

SAFETY DATA SHEET

legal basis:
COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to
Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH)

Titanium Grade 5

Creation date 15th October 2025 Version 1

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

- 1.1. Product identifier**
Substance / mixture Titanium Grade 5
Chemical name substance
CAS number titanium
7440-32-6
EC (EINECS) number 231-142-3
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**
Substance's intended use
Titanium alloy. For professional and industrial use only.
Substance uses advised against
The product should not be used in ways other than those referred in Section 1.
- 1.3. Details of the supplier of the safety data sheet**
Manufacturer
Name or trade name MPS Technology Sp. z o.o.
Address ul. Legionów 94, Częstochowa, 42-200
Poland
Phone +48 34 343 80 36
Email handel@mps-tech.pl
- Competent person responsible for the safety data sheet**
Name MPS Technology Sp. z o.o.
Email handel@mps-tech.pl
- 1.4. Emergency telephone number**
+48 34 343 80 36 (8:00– 15:00)
European emergency number: 112

SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**
Classification of the substance in accordance with Regulation (EC) No 1272/2008
The substance is not classified as dangerous according to Regulation (EC) No 1272/2008.
Most serious adverse physico-chemical effects
Titanium dust can be flammable.
- 2.2. Label elements**
Signal word
none
- 2.3. Other hazards**
The endocrine-disrupting properties of the substance have not been studied. Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended. Does not contain any PMT or vPvM components. Dust may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.1. Substances

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
CAS: 7440-32-6 EC: 231-142-3	substance main component titanium	88.74-91	not classified as dangerous	
CAS: 7429-90-5 EC: 640-421-2	aluminium	5.5-6.75	not classified as dangerous	
CAS: 7440-62-2 EC: 231-171-1	vanadium	3.5-4.5	not classified as dangerous	
Index: 001-001-00-9 CAS: 1333-74-0 EC: 215-605-7	hydrogen	≤0.015	Flam. Gas 1, H220 Press. Gas (dissolved gas), H280	1

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Notes

- 1 *Note U (Table 3): When put on the market gases have to be classified as "Gases under pressure", in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case. The following codes are assigned:*

*Press. Gas (Comp.)
Press. Gas (Liq.)
Press. Gas (Ref. Liq.)
Press. Gas (Diss.)*

Aerosols shall not be classified as gases under pressure (See Annex I, Part 2, Section 2.3.2.1, Note 2).

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet.

If inhaled

Not applicable due to the form. Possible exposure to dust or fine particles. Remove person to fresh air and keep comfortable for breathing.

If on skin

Remove contaminated clothes.

If in eyes

Not applicable due to the form. Possible eye contamination during exposure to fine particles or dust. Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person.

If swallowed

Not applicable due to form. Rinse out the mouth with clean water. In the event of issues, find medical help.

4.2. Most important symptoms and effects, both acute and delayed

If inhaled

Not expected.

If on skin

Not expected.

If in eyes

Not expected.

If swallowed

Not expected.

4.3. Indication of any immediate medical attention and special treatment needed

The physician, after assessing the condition of the injured person, makes a decision regarding the course of action.

More information

Other relevant information is not available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide, foam, powder.

Unsuitable extinguishing media

Water jet.

5.2. Special hazards arising from the substance or mixture

If there are hazardous decomposition products, they are listed in section 10.6. Titanium dust can ignite from a spark. Briquettes are not flammable.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with chemical resistant gloves. Use a self-contained breathing apparatus and full-body protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Follow the instructions in the Sections 7 and 8.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Place the product mechanically in an appropriate manner. In case of dust formation, use a vacuum cleaner designed for collecting explosive dust and equipped with high-efficiency (HEPA) filters. Do not sweep or use compressed air for cleaning. Dispose of the collected material according to the instructions in the section 13. The recommendations mainly apply to situations involving titanium dust, not to briquettes as a whole.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protect from moisture. Prevent formation of dust in concentrations exceeding the occupational exposure limits. Briquettes should be stored away from oxidizing materials and strong acids. The recommendations apply to titanium dust, not to briquettes in solid form. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose.

7.3. Specific end use(s)

Apart from the already mentioned guidelines, it is not necessary to follow any specific recommendations for the use of this product.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

8.2. Exposure controls

Ensure workplace is equipped with a safety shower and eye wash station. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Under normal conditions of use, it is not required. Wear safety glasses if there is a risk of eye contamination.

Skin protection

When handling in long-term or repeatedly, use protective gloves. Other protection: protective work- and footwear, according to EN 344.

Respiratory protection

In case of dust formation or if the maximum allowable concentration is exceeded, respiratory protection (e.g., a mask with a HEPA filter) will be necessary.

Thermal hazard

Unknown.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	solid
Colour	silver, grey
Odour	without fragrance
Melting point/freezing point	~1650 °C (titanium)
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-flammable
Lower and upper explosion limit	not applicable
Flash point	not applicable
Auto-ignition temperature	not applicable
Decomposition temperature	not applicable
pH	data not available

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Kinematic viscosity	not applicable
Solubility in water	insoluble
Partition coefficient n-octanol/water (log value)	does not apply to mixtures
Vapour pressure	not applicable
Density and/or relative density	
Density	~4.43 g/cm ³ at 20 °C (titanium)
Relative vapour density	not applicable
Particle characteristics	not determined
Form	solid, titanium billet

9.2. Other information

none

SECTION 10: Stability and reactivity

10.1. Reactivity

When used in the standard way, there is not any dangerous reaction with other substances.

10.2. Chemical stability

Product is stable under normal conditions of use, storage, and transportation.

10.3. Possibility of hazardous reactions

Unknown.

10.4. Conditions to avoid

Protect from flames, sparks, and overheating. Avoid generating titanium dust, which may be flammable.

10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

10.6. Hazardous decomposition products

At high temperatures, titanium oxides (e.g., TiO₂) may form, which are not toxic.

SECTION 11: Toxicological information

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

No toxicological effects are expected if occupational exposure limits are not exceeded. Inhalation of dust above the occupational exposure limits can lead to acute inhalation poisoning, depending on the concentration and exposure time. It does not meet the criteria for classification as a CMR category 1A or 1B substance, according to point 1.3.1 of Annex I to Regulation (EC) No 1272/2008 (CLP). Inhalation of dust may lead to adverse health effects.

Acute toxicity

Based on the available data, the criteria for classification of the mixture are not met.

Skin corrosion/irritation

Based on the available data, the criteria for classification of the mixture are not met.

Serious eye damage/irritation

Based on the available data, the criteria for classification of the mixture are not met.

Respiratory or skin sensitisation

Based on the available data, the criteria for classification of the mixture are not met.

Germ cell mutagenicity

Based on the available data, the criteria for classification of the mixture are not met.

Carcinogenicity

Based on the available data, the criteria for classification of the mixture are not met.

Reproductive toxicity

Based on the available data, the criteria for classification of the mixture are not met.

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Toxicity for specific target organ - single exposure

Inhalation of titanium dust may cause respiratory irritation (coughing, shortness of breath), but briquettes in solid form do not pose a risk.

Toxicity for specific target organ - repeated exposure

Based on the available data, the criteria for classification of the mixture are not met.

Aspiration hazard

Based on the available data, the criteria for classification of the mixture are not met.

11.2. Information on other hazards

Endocrine disrupting properties

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any components that may cause endocrine disruption for humans.

Other information

not available

SECTION 12: Ecological information

12.1. Toxicity

Titanium oxides are stable and insoluble in water, posing no environmental risk.

12.2. Persistence and degradability

No data are available for either the mixture or the components.

12.3. Bioaccumulative potential

No data are available for either the mixture or the components.

12.4. Mobility in soil

Based on the available data, the criteria for classification of the mixture are not met. There are no ecotoxicological data available for the product. Does not contain any PMT or vPvM components.

12.5. Results of PBT and vPvB assessment

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any PBT or vPvB components.

12.6. Endocrine disrupting properties

Based on the available data, the criteria for classification of the mixture are not met. The endocrine-disrupting properties of the mixture in aqueous environment have not been studied. Does not contain any components that may cause endocrine disruption in the environment.

12.7. Other adverse effects

Unknown.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not dispose unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

SECTION 14: Transport information

14.1. UN number or ID number

not subject to transport regulations

14.2. UN proper shipping name

not relevant

14.3. Transport hazard class(es)

not relevant

14.4. Packing group

not relevant

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14.5. Environmental hazards

Product is not an environmental hazard according to the criteria of the UN Model Regulations.

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant

Additional information

The product is not subject to ADR regulations as a hazardous material unless it is in dust form.

SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Product contains regulated explosives precursor: Making available, introduction, possession and use of those precursors by member of the general public according to Regulation (EU) 2019/1148, Article 5 to 9. Commission Regulation (EU) 2020/878 of 18 June 2020 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).

15.2. Chemical safety assessment

not available

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	Agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency Response Procedures for Ships Carrying Dangerous Goods
EU	European Union
EuPCS	European Product Categorisation System
Flam. Gas	Flammable gas
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
log Kow	Octanol-water partition coefficient
OEL	Occupational Exposure Limits
PBT	Persistent, bioaccumulative and toxic
PMT	Persistent, mobile and toxic
ppm	Parts per million

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Press. Gas	Gases under pressure
Press. Gas (Comp.)	Gas under pressure: compressed gas
Press. Gas (Diss.)	Gas under pressure: dissolved gas
Press. Gas (Liq.)	Gas under pressure: liquefied gas
Press. Gas (Ref. Liq.)	Gas under pressure: refrigerated liquefied gas
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulation concerning the International Carriage of Dangerous Goods by Rail
UN number	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very persistent and very bioaccumulative
vPvM	Very persistent and very mobile

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

Uses advised against: Any type of use not listed in this Safety Data Sheet.

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available.

The changes (which information has been added, deleted or modified)

Version 1.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.