

Safety data sheet

according to UK REACH

Printing date 04.12.2025

Version number 3

Revision: 04.12.2025

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

1.1 Product identifier

Trade name **System Sin**

Article number: 2005000-P5

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

No further relevant information available.

Application of the substance / the mixture For the additive manufacturing of dental frameworks

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Adentatec GmbH

Dr.-Konrad-Wiegand-Str.9

63939 Wörth am Main, Germany

Tel.: +49 (0) 9372 9404 200

www.adentatec.com

Information: Product Management Tel.: +49 9372 9404 200 or by mail: info@adentatec.com

1.4 Emergency telephone number:

Tel.: +49 (0) 9372 9404 200, Monday to Friday 8.00 a.m. to 5.00 p.m., in German and English, also contact local poison centres

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The following classification is not applicable to the alloy but only for the fumes, smokes and dusts formed during the processing and machining.

Acute Tox. 4 H302 Harmful if swallowed.

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.

Repr. 1B H360F May damage fertility.

Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS07

GHS08

Signal word Danger

Hazard-determining components of labelling:

cobalt

Hazard statements

H302 Harmful if swallowed.

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

H317 May cause an allergic skin reaction.

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- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H360F May damage fertility.
- H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P284 [In case of inadequate ventilation] wear respiratory protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/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.
- P321 Specific treatment (see on this label).
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Information pertaining to particular dangers for man and environment

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Dangerous components:

CAS: 7440-48-4	cobalt	50-100%
EINECS: 231-158-0	Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350; Repr. 1B, H360F; Skin	
Index number: 027-001-00-9	Sens. 1, H317; Aquatic Chronic 4, H413	
CAS: 7440-47-3	chromium	25-<50%
EINECS: 231-157-5	substance with a Community workplace exposure limit	
CAS: 7440-33-7	tungsten	2.5-<10%
EINECS: 231-143-9	substance with a Community workplace exposure limit	
CAS: 7440-21-3	silicon	<2.5%
EINECS: 231-130-8	Flam. Sol. 2, H228	

Additional information

For the wording of the listed hazard phrases refer to section 16.
No further relevant information available.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Instantly remove any clothing soiled by the product.

After inhalation :

Supply fresh air and call for doctor for safety reasons.

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- In case of unconsciousness bring patient into stable side position for transport.
- . **After skin contact :**
Instantly rinse with water.
If skin irritation continues, consult a doctor.
- . **After eye contact :** Rinse opened eye for 15 minutes under running water.
- . **After swallowing :** In case of persistent symptoms consult doctor.
- . **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- . **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- . **5.1 Extinguishing media**
- . **Suitable extinguishing agents** Class D Fire In case of fire: Use dry powder extinguishing agent or sand.
- . **For safety reasons unsuitable extinguishing agents**
Water.
Carbon dioxide
- . **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- . **5.3 Advice for firefighters**
- . **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- . **6.1 Personal precautions, protective equipment and emergency procedures**
Do not inhale fumes and vapours of melted product.
Avoid contact with skin, eyes, and clothing.
Avoid causing dust.
- . **6.2 Environmental precautions:**
Do not allow product to reach sewage system or water bodies.
Inform respective authorities in case product reaches water or sewage system.
- . **6.3 Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Dispose of the material collected according to regulations.
- . **6.4 Reference to other sections**
See section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- . **7.1 Precautions for safe handling**
Keep containers tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Do not inhale the product.
Avoid contact with skin, eyes, and clothing.
Open and handle container with care.
- . **Information about protection against explosions and fires:** Keep breathing equipment ready.
- . **7.2 Conditions for safe storage, including any incompatibilities**
- . **Storage**
- . **Requirements to be met by storerooms and containers:** No special requirements.

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- . **Information about storage in one common storage facility:** Not required
- . **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.
- . **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- . **8.1 Control parameters**
- . **Components with critical values that require monitoring at the workplace:**

7440-48-4 cobalt

WEL (Great Britain) Long-term value: 0.1 mg/m³
as Co; Carc, Sen

7440-47-3 chromium

WEL (Great Britain) Long-term value: 0.5 mg/m³
IOELV (European Union) Long-term value: 2 mg/m³
as Cr

7440-33-7 tungsten

WEL (Great Britain) Short-term value: 10 mg/m³
Long-term value: 5 mg/m³
as W

7440-21-3 silicon

WEL (Great Britain) Long-term value: 10* 4** mg/m³
*inhalable dust **respirable dust

- . **Additional information:** The lists that were valid during compilation were used as a basis.

- . **8.2 Exposure controls**

- . **Personal protective equipment**

- . **General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Store protective clothing separately.

- . **Breathing equipment:**

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

- . **Protection of hands:**

Protective gloves:

In case of spray contact at least protection index 2 recommended, according to more than 30 min. penetration time (EN 374).

Layer thickness of gloves at least: 0.4 mm

In case of prolonged and intensive contact protection index 6 recommended, according to more than 480 min. penetration time (EN 374).

Layer thickness of gloves at least: 0.7 mm

- . **Material of gloves**

Butyl rubber, BR

Nitrile rubber, NBR

Natural rubber, NR

PVC or PE gloves

Neoprene gloves

- . **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- . **Eye protection:** Tightly sealed safety glasses (DIN 58211, EN 166)

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. Body protection: Light weight protective clothing

SECTION 9: Physical and chemical properties

. 9.1 Information on basic physical and chemical properties

. General Information

. Appearance:

Form: Solid
Colour: According to product specification
Smell: Characteristic
Odour threshold: Not determined

. pH-value: Not applicable

. Change in condition

Melting point/freezing point: 1,200-1,550 °C
Initial boiling point and boiling range: 2,672 °C

. Flash point: Not applicable

. Inflammability (solid, gaseous) Not determined

. Decomposition temperature: Not determined

. Self-inflammability: Product is not selfigniting.

. Explosive properties: Product is not explosive.

. Critical values for explosion:

Lower: Not determined
Upper: Not determined

. Dust explosion class:

Oxidising properties none

. Steam pressure at 994 °C: 0 hPa

. Density at 20 °C 8.55 g/cm³

. Relative density Not determined

. Vapour density Not applicable

. Evaporation rate Not applicable.

. Solubility in / Miscibility with

Water: Fully miscible
Soluble

. Partition coefficient: n-octanol/water: Not determined

. Viscosity:

dynamic: Not applicable
kinematic: Not applicable

. Solvent content:

Solids content: 100.0 %

. 9.2 Other information

No further relevant information available.

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SECTION 10: Stability and reactivity

- . **10.1 Reactivity**
No further relevant information available.
No further relevant information available.
- . **10.2 Chemical stability**
- . **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- . **10.3 Possibility of hazardous reactions** No dangerous reactions known
- . **10.4 Conditions to avoid** No further relevant information available.
- . **10.5 Incompatible materials:** No further relevant information available.
- . **10.6 Hazardous decomposition products:** No further relevant information available.

SECTION 11: Toxicological information

- . **11.1 Information on toxicological effects**
- . **Acute toxicity**
Harmful if swallowed.
- . **Primary irritant effect:**
- . **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- . **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- . **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- . **Subacute to chronic toxicity:**
Do not breathe dust.
Harmful: possible risk of irreversible effects through inhalation.
- . **Additional toxicological information:**
- . **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
The product contains a substance known to be carcinogenic.
Suspected of causing genetic defects.
- . **Germ cell mutagenicity**
Suspected of causing genetic defects.
- . **Carcinogenicity**
May cause cancer.
- . **Reproductive toxicity**
May damage fertility.
- . **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.

SECTION 12: Ecological information

- . **12.1 Toxicity**
- . **Aquatic toxicity:** No further relevant information available.
- . **12.2 Persistence and degradability** No further relevant information available.
- . **12.3 Bioaccumulative potential** No further relevant information available.
- . **12.4 Mobility in soil** No further relevant information available.
- . **Additional ecological information:**
- . **General notes:**
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into soil.

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- . **12.5 Results of PBT and vPvB assessment**
- . **PBT:** Not applicable
- . **vPvB:** Not applicable
- . **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- . **13.1 Waste treatment methods**
- . **Uncleaned packaging:**
- . **Recommendation:**
Dispose of packaging according to regulations on the disposal of packagings.
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.
- . **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- . **14.1 UN-Number**
- . **ADR/RID/ADN, IMDG, IATA** Void
- . **14.2 UN proper shipping name**
- . **ADR/RID/ADN, IMDG, IATA** Void
- . **14.3 Transport hazard class(es)**
- . **ADR/RID/ADN, IMDG, IATA**
- . **Class** Void
- . **14.4 Packing group**
- . **ADR/RID/ADN, IMDG, IATA** Void
- . **14.5 Environmental hazards:** Not applicable
- . **14.6 Special precautions for user** Not applicable
- . **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable
- . **UN "Model Regulation":** Void

SECTION 15: Regulatory information

- . **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- . **Poisons Act**
- . **Regulated explosives precursors**
None of the ingredients is listed.
- . **Regulated poisons**
None of the ingredients is listed.
- . **Reportable explosives precursors**
None of the ingredients is listed.
- . **Reportable poisons**
None of the ingredients is listed.
- . **Directive 2012/18/EU**
- . **Named dangerous substances - ANNEX I** None of the ingredients is listed.

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. National regulations

. Information about limitation of use:

Workers should not be exposed to the hazardous materials contained in this preparation. Exceptions can be made by the authorities in certain exceptional cases.

Employment restrictions concerning young persons must be observed.

. 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

. Relevant phrases

H228 Flammable solid.

H317 May cause an allergic skin reaction.

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.

. Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Flam. Sol. 2: Flammable solids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1B: Carcinogenicity – Category 1B

Repr. 1B: Reproductive toxicity – Category 1B

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

. Sources: source ECHA: European Chemicals Agency, <http://echa.europa.eu/>

. * Data compared to the previous version altered.