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

· **1.1 Product identifier**

· **Trade name:** **Training metal**

· **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** Training alloy (non-precious metals)

· **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.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the 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.
· **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.
P321 Specific treatment (see on this label).

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P405 Store locked up.
· **Additional information:**
Restricted to professional users.
· **2.3 Other hazards**
· **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 Index number: 027-001-00-9	cobalt Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350; Repr. 1B, H360F Acute Tox. 4, H302; Skin Sens. 1, H317 Aquatic Chronic 4, H413	≥1-<5%

· **Additional information**
The informations as to risks and precautions given in the chapters 4 to 8, 10 to 12 do not apply to the product itself, but only to dust and vapours generated on working with it.
For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information** No special measures required.
· **After inhalation** 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.
If skin irritation continues, consult a doctor.
· **After eye contact** 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**
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**
Sand. Do not use water.
Limestone powder
· **For safety reasons unsuitable extinguishing agents** Water.
· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** Do not inhale explosion gases or combustion gases.

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· ***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.
· **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
· **6.3 Methods and material for containment and cleaning up:** Collect mechanically.
· **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
-

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** 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:**	
7440-50-8 copper	
OEL (Ireland)	Long-term value: 0.2* 1** mg/m³ *fume **dusts and mists
7440-31-5 tin	
OEL (Ireland)	Short-term value: 0.2** mg/m³ Long-term value: 2* 0.1** mg/m³ IOELV,*metal, oxide, inorg.compds.,**org. compds.
7440-48-4 cobalt	
OEL (Ireland)	Long-term value: 0.02 mg/m³ as Co; Sens.

· **DNELs**		
7440-50-8 copper		
Oral	general population, long term, systemic	0.041 mg/Kg (not defined)
Dermal	worker industrial, acute, systemic	273 mg/Kg/d (not defined)
	worker industrial, long term, systemic	137 mg/Kg/d (not defined)
	general population, acute, systemic	273 mg/Kg/d (not defined)

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	general population, long term, systemic	137 mg/Kg/d (not defined)
Inhalative	worker industrial, acute, local	1 mg/m3 (not defined)
	worker industrial, long term, local	1 mg/m3 (not defined)

· **PNECs**

7440-50-8 copper	
freshwater	0.0078 mg/l (not defined)
marine water	0.0052 mg/l (not defined)
sewage treatment plant	0.23 mg/l (not defined)
sediment, dry weight, freshwater	87 mg/Kg (not defined)
sediment, dry weight, marine water	676 mg/Kg (not defined)
soil, dry weight	65 mg/Kg (not defined)

· **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 section 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures**
Wash hands during breaks and at the end of the work.
· **Breathing equipment:**
Use breathing protection against the effects of fumes/dust/aerosol.
ABEK-P3 (EN14387)
Filter P1.
· **Hand protection**
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

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Physical state**	Solid.
· **Colour:**	Yellow
· **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.
· **Kinematic viscosity**	
· **dynamic:**	Not applicable.
· **Solubility**	
· **Water:**	Insoluble
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Steam pressure:**	Not applicable.
· **Vapour pressure:**	
· **Density and/or relative density**	
· **Density at 20 °C**	8.800 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not applicable.
· **Particle characteristics**	See section 3.
· **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.
· **Solvent content:**	
· **Solids content:**	100.0 %
· **Change in condition**	
· **Evaporation rate**	Not applicable.
· **Information with regard to physical hazard classes**	
· **Explosives**	Void

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· **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

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:**		
7440-50-8 copper		
Oral	LD50	>2,500 mg/kg (rat) (OECD 423)
Dermal	LD50	>2,000 mg/kg (rat) (OECD 402)
	LD0	>2,000 mg/kg (rat) (OECD 402)
Inhalative	LC50/4 h	>5.11 mg/l (rat) (OECD 436)
	LC0/4h	≥5.11 mg/L (rat) (OECD 436)
7440-31-5 tin		
Oral	LD50	>2,000 mg/kg (rat) (OECD 401)
Dermal	LD50	>2,000 mg/kg (rat) (OECD 402)
7440-48-4 cobalt		
Oral	LD50	550 mg/kg (rat) (OECD 425)

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Dermal	LD50	>2,000 mg/kg (rat) (OECD 402)

· **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.
· **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 (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:**	
7440-50-8 copper	
LC50/96h	0.193 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**
The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation** Smaller quantities can be disposed with household garbage.

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· **European waste catalogue**	
18 01 06	chemicals consisting of or containing dangerous substances

· **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**	Void
· **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:**	Not applicable.
· **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 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

no information available

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

no information available

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· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **REGULATION (EC) No 1005/2009 on substances that deplete the ozone layer – ANNEX I (Ozone- depleting potential)**

· **Water hazard class:** Generally not hazardous for water.

· **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**
H302 Harmful if swallowed.
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.

· **Date of previous version:** 17.05.2022

· **Version number of previous version:** 3

· **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)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
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

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