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

· **1.1 Product identifier**

· **Trade name:** **CoCr Laser welding wire**

· **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.
P285 In case of inadequate ventilation wear respiratory protection.
P321 Specific treatment (see on this label).
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	≥50-≤75%
CAS: 7440-47-3 EINECS: 231-157-5	chromium substance with a Community workplace exposure limit	≥25-≤50%
CAS: 1333-86-4 EINECS: 215-609-9	Carbon black substance with a Community workplace exposure limit	<1%
CAS: 7439-96-5 EINECS: 231-105-1	manganese substance with a Community workplace exposure limit	<1%
CAS: 7440-21-3 EINECS: 231-130-8	silicon, containing more than 99.99 per centby weight of silicon substance with a Community workplace exposure limit	<1%

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

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **After inhalation** Supply fresh air; consult doctor in case of symptoms.
· **After skin contact**
Instantly wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact**
Rinse opened eye for several minutes under running water. Then consult doctor.
· **After swallowing**
Rinse out mouth and then drink plenty of water.
In case of persistent symptoms consult doctor.
· **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**
Extinguishing powder. Do not use water.
Dry sand
Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents**
Water.
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:** No special measures required.
· **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.
Avoid causing dust.
· **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.
-

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Prevent formation of dust.

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Do not breathe vapor / mist / gas.
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:** No special requirements.
· **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/m³ as Co; Carc, Sen
7440-47-3 chromium	
WEL (Great Britain)	Long-term value: 0.5 mg/m³
AGW (European Union)	Long-term value: 2 mg/m³ as Cr
IOELV (European Union)	Long-term value: 2 mg/m³ as Cr
1333-86-4 Carbon black	
WEL (Great Britain)	Short-term value: 7 mg/m³ Long-term value: 3.5 mg/m³
7439-96-5 manganese	
WEL (Great Britain)	Long-term value: 0.2* 0.05** mg/m³ as Mn *inhalable fraction **respirable fraction
IOELV (European Union)	Long-term value: 0.2* 0.05** mg/m³ as Mn; *inhalable, **respirable fraction
7440-21-3 silicon, containing more than 99.99 per centby weight of silicon	
WEL (Great Britain)	Long-term value: 10* 4** mg/m³ *inhalable dust **respirable dust

· **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**
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:**
Filter P3.
Filter P1.
Breathing protection recommended.
· **Hand protection**
For welding work: Use welding gloves (DIN 4841-4, EN 12477).

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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 calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break trough 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:**	*White*
· **Smell:**	*Odourless*
· **Odour threshold:**	*Not determined.*
· **Melting point/freezing point:**	*1,300-1,370 °C*
· **Boiling point or initial boiling point and boiling range**	*Not determined*
· **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:**	*Soluble*
· **Partition coefficient n-octanol/water (log value)**	*Not determined.*
· **Steam pressure:**	*Not applicable.*
· **Density and/or relative density**	
· **Density at 20 °C**	*8.3 g/cm³*
· **Relative density**	*Not determined.*
· **Vapour density**	*Not applicable.*
· **9.2 Other information**	*No further relevant information available.*

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· **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.
· **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:** No further relevant information available.
· **10.6 Hazardous decomposition products:** None
· **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)

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7440-47-3 chromium		
Oral	LD50	>5,000 mg/kg (rat) (OECD 420)
Inhalative	LC50/4 h	>5.41 mg/l (rat) (OECD 403)
7439-98-7 molybdenum		
Oral	LD50	4,233 mg/kg (rat) (OECD 401)
Dermal	LD50	>2,000 mg/kg (rat) (OECD 402)
Inhalative	LC50/4 h	>5.1 mg/l (rat) (OECD 403)
1333-86-4 Carbon black		
Oral	LD50	>8,000 mg/kg (rat) (OECD 401)
7439-96-5 manganese		
Oral	LD50	>2,000 mg/kg (rat) (OECD 420)
Inhalative	LC50/4 h	>5.14 mg/l (rat) (OECD 403)
7440-21-3 silicon, containing more than 99.99 per centby weight of silicon		
Oral	LD50	>5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	>5,000 mg/kg (rat)

· **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:**
· **CMR effects (carcinogenity, 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:**	
7439-96-5 manganese	
LC50/21d	0.17-15.61 mg/L (fish)

· **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.

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· **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**
Smaller quantities can be disposed with household garbage.
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.

· **Uncleaned packagings:**
· **Recommendation:** Packaging can be reused or recycled after cleaning.
· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	Void
· **14.2 UN proper shipping name**	
· **ADR, 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.
· **Water hazard class:** Generally not hazardous for water.

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· ***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
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.***