

Safety Data Sheet

according to Regulation (EC) No 1907/2006

JK7112 (WC-Co 88/12)

Revision: 09.07.2025

Product code: DWS-041

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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UFI: KDV2-209C-700M-F59E

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

thermal spray coating. For industrial purposes only.

Uses advised against

The product is only to be used for the intended application.

1.3. Details of the supplier of the safety data sheet

Company name: Deloro Wear Solutions GmbH
Street: Zur Bergpflege 51 - 53
Place: D-56070 Koblenz
Telephone: +49 (261) 80880
E-mail: wearsolutions@deloro.com
E-mail (Contact person): materials@deloro.com
Internet: <http://www.deloro.com>

1.4. Emergency telephone number:

Poison Control Center (Mayence, GER): +49 (0)6131 - 19240 (24h) This safety data sheet is an English translation of the EU safety data sheet and is not suitable for the distribution in a specific country.

Further Information

according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Carc. 1B; H350
Muta. 2; H341
Repr. 1B; H360F
Eye Irrit. 2; H319
Resp. Sens. 1; H334
Skin Sens. 1; H317

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008****Hazard components for labelling**

cobalt

Signal word: Danger**Pictograms:****Hazard statements**

H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 Suspected of causing genetic defects.

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H350 May cause cancer.
H360F May damage fertility.

Precautionary statements

P201 Obtain special instructions before use.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing and eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P501 Dispose of contents/container to an appropriate recycling or disposal facility.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.
This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

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

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7440-48-4	cobalt			12 - < 15 %
	231-158-0	027-001-00-9		
	Carc. 1B, Muta. 2, Repr. 1B, Acute Tox. 4, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, Aquatic Chronic 4; H350 H341 H360F H302 H319 H334 H317 H413			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7440-48-4	231-158-0	cobalt	12 - < 15 %
	oral: LD50 = 550 mg/kg		

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

In case of persistent symptoms, consult a doctor/physician. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Avoid dust generation. First aider: Pay attention to self-protection!

After inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. Where appropriate artificial ventilation. Seek medical help.

After contact with skin

Rinse skin with water. Change contaminated clothing. Wash contaminated clothing before reuse. Consult a doctor if symptoms persist.

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After contact with eyes

In case of contact with eyes, rinse immediately (and under protection of the uninjured eye) with plenty of flowing water for 10 minutes, holding eyelids wide apart. Remove contact lenses. Consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Seek medical advice. Do NOT induce vomiting. Call a physician immediately. Never give anything by mouth to an unconscious person or a person with cramps.

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

May cause an allergic skin reaction. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing genetic defects. May cause cancer. May damage fertility.

Following eye contact: Redness, pain

Following inhalation: Irritation to respiratory tract. Coughing. Breathing difficulty. Asthmatic complaints.

Suspected of damaging fertility.

After skin contact: irritation, redness. Suspected of damaging fertility.

after ingestion: Suspected of damaging fertility.

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

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Use approved Class D extinguisher or smother with dry sand or dry ground limestone.

Unsuitable extinguishing media

Do not use water. Do not use dry chemical, CO₂ or halon.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to the escape of irritating gases and vapours.

In case of fire may be liberated: Carbon oxides, Metal oxides.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Wear personal protection equipment. Do not inhale explosion and combustion gases.

Additional information

Contaminated fire-fighting water must be collected separately. Dispose of waste according to applicable legislation.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Avoid dust generation. Avoid breathing dust/mist. Provide adequate ventilation. Avoid contact with skin and eyes. Wear personal protection equipment. Use appropriate respiratory protection.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up**For containment**

Avoid generation of dust.

For cleaning up

Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

Personal protection equipment: see section 8

Handling and storage: see section 7

For waste disposal see section 13.

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SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

When using do not eat, drink or smoke. Use personal protection equipment. Avoid contact with eyes and skin. Take off contaminated clothing and wash it before reuse. Do not breathe dust. Persons with a history of skin sensitisation problems should not be employed in any process in which this product is used. Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.

Advice on protection against fire and explosion

Contaminated fire-fighting water must be collected separately.

Advice on general occupational hygiene

Wash hands before breaks and after work. Do not eat, drink, smoke or sneeze at the workplace. Keep away from food, drink and animal feedingstuffs.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep only in the original container in a cool, well-ventilated place. Keep container tightly closed.

Hints on joint storage

Store separately from foodstuff.

Further information on storage conditions

Avoid high temperatures or direct sunlight.

7.3. Specific end use(s)

thermal spray coating. For industrial purposes only.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
7440-48-4	Cobalt	-	0.02		TWA (8 h)	

Biological limit values

CAS No	Substance	Parameter	Value	Test material	Sampling time
7440-48-4	Cobalt	Cobalt	1 µg/L	Blood	End of shift at end of workweek

Additional advice on limit values

No exposure limit values are currently available.

8.2. Exposure controls**Appropriate engineering controls**

Ensure adequate ventilation. In case of application in interior spaces proper ventilation/exhaustion must be provided.

Individual protection measures, such as personal protective equipment

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Eye/face protection

Tightly fitting safety glasses with side shields.

Hand protection

Tested protective gloves are to be worn: For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The glove material has to be impermeable and resistant to the product / the substance / the mixture. When selecting the glove material, observe breakthrough times, permeation rates and degradation.

Suitable material: NBR (Nitrile rubber). NR (Natural rubber (Caoutchouc), Natural latex).

Coating thickness: 0,5 mm

penetration time (maximum wearing period): 480 min

Skin protection

Full cover clothing covering arms and legs.

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Use suitable breathing apparatus.

Filtering Half-face mask (EN 149). particulates filter device (DIN EN 143).

Environmental exposure controls

Do not allow to enter into soil/subsoil. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	solid (Powder)
Colour:	grey
Odour:	odourless
Melting point/freezing point:	no data available
Boiling point or initial boiling point and boiling range:	no data available
Flammability:	no data available
Lower explosion limits:	no data available
Upper explosion limits:	no data available
Flash point:	no data available
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH-Value:	no data available
Viscosity / kinematic:	no data available
Water solubility:	insoluble
Dissolution rate:	no data available
Partition coefficient n-octanol/water:	no data available
Dispersion stability:	no data available
Vapour pressure:	no data available
Density:	no data available
Relative density:	no data available
Bulk density:	no data available
Relative vapour density:	no data available
Particle characteristics:	no data available

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

no data available

Self-ignition temperature

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Solid:

no data available

Gas:

no data available

Oxidizing properties

no data available

Other safety characteristics

Sublimation point:

no data available

Softening point:

no data available

Pour point:

no data available

Viscosity / dynamic:

no data available

Further Information

no data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

No dangerous reactivity under regular conditions.

10.2. Chemical stability

The product is stable when stored and handled appropriately.

10.3. Possibility of hazardous reactionsNo dangerous reactions to be expected if used properly.
explosive dust-air mixtures may form.**10.4. Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

Ozone and nitric oxide are formed by plasma flame. Metal oxides.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity**

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7440-48-4	cobalt				
	oral	LD50 mg/kg	550	supplier statement	

Irritation and corrosivity

Serious eye damage/eye irritation: Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (cobalt)

May cause an allergic skin reaction. (cobalt)

Carcinogenic/mutagenic/toxic effects for reproduction

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May cause cancer. (cobalt)
 Suspected of causing genetic defects. (cobalt)
 May damage fertility. (cobalt)

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

SECTION 12: Ecological information**12.1. Toxicity**

Based on available data, the classification criteria are not met.

12.2. Persistence and degradability

No further data available.

12.3. Bioaccumulative potential

No further data available.

12.4. Mobility in soil

No further data available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process. Dispose of waste according to applicable legislation.

Contaminated packaging

Dispose of waste according to applicable legislation.

SECTION 14: Transport information**Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

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14.4. Packing group:

No dangerous good in sense of this transport regulation.

Marine transport (IMDG)**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No special precautions known.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 28, Entry 75

Information according to Directive

Not subject to 2012/18/EU (SEVESO III)

2012/18/EU (SEVESO III):

Additional information

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer: not applicable

Regulation (EC) No. 648/2004 [Detergents regulation]: not applicable

Regulation (EC) No 2019/1021 on persistent organic pollutants: not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council concerning the export and import of dangerous chemicals: This mix contains no chemicals that are subject to the export notification procedures (annex 1).

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none

This mixture contains the following substances of very high concern (SVHC) which are subject to authorisation according to Annex XIV of REACH: none

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D):

3 - highly hazardous to water

Additional information

Observe in addition any national regulations!

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

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Changes

Version 1,00 - 09.07.2025 - first creation

Abbreviations and acronyms

Acute Tox. 4: Acute toxicity, hazard category 4
Eye Irrit. 2: Eye irritation, hazard category 2
Resp. Sens. 1: Respiratory sensitisation, hazard category 1
Skin Sens. 1: Skin sensitisation, hazard category 1
Muta. 2: Germ cell mutagenicity, hazard category 2
Carc. 1B: Carcinogenicity, hazard category 1B
Repr. 1B: Reproductive toxicity, hazard category 1B
Aquatic Chronic 4: Hazardous to the aquatic environment, long-term hazard category: Chronic 4
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BImSchV (Fed.Imm.Prot.Act): Directive on the Implementation of the Federal Immission Protection Act
CAS: Chemical Abstracts Service
DIN: Norm of the Deutsche Institut für Normung (German Institute for Standardization)
EC: Effective Concentration
EG: European Community (Europäische Gemeinschaft)
EN: European Norm
IATA: International Air Transport Association
IBC Code: International Code for the Construction and Equipment of ships carrying Dangerous Chemicals in Bulk
ICAO: International Civil Aviation Organization
IMDG: International Maritime Code for Dangerous Goods
ISO: Norm of the International Standards Organization
CLP: Classification, Labeling, Packaging
IUCLID: International Uniform Chemical Information Database
LC: Lethal concentration
LD: Lethal dose
log Kow: Octanol/water partition coefficient
MARPOL: Maritime Pollution Convention = Convention for the Prevention of Maritime Pollution from Ships
OECD: Organisation for Economic Co-operation and Development
PBT: Persistent, bio-cumulative, toxic
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail
TRGS: Technische Regeln für Gefahrstoffe
UN: United Nations
VOC: Volatile Organic Compounds
vPvB: very persistent and very bio-cumulative
VwVwS: Administrative Regulation for Water Pollutants
WGK: German Water Hazard Class
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
TLV: Threshold Limiting Value
STOT: Specific Target Organ Toxicity
AwSV: Ordinance on Installations for Handling Substances Hazardous to Water

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Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Carc. 1B; H350	Calculation method
Muta. 2; H341	Calculation method
Repr. 1B; H360F	Calculation method
Eye Irrit. 2; H319	Calculation method
Resp. Sens. 1; H334	Calculation method
Skin Sens. 1; H317	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360F	May damage fertility.
H413	May cause long lasting harmful effects to aquatic life.

Further Information

The information given in this safety data sheet is to describe the product's safety regulations. It is not for guaranteeing certain characteristics and is based on today's knowledge. The safety data sheet was generated upon information of pre-suppliers by:

asseso AG, Ottostraße 1, 63741, Aschaffenburg, Germany

Phone: +49 (0)6021 - 1 50 86-0, Fax: +49 (0)6021 - 1 50 86-77, E-Mail: eu-sds@asseso.eu, www.asseso.eu

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)