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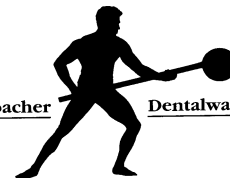
# Safety Data Sheet

## -Kera<sup>®</sup>Ti 5 -Disc-

According to EG 1907/2006 (REACH)

Eisenbacher


Dentalwaren



Versions-No.: 03

Valid from: 10/2013

Replaces version No. 02 from 05/2013

1. Identification of substance and company	
1.1 Trade name:	Kera <sup>®</sup> Ti5-Disc
1.2 Product details:	Dental alloy by titan aluminium vanadium base grad 5, Dental Continuous casting; or other casting process
Product form:	Rod, disc, cylinder, or varying geometries
Purpose:	The production of crowns, bridges and dentures in dentistry  This product is not approved for use in the production of implants.
1.3 Manufacturer:	Eisenbacher Dentalwaren ED GmbH
Street:	Dr.-Konrad-Wiegand-Straße 9
ZIP/city/Country.:	63939 Woerth am Main/ GERMANY
Phone:	+49 93 72 - 94 04 0
Fax:	+49 93 72 - 94 04 0
Information department:	Klaus Renner +49 93 72 - 94 04 130 k.renner@eisenbacher.de +49 93 72 - 94 04 130
Emergency information:	info@eisenbacher.de
Email:	www.eisenbacher.de
Homepage:	
2. Hazards identification	
2.1 Hazard designation:	Not applicable - see section 2.2
Information pertaining to particular dangers for man and environment:	Due to the calculation procedure of the "General rating principles for the preparation of the EG" in the ultimate version the product is not subject to marking.
User:	Skilled personnel (Dental technicians, dentists)
Classification system:	he classification is in line with the current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.
2.2 Hazard warning:	The following marking shall not apply to the alloy but only for the processing and treatment may be incurred Vapors, fumes and dusts.  H251 Self-heating; may catch fire H250 Ignites on contact with air of self H260 in contact with water releases flammable gases which may ignite spontaneously.
2.3 Other hazards in the supply and processing of the alloy:	Inhalation of grinding dust, irritation of the skin and eyes.
	
	See "other information item 16"
3. Composition/Data on components	
The information as to risk and precautions given in the chapters 4 to 8, 10 to 12 do not only apply to the product itself, rather to the resulting dust and vapours generated on working with it.	



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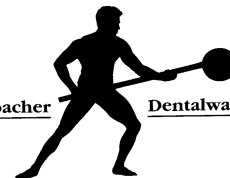
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3.1 Chemical composition (ASTM F136-e1):	
Ti-Al-V-Alloy	
Chemical characterization:	
Titan Ti	Rest 50 - 99,5 %
	CAS: 7440-32-6 EINECS: 231-142-3
Aluminum Al	5,5 - 6,5 %
	CAS: 7429-90-5 EINECS: 231-072-3
Vanadium V	3,5 - 4,5 %
	CAS: 7440-62-2 EINECS: 231-171-1
Sauerstoff O	0,13 %
	CAS: 7782-44-7 EINECS: 231-956-9
Eisen Fe	0,25 %
	CAS: 7439-89-6 EINECS: 231-096-4
<b>4. First aid measures</b>	
4.1 General information:	No special measures required
4.2 Important acute and delayed symptoms and effects:	
After inhaling:	Fresh air; in case of disorders, please contact a doctor.
After swallowing:	Rinse out the mouth and drink water afterwards. In case of continuous disorders, a doctor should be consulted
After skin contact:	Wash with water and soap
After eye contact:	Rinse eyes under running water and consult a doctor
4.3 Information for the doctor:	Control examination according to the BG-guidelines G39
<b>5. Fire fighting measures</b>	
5.1 Suitable extinguishing aids:	Use firefighting measures that suit the environment. ABC dry powder, foam or sand. <b>NO WATER!</b>
5.2 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:	Metal vapors and metal oxides in the form of smoke and gas. Dusts are self-heating and can catch fire. Spontaneous combustion on contact with air. In contact with water releases flammable gases which may ignite spontaneously.
5.3 Protective equipment:	Only use the specified under 5.1 Extinguishing media. Avoid inhalation of fumes!
<b>6. Accidental release measures</b>	
6.1 Person-related safety precautions:	If the effects of fumes dust aerosol: aerosols. Use in the absence of aspiration breathing. Ensure adequate ventilation.
6.2 Measures for environmental protection:	Remains/Dental scrap should be disposed environmentally friendly. Swarf is not allowed to enter drainage system, surface or ground water
6.3 Measures for cleaning/collecting:	Dry grinding dust by mechanical means or suckers record and disposal in appropriate containers fill, dust generation.



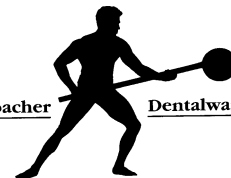
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6.4 Reference to other sections:	Not use compressed air blow not.  see section 4.ff
<b>7. Handling and storage</b>	
7.1 Information for safe handling:	Arrange good ventilation/exhaustion at workplace. Prevent formation of dust. During thermal processing or splinter processing Extractors are required on the processing machines.
7.2 Conditions for safe storage, including intolerances:	Only in the original container. The delivery units must be secured against sliding, tilting, rolling and falling.
Common storage notes:	not required
Storage and container:	Only store in original package. The delivery units need to be protected against sliding, overturning, rolling and falling.
Further information about storage conditions:	None
Storage class: Classification according to Ordinal on Industrial Safety and Health:	VCI 13  Deleted
7.3 Specific end uses:	Guarantee batch traceability.
<b>8. Exposure controls and personal protection</b>	
8.1 To be monitored parameter:	Particulate matter limits by TRGS 900
8.2 Limiting and monitoring exposure:	7440-32-6 titan und 7440-62-2 vanadium Please enter a valid general dust limit values observed after TRGS 900.  7429-92-5 aluminium Particulate matter MAK: 4 mg/m <sup>3</sup> (inhalable fraction) 3 mg/m <sup>3</sup> (respirable fraction)
Personal protective equipment:	Wear <b>safety shoes</b> . <b>Respiratory protection:</b> In case of inadequate ventilation or lack of suction FFP3 mask. <b>Protective gloves:</b> At least protection index 2 injection contact recommended, corresponding to more than 30 minutes of permeation time according to EN 374 Min thickness / gloves = 0.4 mm With longer and frequent contact Protective index 6 recommended, according to more than 480 minutes of permeation time according to EN 374 Min thickness / gloves = 0.7 mm <b>Material of gloves:</b> - butyl rubber - Fluorocarbon rubber (Viton) - nitrile - Natural rubber (latex) - chloroprene rubber - Neoprene gloves <b>Penetration time of glove material:</b> The exact penetration time for the protective gloves and



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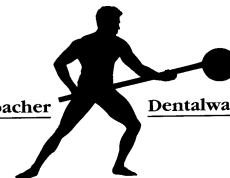
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General protective and hygienic measures:	<p>has to be observed.</p> <p><b>Eye protection:</b> Goggles (DIN 58211, EN 166)</p> <p><b>Body protection:</b> Light protective clothing</p> <p>During processing not eat, drink or smoke. Wash hands before breaks and after finishing work. Avoid contact with eyes and skin. Dust, smoke, Do not inhale fumes.</p>
<b>9. Physical and chemical properties</b>	
9.1 Information on basic physical and chemical properties:	<p><b>Tensile strength:</b> &gt; 825 MPa</p> <p><b>Hardness:</b> &gt; 300 HV 10/30</p> <p><b>Elongation:</b> &gt; 8 %</p> <p><b>Young's modul:</b> &gt; 760 MPa (N/mm<sup>2</sup>) GPa</p> <p><b>density:</b> 4,4 g/cm<sup>3</sup></p> <p><b>Coefficient of thermal expansion:</b> 10 (x10<sup>-6</sup>K<sup>-1</sup>)</p> <p><b>Melting point:</b> 1650 +/- 50°C</p> <p><b>Danger of explosion:</b> Product is not explosive</p> <p><b>ph:</b> not applicable</p>
9.2 Other information:	<p><b>Form:</b> Rod, disc, cylinder or varying geometries</p> <p><b>Colour - product specification:</b> Metallic bright</p> <p><b>Smell:</b> Odorless</p> <p><b>Solubility in / Miscibility with water:</b> Unsoluble</p> <p><b>Inflammability:</b> non-flammable</p>
<b>10. Stability and reactivity</b>	
<p>10.1 Reactivity:</p> <p>10.2 Chemical stability:</p> <p>10.3 Possibility of hazardous reactions:</p> <p>10.4 Conditions to avoid:</p> <p>10.5 Incompatible materials:</p> <p>10.6 Hazardous decomposition products:</p>	<p>not applicable</p> <p>not applicable</p> <p>not applicable</p> <p>not applicable</p> <p>not applicable</p> <p>No hazardous decomposition products</p>
<b>11. Toxicological information</b>	
11.1 Information on toxicological effects:	<p>The product does not trigger toxic reactions and is not allergenic. Inhalation of dust may result in respiratory irritation. Irritation of the eyes and skin are possible through direct contact with the dust.</p>
<b>12. Ecological information</b>	
12.1 Acute toxicity: 12.2 Persistence and	Results of animal experiments are not known



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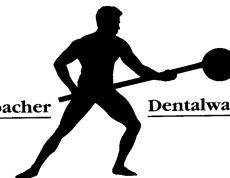
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degradability: 12.3 Bioaccumulative potential: 12.4 Mobility in soil: 12.5 Results of PBT and vPvB assessment: 12.6 Other adverse effects:	not applicable  not known not applicable  not known  not known  The product is not subject to classification according to the calculation method of the General Classification guideline for preparations of the European Community in the last version.
<b>13. Disposal considerations</b>	
13.1 Waste treatment Methods:	The disposal of the product does not pose any danger, however, the waste must be disposed of according to national or regional regulations.  <b>Recommendation:</b> Contact waste material market (alloy) regarding recycling <b>European waste catalogue 06 03 15:</b> - The waste created when grinding 12 01 01 - Ferrous metal filings and filing <b>Contaminated packaging:</b> <b>recommendation:</b> Contaminated packaging must be disposed of like the product. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
<b>14. Transport information</b>	
14.1 UN number: 14.2 UN proper shipping Name: 14.3 Transport Hazard classes:  14.4 Packing Group: 14.5 Environmental hazards: 14.6 Special precautions: 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and under IBC Code:	-  not applicable  Dental alloys are not a dangerous good under transport regulations: - Ground transport ADR/RID und GGVS/GGVE (cross-border/domestic) - Maritime transport IMDG/GGV sea - Air transport ICAO-TI und IATA-DGR  not applicable  see section 13 No special precautions  See 14.3
<b>15. Regulatory information</b>	
15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture:	<b>Designation according to EC guidelines:</b> The product is not subject to EU-Richtlinien/GefStoffV. The usual precautionary measures for handling chemicals should be observed (see section 6.1).  <b>Klassifikation by Betriebssicherheitsverordnung (BetrSichV) :</b> inapplicable



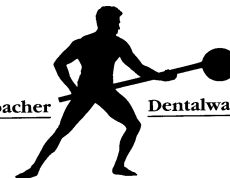
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15.2 chemical safety assessment:	<p><b>Code letter and hazard designation of product:</b> inapplicable</p> <p><b>Hazard-determining components of labeling:</b> inapplicable</p> <p>Not applicable</p>
<b>16. Other information</b>	
<p>These data are based 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.</p> <p>Eisenbacher Dentalwaren ED GmbH makes no express or implied warranty or guarantee as to the accuracy, reliability or completeness of the information. Persons receiving this information are encouraged by Eisenbacher Dentalwaren ED GmbH dental goods deliver the product to any other than the intended purpose of section 1.2. The user is responsible for compliance with all relevant legal requirements.</p> <p>The product must be used by trained dental technicians who have knowledge of the proper use manner and can therefore be considered a misuse of responsibility.</p>	
Relevant H- und P-phrases	<p>H334 May cause allergy or asthma symptoms or cause breathing difficulties.</p> <p>H317 May cause an allergic skin reaction.</p> <p>H413 May be harmful to aquatic life with long lasting effects.</p> <p>P280 Wear protective gloves/clothes/ eye cover/ facemask</p> <p>P260 Do not inhale dust</p> <p>P342+P311 If symptoms of the air passages should occur, please contact toxic information center or doctor</p> <p>P304+P341 Please get fresh air or get into position which makes breathing easier inhaling</p> <p>P333+P313 Consult doctor after rash</p> <p>P302+P352 IF ON SKIN: Wash with soap and water.</p>
Abbreviations and Terms	<p>ADR: Accord européen sur le transport des marchandises dangereuses par route</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-Satz: Hazard statement (Gefährdungen)</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-Satz: Precautionary statement (Vorsichtsmaßnahmen)</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>