



PRODUCT INFORMATION SHEET

MATERION

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

1.1. Product identifier

Trade name or designation of the mixture Cobalt Iron Boron Targets
Registration number -
Document number G76
Synonyms None.
Issue date 27-September-2021
Version number 01

1.3. Details of the supplier of the product information sheet

Supplier

Company name Materion Advanced Materials
Address 6070 Parkland Boulevard
Mayfield Heights, OH 44124
United States
Division
Telephone 1.216.383.4019
e-mail ehs@materion.com
Contact person Theodore Knudson

1.4. Emergency telephone number See Section 16.

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

Identified uses Manufacture of computer, electronic and optical products, electrical equipment
Scientific research and development
Other: Manufacture of medical and defense equipment
Uses advised against Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Consumer uses: Private households (= general public = consumers)

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Materion Advanced Materials
Address 6070 Parkland Boulevard
Mayfield Heights, OH 44124
United States
Division
Telephone 1.216.383.4019
e-mail ehs@materion.com
Contact person Theodore Knudson

1.4. Emergency telephone number See Section 16.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

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

Health hazards

Acute toxicity, oral	Category 4	H302 - Harmful if swallowed.
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.
Carcinogenicity	Category 1B	H350 - May cause cancer.

Hazard summary

Harmful if swallowed. Causes damage to organs through prolonged or repeated exposure. May cause cancer. May cause irritation to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Prolonged exposure may cause chronic effects. Occupational exposure to the substance or mixture may cause adverse health effects.

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

Contains: Cobalt

Hazard pictograms**Signal word**

Danger

Hazard statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer.
H372	Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.

Precautionary statements**Prevention**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

Response

P301 + P312	IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
P330	Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTRE/doctor.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal

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

For further information, please contact the Product Stewardship Department at +1.216.383.4019.

2.3. Other hazards

Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Cobalt	45 - 55	7440-48-4 231-158-0	01-2119517392-44-0000	027-001-00-9	
Classification: Acute Tox. 4;H302, Skin Sens. 1;H317, Resp. Sens. 1;H334, Carc. 1B;H350, Repr. 2;H361					

SECTION 4: First aid measures

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a poison center or doctor/physician.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

May cause respiratory irritation. May cause an allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards

No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media

Powder. Dry sand.

Unsuitable extinguishing media

Water.

5.2. Special hazards arising from the substance or mixture

This product is not flammable.

5.3. Advice for firefighters

Special protective equipment for firefighters

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

Special firefighting procedures

Use water spray to cool unopened containers.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Keep unnecessary personnel away. For personal protection, see section 8 of the PIS.

For emergency responders

Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the PIS.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the PIS.

6.4. Reference to other sections

Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store away from incompatible materials (see Section 10 of the PIS).

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

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

Biological limit values

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

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.

Recommended monitoring procedures

Follow standard monitoring procedures.

Derived no effect levels (DNELs)

Not available.

Predicted no effect concentrations (PNECs)

Not available.

8.2. Exposure controls

Appropriate engineering controls

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.

Individual protection measures, such as personal protective equipment

General information

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.

Skin protection

- Hand protection

Wear gloves to prevent metal cuts and skin abrasions during handling.

- Other

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

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.

Environmental exposure controls

Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Solid.

Form Solid.

Colour Grey.

Odour None.

Odour threshold Not applicable.

pH Not applicable.

Melting point/freezing point 1495 °C (2723 °F) estimated / Not applicable.

Initial boiling point and boiling range Not applicable.

Flash point Not applicable.

Evaporation rate Not applicable.

Flammability (solid, gas) None known.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not applicable.

Flammability limit - lower (%) temperature Not applicable.

Flammability limit - upper (%) Not applicable.

Flammability limit - upper (%) temperature Not applicable.

Explosive limit - lower (%) Not applicable.

Explosive limit - lower (%) temperature Not applicable.

Explosive limit – upper (%) Not applicable.

Explosive limit - upper (%) temperature Not applicable.

Vapour pressure Not applicable.

Vapour density Not applicable.

Relative density Not applicable.

Solubility(ies)

Solubility (water) Insoluble.

Partition coefficient (n-octanol/water) Not applicable.

Auto-ignition temperature Not applicable.

Decomposition temperature Not applicable.

Viscosity Not applicable.

Explosive properties None known.

Oxidising properties Not oxidising.

9.2. Other information

Density 2,36 g/cm³ estimated

SECTION 10: Stability and reactivity

10.1. Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability Material is stable under normal conditions.

10.3. Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid Contact with incompatible materials.

10.5. Incompatible materials Strong oxidising agents.

10.6. Hazardous decomposition products No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	May cause an allergic skin reaction.
Eye contact	Not likely, due to the form of the product.
Ingestion	Harmful if swallowed.

Symptoms May cause respiratory irritation. May cause an allergic skin reaction.

11.1. Information on toxicological effects

Acute toxicity	Harmful if swallowed.
Skin corrosion/irritation	May be irritating to the skin.
Serious eye damage/eye irritation	Not likely, due to the form of the product.
Respiratory sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified.
Carcinogenicity	May cause cancer.

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 classified.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure by inhalation.
Aspiration hazard	Not an aspiration hazard.
Mixture versus substance information	No information available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity	The product is not classified as environmentally hazardous.
12.2. Persistence and degradability	No data is available on the degradability of this substance.
12.3. Bioaccumulative potential	No data available.
Partition coefficient n-octanol/water (log Kow)	Not available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	No data available.
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
12.6. Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN3178
14.2. UN proper shipping name	FLAMMABLE SOLID, INORGANIC, N.O.S.
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
Hazard No. (ADR)	40
Tunnel restriction code	E
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN3178
14.2. UN proper shipping name	FLAMMABLE SOLID, INORGANIC, N.O.S.
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN3178
14.2. UN proper shipping name	FLAMMABLE SOLID, INORGANIC, N.O.S.
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN3178
14.2. UN proper shipping name	Flammable solid, inorganic, n.o.s.
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	No.
ERG Code	3L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

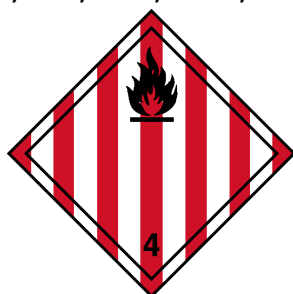
Other information

Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

14.1. UN number	UN3178
14.2. UN proper shipping name	FLAMMABLE SOLID, INORGANIC, N.O.S.
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-G
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN; ADR; IATA; IMDG; RID



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 (EU) 2019/1021 On persistent organic pollutants (recast), 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 The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Training information Follow training instructions when handling this material.

Further information Transportation Emergency
Call Chemtrec at:
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059

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