

Safety Data Sheet

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

1.1 Product identifier CC DISK Ti5

1.2. Relevant identified uses of the substance or mixture and uses advised against
CC DISK Ti5 is intended for milling in CAD/CAM machines to produce single crowns, larger bridges and implant superstructures.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:	INTERDENT d.o.o.	<i>Production:</i> INTERDENT d.o.o.
Street:	Opekarniška cesta 26	Dol 1
Country code /Postal code/City:	SI-3000 Celje	SI-3342 Gornji Grad
Telephone:	+386(0) 425-62-00	
Fax:	+368(0) 425-62-02	

1.4 Emergency telephone number

Emergency phone: 112 (EU)
+386(0) 425-62-00 (Mon. – Fri.: 8.00 – 16.00)

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

Product is not classified as hazardous according to Regulation (EC) No 1272/2008.

2.2 Label elements

None for product.

2.3 Other hazards

Routes of Entry/Exposure:

Titanium-based alloys in their usual solid form and under normal conditions do not present an inhalation, ingestion, or contact health hazard. Inhalation may occur if dust or fumes are generated. Skin absorption and ingestion is not likely to occur.

Carcinogenicity:

IARC, NTP and OSHA do not list titanium-based alloy as a carcinogen.

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SECTION 3: Composition / information on ingredients

3.1 Substance

See chapter 3.2

3.2 Mixture

Ingredients: Ti, Al, V (Fe, C, O < 1%)

Chemical name	CAS Nr. EC-Number	%
Titanium	7440-32-6 231-142-3	> 85
Aluminum	7429-90-5 231-072-3	< 7
Vanadium	7440-62-2 231-171-1	< 5

SECTION 4: First Aid Measures

4.1 Description of first aid measures

After inhalation:

If dust or other particles are generated during processing, it is necessary to provide adequate ventilation and respiration protection. If dust/particles have been aspirated seek for medical attention.

After skin contact:

Instantly wash with water and soap and rinse thoroughly.

After eye contact:

Rinse open lid for several minutes under running water.

After swallowing:

Wash off mouth with water at first and then drink cca.100mL of water. In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

Primary Entry Routes:

Titanium alloy products in their usual physical form do not present an inhalation, ingestion or contact hazard. Operations such as burning, welding, sawing, brazing, machining and grinding may result in the following effects if exposures exceed recommended limits as listed in Section 8.

Accute effects by product: Not reported

Accute effects by component: Vanadium oxide is fatal if swallowed or inhaled, and may be harmful in contact with skin.

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Chronic effects by product: Not reported

Chronic effects by components:

Titanium: There is no evidence of a health hazard from inhalation of titanium dioxide at airborne concentrations below 10 mg/m³.

Aluminum: Chronic inhalation of powder has been reported to cause pulmonary fibrosis and emphysema. Repeated skin contact has been associated with bleeding into the tissue, delayed hypersensitivity and granulomas. Chronic exposure to aluminum flake has been reported to cause pneumoconiosis in workers. Repeat oral exposure to aluminum results in decrements in neurobehavioral function and development.

Vanadium: Vanadium is considered non-toxic. Excessive long term or repeated exposures to vanadium pentoxide, may result in chronic pulmonary changes such as emphysema or bronchitis. Vanadium pentoxide is suspected of damaging fertility or the unborn child, fatal if swallowed or inhaled.

4.3 Indication of any immediate medical attention and special treatment needed

n.a.

SECTION 5: Fire Prevention Regulations

5.1 Extinguishing media

Suitable extinguishing agents:

CO₂, foam, powder, water.

Unsuitable extinguishing media:

n.a.

5.2 Special hazards arising from the substance or mixture

Metal powder is health harmful. During dry milling of titanium, chips and swarfs can ignite themselves and cause fire. Wet milling is recommended.

5.3 Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Co-ordinate fire-fighting measures to the fire surroundings. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Do not inhale explosion and combustion gases.

SECTION 6: Accidental Substance Release Regulations

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protection equipment. Avoid generation of dust. Wear breathing apparatus

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If exposed to vapours/dusts/aerosols.

6.2 Environmental precautions

Prevent material from entering sewers or waterways.

6.3 Methods and material for containment and cleaning up

Wet clean or vacuum up solids. Use approved industrial vacuum cleaner for removal. Do not use a dry brush as dust clouds or static can be created. Dispose contaminated material according local law.

6.4 Reference to other sections

Safe handling: see section 7. Personal protection equipment: see section 8. Disposal: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use hygienic measures for dental practice. Prevent formation of dust. If dust is formed, avoid breathing it, wear protective masks with filter FFP1 and use vacuum cleaner.

7.2 Conditions for safe storage, including any incompatibilities

Store away from acids.

7.3 Specific end use(s)

Product is used in dental laboratories.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

The OEL values for titanium-based alloy are not defined. Because of safety reasons the PEL values for metal dust/fumes should be considered:

PELOSHA (as TiO₂ total dust) = 15 mg/m³

PELOSHA (Al, as total dust) = 15 mg/m³

PELOSHA (as V₂O₅, respirable dust) = 0,5 mg/m³

PELOSHA (as V₂O₅, fume) = 0,1 mg/m³

8.2 Exposure controls

Personal protective equipment

General protection and hygienic measures:

Consider good hygienic precaution. When using do not eat, drink, smoke. Do not breathe dust.

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Breathing equipment:

Protective mask with FFP1 (EN 143) filter during treating and polishing.

Protection of hands:

Protective gloves according to EN 374-1:2016 during treating and polishing are recommended.

Eye protection:

Protective goggles according to EN 166:2002 during treating and polishing are recommended.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid
Colour	Silver-grey, metallic
Odour	odourless
Boiling point	n.a.
Melting point	n.a.
Density at 20°C	4,4 – 4,5 g/cm ³
Solubility in water	insoluble
Flash point	n.a.
Explosion limits	n.a.
Relative vapour density	n.a.
Particle characteristics	n.a.

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

Not determined for product as a whole.

10.2 Chemical stability

In the product form is stable under normal conditions.

10.3 Possibility of hazardous reaction

In the absence of moisture, titanium burns slowly but produces a lot of heat. Titanium can burn in nitrogen and carbon dioxide atmospheres above 1,562 °F (850 °C). Titanium dust layers will not ignite in pure argon or helium atmospheres, but will ignite in 50% air + 50% argon or helium atmosphere.

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10.4 Conditions to avoid

Dust-generating activities. Avoid contact with strong mineral acids and oxidizing agents which may generate hydrogen gas; the evolution of hydrogen may be an explosion hazard. Extreme caution is recommended in handling titanium alloys exposed to red fuming nitric acid; the reaction residue is considered an explosive.

10.5 Incompatible materials

Strong acids, oxidizing agents

10.6 Hazardous decomposition products

Extreme heat from fire or processing (e.g. welding, brazing, machining, etc.) may produce toxic or irritating airborne particulate, including metal and metallic oxide fumes. Reaction with water, steam, acids, etc. can evolve hydrogen, which is highly dangerous fire and explosion hazard.

SECTION 11: Toxicology information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicokinetics, metabolism and distribution:

Toxicological information has not been established for this product as sold. Processing of this product in operations such as high temperature (burning, welding), sawing, brazing, machining and grinding may produce fumes and/or particulates, which would result in the material being classified as hazardous under OSHA 29 CFR 1910.1200.

Acute Health Effects:

No LC₅₀ or LD₅₀ has been established for titanium-based alloy.

Titanium: Rat, oral, LD₅₀ > 5000 mg/kg

Vanadium: Rabbit LD₅₀ 59 mg/kg

Chronic Health Effects:

Irritation:

No skin irritation data is available for titanium-based alloy.

Sensitization:

No skin sensitization data are available for titanium-based alloy.

Carcinogenicity:

IARC, NTP and OSHA do not list titanium-based alloy as carcinogens. (Note: fumes/dusts/mists from this material may be carcinogenic if inhaled over long periods of time).

Teratogenicity/Mutagenicity:

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No toxic reproduction data are available for titanium-based alloy.

Specific Target Organ Systemic Toxicity (STOST) following a Single Exposure:
No data available for product as sold.

Aluminum: May cause delay in development of neurobehavioral indices.

Specific Target Organ Systemic Toxicity (STOST) following Repeated Exposure:
No data available for product as sold.

Aluminum: Chronic exposure to aluminum flake has been reported to cause pneumoconiosis in workers. Repeat oral exposure to aluminum results in decrements in neurobehavioral function and development.

Aspiration hazard: No data available

11.2 Information on other hazards

No other information available.

SECTION 12: Ecological information

12.1 Toxicity

In solid form this material poses no special environmental problems. Individual components of the product have been found to be absorbed by plants from soil. Metal dusts may migrate into soil and groundwater and be ingested by wildlife as follows:

- **Aluminum:** LC₅₀> 100 mg/l for fish and algae

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to EC 1907/2006 REACH, annex XIII.

12.6 Other adverse effect

Not known

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose according to the local law.

SECTION 14: Transport Information

	Land-Road/Railway (ADR/RID):	Inland waterways (ADNR):	Sea (IMDG):	Air (IATA):
14.1 UN number	No data available			
14.2 UN proper shipping name	No data available			
14.3 Transport hazard class(es)	No data available			
14.4 Packing group	No data available			
14.5 Environmental hazards	No data available			
14.6 Special precautions for user	No special precautions			
14.7 Maritime transport in bulk according to IMO instruments	No data available			
Not a dangerous product within the meaning of the transport regulations.				

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Label Information:

Classification and labeling have been performed according to Regulative 1272/2008.

EU Hazard Symbol and Indication of Danger:

According to Regulation EC 1272/2008 this product is not classified.

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Revision:

Version 03 issued on March 2023 in accordance with EC 1907/2006 (Commission Regulation (EU) 2015/830) and EC 1272/2008.

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Revision in accordance to changes in COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Legend of abbreviations:

ADR - Accord européen relatif au transport international des marchandises dangereuses par route

CAS - Chemical Abstracts Service

CLP – Classification, labeling and packaging

CMR - Carcinogenic, Mutagenic or toxic for Reproduction

DNEL - Derived No-Effect Level

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

EmS Emergency Schedule

GHS "Globally Harmonized System of Classification and Labelling of Chemicals"

IARC: International agency for research on cancer

IATA International Air Transport Association

IATA/DGR Dangerous Goods Regulations (DGR) for the air transport (IATA)

ICAO International Civil Aviation Organization IMDG International Maritime

Dangerous Goods Code PBT persistent bioaccumulative, toxic

LD50: Median lethal dose; the dose causing 50% lethality

NTP: National toxicology program

OSHA: Occupational safety and health administration

OEL: Occupational exposure limit

OSHA PELs: Permissible Exposure Limits - 8-hour TWA (time-weighted average) concentrations unless otherwise noted.

PNEC Predicted No-Effect Concentration

PPM parts per million

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals

RID Règlement concernant le transport International ferroviaire des marchandises

Dangereuses št. vPvB very Persistent and very Bioaccumulative (zelo obstojno in se zelo lahko kopiči v organizmih)

References:

IARC (2006); International Agency for Research on Cancer (IARC).

<http://monographs.iarc.fr/ENG/Classification/>

NTP, Report on Carcinogens. 2016.

<https://ntp.niehs.nih.gov/pubhealth/roc/>

OSHA; Exposure limits and health effects.

https://www.osha.gov/dts/chemicalsampling/data/CH_229100.html

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Disclaimer of expressed and implied warranties:

The information contained in the safety data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.