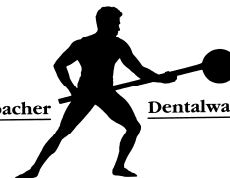


Material Safety Data Sheet

-Kera®S-Powder-

Eisenbacher Dentalwaren



in accordance with the Regulation (EC) 1907/2006
(REACH)

Version no.: 09

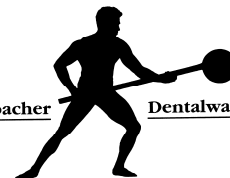
Effective as of: 10/2017
Replaces version no. 08 of 04/2017

1. Identification of the substance/preparation and of the company	
1.1 Trade name:	KERA®S-Powder
1.2 Product description:	Cobalt-based alloy, sinter technology
Product form:	Powder
Purpose:	This alloy in powder form is approved for CAD-CAM production with laser or MIM sinter technology for dental restorations (crowns, bridges etc.)
1.3 Producer:	Eisenbacher Dentalwaren ED GmbH
Street:	Dr.-Konrad-Wiegand-Strasse 9
Zip code, town, country	63939 Woerth am Main / GERMANY
Telephone:	+ 49 (0)93 72 - 94 04 0
Telefax:	+ 49 (0)93 72 - 94 04 29
Department providing the information:	Klaus Renner Tel.: + 49 (0)93 72 - 94 04 130 k.renner@eisenbacher.de
Emergency information:	Tel.: + 49 (0)93 72 - 94 04 130
E-mail:	info@eisenbacher.de
Website:	www.eisenbacher.de
2. Hazards identification	
2.1 Classification of the substance or mixture:	<p>The sinter powder has been classified and labelled according to the CLP regulation.</p> <p>Classification of the substance according to Regulation (EC) No. 1272/2008</p> <p>Hazard categories:</p> <ul style="list-style-type: none"> - Acute toxicity: Acute tox. 4 - Serious eye damage/eye irritation: Eye irrit. 2 - Respiratory/skin sensitization: Resp. sens. 1 . . - Respiratory/skin sensitization: Skin sens. 1 - Carcinogenicity: Carc. 1B - Reproductive toxicity: Repr. 1B - Hazardous to the aquatic environment: Aqu. chron. 4 <p>Hazard Statements:</p> <ul style="list-style-type: none"> - Harmful if swallowed. - May cause an allergic skin reaction. - Causes serious eye irritation. - May cause allergy or asthma symptoms or breathing difficulties if inhaled. - May cause cancer if inhaled. - May damage fertility. May damage the unborn child. - May cause long lasting harmful effects to aquatic life. <p>Information concerning particular hazards for humans and for the environment:</p> <p>This product must be labelled due to the calculation procedure of the "EC General Classification Directive for Preparations" in its latest valid version.</p> <p>Users:</p> <p>Qualified professionals (dental technicians, dentists)</p> <p>Classification system:</p> <p>The classification complies with the latest EU lists, but there are additional data from specialized literature and from the company.</p> <p>The following identification is applicable for any kind of handling the powder, such as opening the container, working or processing its contents, since dust, vapor or smoke is generated.</p>

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<p>2.2 GHS07 / GHS08- Label elements:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Danger! GHS08</p> </div> <div style="text-align: center;"> <p>Attention GHS07</p> </div> </div> <p>2.3 Other hazards during opening and processing of the alloy:</p>	<p>Hazard-determining component(s) of labelling: Cobalt</p> <p>Signal words: Warning / Danger</p> <p>Pictograms: GHS07 / GHS08</p> <p>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. H350i May cause cancer if inhaled. H360FD May damage fertility. May damage the unborn child. H413 May cause long lasting harmful effects to aquatic life.</p> <p>Hazard Statements</p> <p>P201 Obtain special instructions before use. P261 Avoid breathing dust. P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P308+ P313 If exposed or concerned: Get medical advice/attention. P342+ P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.</p> <p>Welding and brazing processes can cause spatter, melting metal and UV/IR heat can cause burns or start fires.</p> <p>Chromium: Dust and smoke arise during welding and grinding. Chromium(VI)oxide, which is classified as carcinogenic particulate matter and ozone can arise. During welding sodium chromate can arise. Sodium chromate is classified as follows: H350 May cause cancer. H340 May cause genetic defects. H360FD May damage fertility. May damage the unborn child. H330 Fatal if inhaled. H301 Toxic if swallowed. H372 Causes damage to organs through prolonged or repeated exposure. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H410 Very toxic to aquatic life with long lasting effects.</p> <p>This classification applies only to sodium chromate. The percentage of sodium chromate contained in the welding fume depends on the electrode, the welding material and conditions. It is not possible to assess which of the aforementioned properties the welding fumes actually have.</p> <p>Cobalt: The mandatory harmonized classification (as set out in Annex VI of the Regulation (EC) No 1272/2008) differs from the registered classification at ECHA (European Chemicals Agency). The following H statements were added to the mandatory, harmonized classification: H302 Harmful if swallowed. H319 Causes serious eye irritation. H330 Fatal if inhaled. H350 May cause cancer. H360 May damage fertility. May damage the unborn child. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.</p>
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5.2 Special hazards emitted by the substance or composite:	No information available.
5.3 Advice for firefighters	In case of fire, wear suitable self-contained breathing apparatus
6. Accidental Release Measures	
6.1 Personal precautions, protective equipment and emergency procedures:	Breathing apparatus (particle filter FFP 3) only if dust is formed. Provide sufficient ventilation. Wear personal protective equipment.
6.2 Environmental precautions:	Dispose of any rests of the sinter powder in an ecological way. Do not discharge dust into groundwater, water bodies or the sewage system.
6.3 Methods and material for containment and cleaning up:	Pick up mechanically or by means of aspirators (if vacuum cleaners are used, they must be equipped with high-efficiency particulate filters - HEPA), avoid raising dust, and provide disposal in suitable recipients. Do not use compressed air, do not blow off.
6.4 Reference to other sections:	Protective instructions: see section 7 Instructions on personal protective equipment: see section 8 Information for disposal: See section 13
7. Handling and Storage	
7.1 Precautions for safe handling:	When handling the product, ensure a good ventilation/extraction at the workplace. If technically possible, the work procedure should be designed in such a way that hazardous substances are not released and that skin contact is excluded. Avoid contact with skin and eyes. Avoid dust formation.
7.2 Conditions for safe storage, including any incompatibilities: Advice on storage compatibility: Further information on storage conditions: Storage class TRGS 510: Classification according to the operational safety regulation:	Only store in the original packaging. Keep the containers dry, tightly closed and at a cool and well ventilated place. Protect against mechanical damage. Keep away from food and drink. Incompatible with strong acids and oxidizing agents. Keep in a cool and dry place in the original packaging. Protect against air or oxygen access. VCI 13 not applicable
7.3 Specific end use(s):	Ensure traceability of lots.

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8. Exposure controls / personal protection

8.1 Control parameter:

Particulate matter threshold in accordance with Technical Rule for Hazardous Substances 900 ["Technische Regeln für Gefahrstoffe - TRGS 900"]

CAS registry no.	Designation	ppm	mg/m ³	F/m ³	Peak limit	Type
-	General dust threshold value, alveolar fraction		1.25 A*			
-	Chromium (VI) compounds (OLD)		0.05 E*		4	technical standard concentration
7440-47-3	Chromium	-	2 E*		1(1)	

* A: alveolar
E: respirable

8.2 Exposure controls:

Please observe the general particulate matter threshold limits according to TRGS 900.

Ensure a good ventilation/extraction at the workplace. Do not eat, drink or smoke during use. Wash hands before breaks and after finishing work. Avoid contact with eyes and skin. Do not inhale the dust.

Personal protective equipment:

Wear safety shoes.

Respiratory protection:

Use suitable breathing apparatus if there is inadequate ventilation.

Protective gloves:

In case of a longer and more frequent contact, protection index 6 is recommended, corresponding to more than 480 min. permeation time in accordance to EN 374. Minimum layer thickness / gloves = 0.7 mm

Material of gloves:

- Butyl rubber
- Fluorinated rubber (Viton)
- Nitrile-butadiene rubber
- Natural rubber (latex)
- Chloroprene rubber
- Gloves made of Neoprene

Breakthrough time of the glove material:

Consult the protective glove manufacturer for the exact breakthrough time which has to be observed.

Eye protection:

Tight fitting protective goggles (DIN EN 175, DIN EN 166)

Body protection:

Protective clothing; remove dirty clothing immediately.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

State of aggregation: Powder

Color: Metallic gray

Odor: Odorless

pH value **Test standard**
n.a. n.a.

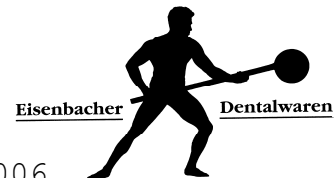
Changes in the physical state

Initial boiling point and boiling range: n.a.

Flashpoint: n.a.

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9.2 Other information:	<p>Solubility in / miscibility with water: insoluble</p> <p>Flammability: non-inflammable</p>																												
10. Stability and Reactivity																													
10.1 Reactivity:	Not applicable																												
10.2 Chemical stability:	Stable under normal conditions.																												
10.3 Possibility of hazardous reactions:	With acids; with strong oxidizing agents																												
10.4 Conditions to avoid:	No information available.																												
10.5 Incompatible materials	Oxidizing agents. Strong acids and strong bases																												
10.6 Hazardous decomposition products	Metallic oxides																												
11. Toxicological information																													
11.1 Information on toxicological effects:	<p>Toxicological tests</p> <p>Acute toxicity Brazing/welding vapors and fumes from brazing/welding may cause metal fumes fever. Symptoms can appear 4 to 12 hours later (headaches, dizziness, dryness, cough, nausea and fever).</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th>CAS no.:</th> <th colspan="5">Designation</th> </tr> <tr> <th>7440-48-4</th> <th>Exposure routes</th> <th>Method</th> <th>Dose</th> <th>Species</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td></td> <td>Cobalt:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>oral</td> <td>LD50</td> <td>6170 mg/kg</td> <td>Rat</td> <td>GESTIS</td> </tr> </tbody> </table> <p>Irritation and corrosivity May cause irritation by prolonged inhalation of brazing/welding fumes.</p> <p>Classification-relevant LD/LC50 values: oral LD50 6170 mg/kg (rat)</p>	CAS no.:	Designation					7440-48-4	Exposure routes	Method	Dose	Species	Source		Cobalt:						oral	LD50	6170 mg/kg	Rat	GESTIS				
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More information:	The product must be handled with the care necessary when handling chemicals.																												
12. Information About the Ecology:																													
12.1 Toxicity:	<p>No information available.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th>CAS registry no.:</th> <th colspan="6">Designation</th> </tr> <tr> <th></th> <th>Aquatic toxicity</th> <th>Method</th> <th>Dose</th> <th>h</th> <th>Species</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Acute toxicity to fish</td> <td>LC50</td> <td>> 100mg/l</td> <td>96 h</td> <td>Brachydanio rerio</td> <td></td> </tr> </tbody> </table>	CAS registry no.:	Designation							Aquatic toxicity	Method	Dose	h	Species	Source									Acute toxicity to fish	LC50	> 100mg/l	96 h	Brachydanio rerio	
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12.2 Persistence and degradability:	No information available.																												
12.3 Bioaccumulative potential:	No information available.																												
12.4 Mobility in soil:	No information available.																												
12.5 Results of the PBT and vPvB assessment:	No information available.																												
12.6 Other adverse effects:	No information available.																												
	<p>More information Do not discharge into drains/surface waters.</p>																												

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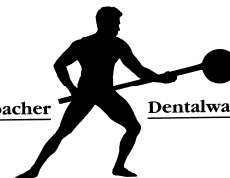
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13. Disposal Considerations											
13.1 Waste treatment methods:	<p>Waste must be disposed in compliance with the national and regional regulations.</p> <p>Do not discharge waste into drains, bodies of water or soil.</p> <p>Waste disposal number of used product 100203 Wastes from thermal processes; processing dust and chips</p>										
14. Transport Information											
14.1 UN number:	NO hazardous material in the sense of the transport regulations.										
14.2 UN proper shipping name:	NO hazardous material in the sense of the transport regulations.										
14.3 Transport hazard class:	NO hazardous material in the sense of the transport regulations.										
14.4 Packing group:	NO hazardous material in the sense of the transport regulations.										
14.5 Environmental hazards:	NO hazardous material in the sense of the transport regulations.										
14.6 Special precautions for user:	NO hazardous material in the sense of the transport regulations.										
14.7 Transport in bulk according to Annex II of MARPOL73/78 Convention and the IBC code:	NO hazardous material in the sense of the transport regulations.										
15. Regulatory information											
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:	<p>EU regulatory information Information about the VOC Directive 0 %</p> <p>National regulations Technical Instructions on Air Quality Control [TA Luft II] 5.2.2. II. powder form, inorganic substances at m >= 2.5 g/h: concentration 0.5 mg/m³. Share: German Water Hazard Class: 3 - highly hazardous to water Status: KBwS classification Index number according to the catalog of substances hazardous to water 8026</p> <p>Carcinogenic, mutagenic or teratogenic substances (TRGS 905)</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 15%;">CAS registry no.:</th> <th style="width: 15%;">EC no.</th> <th style="width: 40%;">Designation</th> <th style="width: 15%;">Category</th> <th style="width: 15%;">Legal classification</th> </tr> </thead> <tbody> <tr> <td>7440-48-4</td> <td>231-158-0</td> <td>Cobalt metal (in form of respirable dust/aerosol) with the exception of hard metals, cobalt-containing spinels and organic cobalt siccative agents.</td> <td>C-2,M--,RF--,RE--</td> <td></td> </tr> </tbody> </table>	CAS registry no.:	EC no.	Designation	Category	Legal classification	7440-48-4	231-158-0	Cobalt metal (in form of respirable dust/aerosol) with the exception of hard metals, cobalt-containing spinels and organic cobalt siccative agents.	C-2,M--,RF--,RE--	
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15.2 Chemical safety assessment:	<p>No substance safety assessment has been carried out.</p> <p>Code letter(s) and hazard description(s) of the product: According to GHS, not applicable - see section 2</p> <p>Hazard-determining components of labelling: According to CLP , not applicable - see section 2</p>										

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16. Other information

The information is based on our present state of knowledge, they do not constitute a guarantee of product properties and do not establish a contractual relationship. However, Eisenbacher Dentalwaren ED GmbH does not assume any explicit or implicit guarantee or warranty as to the correctness, reliability or completeness of the information. Eisenbacher Dentalwaren ED GmbH advises any person receiving this information, not to use the product for any other use than the intended use described in section 1.2. The user shall be responsible for complying with all the necessary legal regulations.

The product must be used by qualified and trained dental technicians, who are aware of the correct use and can be held responsible in case of improper use.

Relevant H- and P-phrases.	<p>H301 Toxic if swallowed. H302 Harmful if swallowed. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H330 Fatal if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H340 May cause genetic defects. H350 May cause cancer. H350i May cause cancer if inhaled. H360FD May damage fertility. May damage the unborn child. H372 Causes damage to organs through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects. H413 May cause long lasting harmful effects to aquatic life.</p> <p>P201 Obtain special instructions before use. P261 Avoid breathing dust. P280 Wear protective gloves/protective clothing/eye protection/face protection</p> <p>P308+ P313 If exposed or concerned: Get medical advice/attention. P342+ P311 If experiencing respiratory symptoms: CALL POISON CENTER.</p>
Abbreviations and definitions	<p>ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</p> <p>CAS: Chemical Abstracts Service (division of the American Chemical Society)</p> <p>CLP: Classification Labelling Packaging</p> <p>EINECS: European Inventory of Existing Commercial Chemical Substances</p> <p>GHS: Globally Harmonized System</p> <p>H-phrase: Hazard statement</p> <p>IATA: International Air Transport Association</p> <p>IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)</p> <p>ICAO: International Civil Aviation Organization</p> <p>ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)</p> <p>IMDG: International Maritime Code for Dangerous Goods</p> <p>LC50: Lethal concentration, 50 percent</p> <p>LD50: Lethal dose, 50 percent</p> <p>P-phrase: Precautionary statement</p> <p>PBT: Provider Backbone Transport</p> <p>RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)</p> <p>vPvB: very persistent very bioaccumulating</p>