 ug/l

Estonia Dangerous substances in soil Data

Cobalt (CAS 7440-48-4)

Cobalt (Co) 20 mg/kg

Cobalt (Co) 300 mg/kg

Cobalt (Co) 50 mg/kg

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Not available.

Contaminated packaging Not available.

EU waste code Not available.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References Not available.

Information on evaluation method leading to the classification of mixture	Not available.
Revision information	None.
Training information	Not available.