



SAFETY DATA SHEET

MATERION

1. Identification

Product identifier Cobalt Product

Other means of identification
SDS number 44

Manufacturer/Importer/Supplier/Distributor information
Manufacturer

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

Telephone 1+845.279.0900
Website materion.com
E-mail Not available.

Emergency phone number Chemtrec 1+703.527.3887

2. Hazard(s) identification

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

OSHA defined hazards Not classified.

Label elements



Signal word None.

Hazard statement Not available.

Precautionary statement

Prevention Not available.
Response Not available.
Storage Not available.
Disposal Not available.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Cobalt		7440-48-4	99.9 - 100

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Not available.

5. Fire-fighting measures

Suitable extinguishing media	Powder. Dry sand.
Unsuitable extinguishing media	Not available.
Specific hazards arising from the chemical	Not applicable.
Special protective equipment and precautions for firefighters	Not available.
Fire fighting equipment/instructions	Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away.
Methods and materials for containment and cleaning up	The product is immiscible with water and will spread on the water surface. Dike far ahead of spill for later disposal. Following product recovery, flush area with water.
Environmental precautions	Not available.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value	Form
Cobalt Product	PEL	0.1 mg/m3	Dust and fume.
Components	Type	Value	Form

Cobalt (CAS 7440-48-4)	PEL	0.1 mg/m3	Dust and fume.
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US. ACGIH Threshold Limit Values

Material	Type	Value
Cobalt Product	TWA	0.02 mg/m3
Components	Type	Value

Cobalt (CAS 7440-48-4)	TWA	0.02 mg/m3
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US. NIOSH: Pocket Guide to Chemical Hazards

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

Cobalt (CAS 7440-48-4)	TWA	0.05 mg/m3	Dust and fume.
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US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Material	Type	Value	Form
Cobalt Product	PEL	0.02 mg/m3	Dust and fume.
Components	Type	Value	Form
Cobalt (CAS 7440-48-4)	PEL	0.02 mg/m3	Dust and fume.

Biological limit values

ACGIH Biological Exposure Indices

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

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

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

Eye/face protection Not normally needed.

Skin protection

Hand protection Not normally needed.

Other Wear suitable protective clothing.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards Not available.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form Solid.

Color Not available.

Odor Not available.

Odor threshold Not available.

pH Not available.

Melting point/freezing point 2723 °F (1495 °C)

Initial boiling point and boiling range 5300.6 °F (2927 °C)

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.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure	< 0.0000001 kPa (77 °F (25 °C))
Vapor 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.
Other information	
Molecular formula	Co
Molecular weight	58.93 g/mol

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Not available.
Skin contact	Not available.
Eye contact	Not available.
Ingestion	Not available.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Not available.
Serious eye damage/eye irritation	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

IARC Monographs. Overall Evaluation of Carcinogenicity

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

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Cobalt (CAS 7440-48-4)

Reasonably Anticipated to be a Human Carcinogen.

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	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	No ecotoxicity data noted for the ingredient(s).
Persistence and degradability	Not available.
Bioaccumulative potential	Not available.
Mobility in soil	Not available.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	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.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Cobalt (CAS 7440-48-4)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No (Exempt)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Cobalt	7440-48-4	99.9 - 100

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Cobalt (CAS 7440-48-4)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Cobalt (CAS 7440-48-4)

Listed: July 1, 1992

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Cobalt (CAS 7440-48-4)

16. Other information, including date of preparation or last revision

Issue date 08-04-2015

Revision date 02-21-2019

Version # 04

Disclaimer Materion Advanced Materials Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.