



**Safety data sheet
according to 1907/2006/EC, Article 31**

Printing date 12.07.2022

Version number 4 (replaces version 3)

Revision: 12.07.2022

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

· **1.1 Product identifier**

· Trade name: **Heraenium CE, EH, NF, Laser, P, Pw, Sun**

· **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** Manufacture of dental prothesis

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Kulzer GmbH

Leipziger Straße 2, 63450 Hanau (Germany)

Tel.: +49 (0)800 4372522

· **Informing department:** E-Mail: msds@kulzer-dental.com

· **1.4 Emergency telephone number:** Emergency CONTACT (24-Hour-Number): +49 (0)6132-84463

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**

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**



GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

cobalt

· **Hazard statements**

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

H317 May cause an allergic skin reaction.

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**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves / eye protection.

P280 Wear protective clothing.

P284 [In case of inadequate ventilation] wear respiratory protection.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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· **Additional information:**

Restricted to professional users.

· **2.3 Other hazards**

During welding and soldering processes spatter can occur, molten metal and UV / IR heat can cause burns or fire.

Chrome:

Welding and grinding produce smoke and dust. Chromium (VI) oxide, which is classified as carcinogenic, fine dust and ozone can develop. Sodium chromate can be formed during welding.

Sodium chromate has the following classification:

Classification sodium chromate (This classification only applies to pure sodium chromate.)

H 350 May cause cancer.

H 340 May cause genetic defects.

H 360FD May damage fertility. May harm the unborn child.

H 330 Danger to life if inhaled.

H 301 Toxic if swallowed.

H 372 Causes damage to organs through prolonged or repeated exposure.

H 312 Harmful in contact with skin.

H 314 Causes severe skin burns and eye damage.

H 334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H 317 can cause allergic reactions to your skin.

H 410 Very toxic for water organisms with long-term effect.

The proportion of sodium chromate in welding fumes depends on the electrode, the material to be welded and the welding conditions. It cannot be assessed here which of the aforementioned properties the welding smoke actually has.

Note on labeling:

As alloy, the product does not need to be labeled in accordance with EC regulations or the respective national laws. Although this product does not require labeling, we recommend that you follow the safety advice.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

· **Description:** -

· **Dangerous components:**

CAS: 7440-48-4 EINECS: 231-158-0	cobalt Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350; Repr. 1B, H360F Skin Sens. 1, H317 Aquatic Chronic 4, H413	≥25-≤75%
CAS: 7440-47-3 EINECS: 231-157-5	chromium substance with a Community workplace exposure limit	≥0-≤50%

· **Additional information** For the wording of the listed hazard phrases refer to section 16.

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SECTION 4: First aid measures

- **4.1 Description of first aid measures**
 - **After inhalation**
Take affected persons into the open air and position comfortably
After inhalation of smoke, vapors and dust get fresh air and see a doctor.
 - **After skin contact**
Instantly wash with water and soap and rinse thoroughly.
Seek medical treatment.
If skin irritation continues, consult a doctor.
 - **After eye contact**
Rinse opened eye for several minutes under running water.
Seek medical treatment.
Rinse opened eye for several minutes under running water. Then consult doctor.
 - **After swallowing** Do not induce vomiting; instantly call for medical help.
- **4.2 Most important symptoms and effects, both acute and delayed** Allergic reactions
- **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**
Limestone powder
Dry sand
Use fire fighting measures that suit the environment.
 - **For safety reasons unsuitable extinguishing agents**
Extinguishing foam.
Carbon dioxide
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
 - **Protective equipment:** Do not inhale explosion gases or combustion gases.
 - **Additional information -**

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Use breathing protection against the effects of fumes/dust/aerosol.
Ensure adequate ventilation
Wear protective clothing.
- **6.2 Environmental precautions:**
Do not allow to enter drainage system, surface or ground water.
Prevent material from reaching sewage system, holes and cellars.
- **6.3 Methods and material for containment and cleaning up:** Collect mechanically.
- **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.
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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Avoid contact with eyes and skin.
Ensure good ventilation/exhaustion at the workplace.
Ensure good ventilation/exhaustion at the workplace.
 - **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
 - **Storage**
 - **Requirements to be met by storerooms and containers:**
Store in cool, dry place in tightly closed containers.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:** None.
- **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/m ³ as Co; Carc, Sen
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7440-47-3 chromium

WEL (Great Britain)	Long-term value: 0.5 mg/m ³
AGW (European Union)	Long-term value: 2 mg/m ³ as Cr
IOELV (European Union)	Long-term value: 2 mg/m ³ as Cr

· **Additional information:** The lists that were valid during the compilation were used as basis.

· **8.2 Exposure controls**

- **Appropriate engineering controls** No further data; see item 7.
- **Individual protection measures, such as personal protective equipment**
 - **General protective and hygienic measures**
Do not eat or drink while working.
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.
 - **Breathing equipment:**
ABEK-P3 (EN14387)
Filter P1.
Breathing protection recommended.
 - **Hand protection**
For welding work: Use welding gloves (DIN 4841-4, EN 12477).
chemical protection gloves are suitable, which are tested according to EN 374
If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.
Check protective gloves prior to each use for their proper condition.
recommended
 - **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be

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- *calculated in advance and has therefore to be checked prior to the application.*
- **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.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
 - Butyl rubber, BR
 - Nitrile rubber, NBR
- **Eye/face protection**
eye protection (EN 166)
Tightly sealed safety glasses.
- **Body protection:** *Light weight protective clothing*

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

- **Physical state** Solid.
- **Colour:** Silver-coloured
- **Smell:** Odourless
 - **Odour threshold:** Not determined.
- **Melting point/freezing point:** 1380 °C
- **Boiling point or initial boiling point and boiling range** >999 °C
- **Flammability** Not determined.
- **Lower and upper explosion limit**
 - **Lower:** Not determined.
 - **Upper:** Not determined.
- **Flash point:** Not applicable
- **Decomposition temperature:** Not determined.

· **SADT**

- **pH** Mixture is non-soluble (in water).
- **Viscosity:**
 - **Kinematic viscosity** Not applicable.
 - **dynamic:** Not applicable.
- **Solubility**
 - **Water:** Insoluble
- **Partition coefficient n-octanol/water (log value)** Not determined.
- **Steam pressure:** Not applicable.
- **Density and/or relative density**
 - **Density at 20 °C** 8.25 g/cm³
 - **Relative density** Not determined.
 - **Vapour density** Not applicable.

· **9.2 Other information**

No further relevant information available.

· **Appearance:**

- **Form:** Solid.

· **Important information on protection of health and environment, and on safety.**

- **Self-inflammability:** Product is not selfigniting.
- **Explosive properties:** Product is not explosive.
Not determined.

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· Solvent content:	
· Solids content:	100.0 %
· Change in condition	
· Evaporation rate	Not applicable.
· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
 - **Conditions to be avoided:** No decomposition if used and stored 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:**
 - Strong acids
 - Strong oxidizers
 - Strong bases
- **10.6 Hazardous decomposition products:**
 - In case of fire the following can be released:
 - Toxic metal oxide smoke
 - **Additional information:** -

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.

· LD/LC50 values that are relevant for classification:		
7440-48-4 cobalt		
Dermal	LD50	>2,000 mg/kg (rat) (OECD 402)
7440-47-3 chromium		
Oral	LD50	>5,000 mg/kg (rat) (OECD 420)

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Inhalative LC50/4 h >5.41 mg/l (rat) (OECD 403)

- **Skin corrosion/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.
- **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.
- **Additional toxicological information:**
 - **Acute effects (acute toxicity, irritation and corrosivity)**
Inhalation of fumes and smoke generated during welding/brazing may cause metal fume fever. Symptoms may appear after 4 - 12 hours. (Headache, dizziness, dryness, cough, nausea and fever).
 - **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Muta. 2, Carc. 1B, Repr. 1B

11.2 Information on other hazards

- **Endocrine disrupting properties**

None of the ingredients is listed.

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.
- **12.5 Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects**
 - **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.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
 - **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

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- **Uncleaned packagings:**
- **Recommendation:** Packaging can be reused or recycled after cleaning.

SECTION 14: Transport information

- | | |
|---|-----------------|
| · 14.1 UN number or ID number
· ADR, ADN, IMDG, IATA | Void |
| · 14.2 UN proper shipping name
· ADR, ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es)
· ADR, ADN, IMDG, IATA
· Class | Void |
| · 14.4 Packing group
· ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards:
· Marine pollutant: | No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Maritime transport in bulk according to IMO instruments | Not applicable. |
| · Transport/Additional information: | - |
| · UN "Model Regulation": | Void |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
 - **Directive 2012/18/EU**
 - **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **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**
 - 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:**
 - SADT: Self Accelerating Decomposition Temperature
 - 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

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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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

*** Data compared to the previous version altered.**

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