

Globally Harmonized System of Classification and Labelling of
Chemicals (GHS)

Ti6Al4V ASTM Gd5 powder 25-45 µm

Version 1.0

Revision Date 25.10.2023

Print Date 27.11.2024

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

1.1 Product identifier

Trade name : Ti6Al4V ASTM Gd5 powder 25-45 µm
Material number : 031274UD0

1.2 Relevant identified uses of the substance or mixture and uses advised against

This information is not available.

1.3 Details of the supplier of the safety data sheet

Company : ECKART TLS GmbH
PC-Straße 5
06749 Bitterfeld-Wolfen
Germany
Telephone : +493493929590
Telefax : +4934939295999
E-mail address : info.eckart.tls@altana.com
Responsible/issuing person

1.4 Emergency telephone number

NCEC:

(contract no.: ECKART29003-NCEC)

+44 1235 239671 (Middle East/Africa, call and response in your language)

+1 215 207 0061 (Americas, call and response in your language)

+65 3158 1074 (Asia-Pacific, call and response in your language)

SECTION 2: Hazards identification

GHS Classification

: Flammable solids, Category 1, H228

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GHS-Labeling

Symbol(s)

:



Signal word

:

Danger

Hazard statements

:

H228: Flammable solid.

Precautionary statements

:

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting equipment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P370 + P378 In case of fire: Use for extinction: Special powder for metal fires.

P370 + P378 In case of fire: Use for extinction: Dry sand.

Hazardous components which must be listed on the label

SECTION 3: Composition/information on ingredients

Substance No.

:

Hazardous components

| Chemical name | CAS-No. EINECS-No. | Classification and labelling | Concentration[%] |
|---------------|-----------------------|---------------------------------|------------------|
| titanium | 7440-32-6 | Flam. Sol.;1;H228 | 50 - 100 |

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| | | | |
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| | 231-142-3 | | |
|--|-----------|--|--|

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures
4.1 Description of first aid measures

| | |
|-------------------------|---|
| General advice | : Move the victim to fresh air. Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended. |
| If inhaled | : Remove to fresh air. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician. |
| In case of skin contact | : Wash off immediately with soap and plenty of water. If on clothes, remove clothes. |
| In case of eye contact | : Flush eyes with water as a precaution. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist. |
| If swallowed | : Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. |

4.2 Most important symptoms and effects, both acute and delayed

This information is not available.

4.3 Indication of any immediate medical attention and special treatment needed

This information is not available.

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SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media : Dry sand, Special powder against metal fire

Unsuitable extinguishing media : ABC powder, Carbon dioxide (CO₂), Foam, Water

High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Contact with water liberates extremely flammable gas (hydrogen).

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : For safety reasons in case of fire, cans should be stored separately in closed containments. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**Personal precautions : Use personal protective equipment.
Evacuate personnel to safe areas.
Avoid dust formation.
Remove all sources of ignition.

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6.2 Environmental precautions

General advice : The product should not be allowed to enter drains, water courses or the soil.
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

This information is not available.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Use mechanical handling equipment.
Do not use a vacuum cleaner.
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Advice on safe handling : Avoid creating dust. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
Store away from heat.

For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Use explosion-proof equipment. During processing, dust may form explosive mixture in air. Take measures to prevent the build up of electrostatic charge. When transferring from one container to another apply earthing measures and use conductive hose material.

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Provide appropriate exhaust ventilation at places where dust is formed. Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Earthing of containers and apparatuses is essential. Reaction with water liberates extremely flammable gas (hydrogen) Use explosion-proof equipment. Store in original container. Keep away from sources of ignition - No smoking. Keep container closed when not in use.

No smoking. Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : Protect from humidity and water.

Advice on common storage : Do not store together with oxidizing and self-igniting products. Never allow product to get in contact with water during storage. Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Other data : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

This information is not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| | | |
|-------------|--------------|---|
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|-------------|--------------|---|

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Germany:

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Update | Basis |
|---|-----------|---|------------------------|------------|-------------|
| titanium | 7440-32-6 | AGW (Inhalable fraction) | 10 mg/m ³ | 2021-07-02 | DE TRGS 900 |
| Peak-limit: excursion factor (category) | | 2;(II) | | | |
| Further information | | When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |
| titanium | 7440-32-6 | AGW (Alveolate fraction) | 1,25 mg/m ³ | 2021-07-02 | DE TRGS 900 |
| Peak-limit: excursion factor (category) | | 2;(II) | | | |
| Further information | | When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child | | | |
| aluminium | 7429-90-5 | AGW (Inhalable fraction) | 10 mg/m ³ | 2014-04-02 | DE TRGS 900 |
| Peak-limit: excursion factor (category) | | 2;(II) | | | |
| aluminium | 7429-90-5 | AGW (Alveolate fraction) | 1,25 mg/m ³ | 2014-04-02 | DE TRGS 900 |
| Peak-limit: excursion factor (category) | | 2;(II) | | | |

United States of America (USA):

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Update | Basis |
|------------|-----------|----------------------------------|-------------------------------------|------------|-------|
| titanium | 7440-32-6 | TWA (total dust) | 50 Million particles per cubic foot | 2012-07-01 | |
| titanium | 7440-32-6 | TWA (total dust) | 15 mg/m ³ | 2012-07-01 | |
| titanium | 7440-32-6 | TWA (respirable fraction) | 5 mg/m ³ | 2012-07-01 | |
| titanium | 7440-32-6 | TWA (respirable fraction) | 15 Million particles per cubic foot | 2012-07-01 | |
| titanium | 7440-32-6 | PEL (Total dust) | 10 mg/m ³ | 2014-11-26 | |
| titanium | 7440-32-6 | PEL (respirable) | 5 mg/m ³ | 2014-11-26 | |

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| | | | | | |
|-----------|-----------|--|----------------------|------------|--|
| | | dust fraction) | | | |
| aluminium | 7429-90-5 | TWA (Respirable) | 5 mg/m ³ | 2013-10-08 | |
| aluminium | 7429-90-5 | TWA (total) | 10 mg/m ³ | 2013-10-08 | |
| aluminium | 7429-90-5 | TWA (total dust) | 15 mg/m ³ | 2011-07-01 | |
| aluminium | 7429-90-5 | TWA (respirable fraction) | 5 mg/m ³ | 2011-07-01 | |
| aluminium | 7429-90-5 | TWA (Total dust) | 15 mg/m ³ | 1989-01-19 | |
| aluminium | 7429-90-5 | TWA (respirable dust fraction) | 5 mg/m ³ | 1989-01-19 | |
| aluminium | 7429-90-5 | TWA (welding fumes) | 5 mg/m ³ | 2013-10-08 | |
| aluminium | 7429-90-5 | TWA (Fumes) | 5 mg/m ³ | 1989-01-19 | |
| aluminium | 7429-90-5 | PEL (Welding fumes) | 5 mg/m ³ | 2017-10-02 | |
| aluminium | 7429-90-5 | TWA (pyro powders) | 5 mg/m ³ | 2013-10-08 | |
| aluminium | 7429-90-5 | PEL (Pyro powders) | 5 mg/m ³ | 2017-10-02 | |
| aluminium | 7429-90-5 | TWA (Respirable particulate matter) | 1 mg/m ³ | 2013-03-01 | |
| aluminium | 7429-90-5 | TWA (powder) | 5 mg/m ³ | 1989-01-19 | |
| vanadium | 7440-62-2 | TWA | 1 mg/m ³ | 2013-10-08 | |
| vanadium | 7440-62-2 | ST | 3 mg/m ³ | 2013-10-08 | |

8.2 Exposure controls

Personal protective equipment

Eye protection : Face-shield
: Tightly fitting safety goggles

Hand protection

Material : Leather
Glove length : Long sleeve gloves

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| | |
|--------------------------|---|
| Remarks | : Leather gloves The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. |
| | : The suitability for a specific workplace should be discussed with the producers of the protective gloves. |
| Skin and body protection | : Anti-static and fire resistant protective clothing. DIN EN 11612; EN 533; EN 1149-1. Anti-static safety shoes. : Dust impervious protective suit Choose body protection according to the amount and concentration of the dangerous substance at the work place. |
| Respiratory protection | : Use suitable breathing protection if workplace concentration requires. Breathing apparatus with filter. P1 filter |

Environmental exposure controls

| | |
|----------------|--|
| General advice | : The product should not be allowed to enter drains, water courses or the soil. : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities. |
|----------------|--|

SECTION 9: Physical and chemical properties
9.1 Information on basic physical and chemical properties

| | |
|----------------|---|
| Appearance | : granular |
| Colour | : No data available |
| Odour | : characteristic |
| pH | : substance/mixture is non-soluble (in water) |
| Freezing point | : No data available |

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| | |
|--|--|
| Boiling point/boiling range | : No data available |
| Flash point | : No data available |
| Bulk density | : No data available |
| Flammability (solid, gas) | : The substance or mixture is a flammable solid with the category 1. |
| Auto-flammability | : No data available |
| Upper explosion limit | : No data available |
| Lower explosion limit | : No data available |
| Vapour pressure | : No data available |
| Density | : No data available |
| Solubility(ies) | |
| Water solubility | : insoluble |
| Miscibility with water | : immiscible |
| Solubility in other solvents | : No data available |
| Partition coefficient: n-octanol/water | : No data available |
| Ignition temperature | : No data available |
| Thermal decomposition | : No data available |
| Viscosity, dynamic | : No data available |
| Viscosity, kinematic | : No data available |
| Flow time | : No data available |

9.2 Other information

No data available

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SECTION 10: Stability and reactivity**10.1 Reactivity**

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : Contact with acids and alkalis may release hydrogen.

No decomposition if stored and applied as directed.

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materialsMaterials to avoid : Acids
Bases
Oxidizing agents
Water**10.6 Hazardous decomposition products**

Other information : No data available

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

No data available

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Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Carcinogenicity

No data available

Toxicity to reproduction/fertility

No data available

Reprod.Tox./Development/Teratogenicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Further information**Product**

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No data available

SECTION 12: Ecological information**12.1 Toxicity**

No data available

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

No data available

12.6 Other adverse effects**Product:**

Additional ecological information : No data available

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SECTION 13: Disposal considerations**13.1 Waste treatment methods**

| | |
|------------------------|--|
| Product | : Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. |
| Contaminated packaging | : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum. |

SECTION 14: Transport information**14.1 UN number**

| | |
|------|--------|
| ADR | : 3089 |
| TDG | : 3089 |
| CFR | : 3089 |
| IMDG | : 3089 |
| IATA | : 3089 |

14.2 Proper shipping name

| | |
|------|------------------------------------|
| ADR | : METAL POWDER, FLAMMABLE, N.O.S. |
| TDG | : METAL POWDER, FLAMMABLE, N.O.S. |
| CFR | : METAL POWDERS, FLAMMABLE, N.O.S. |
| IMDG | : METAL POWDER, FLAMMABLE, N.O.S. |
| IATA | : METAL POWDER, FLAMMABLE, N.O.S. |

14.3 Transport hazard class

| | |
|-----|-------|
| ADR | : 4.1 |
|-----|-------|

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TDG : 4.1
CFR : 4.1
IMDG : 4.1
IATA : 4.1

14.4 Packing group**ADR**

Packaging group : II
Classification Code : F3
Hazard Identification Number : 40
Labels : 4.1
Tunnel restriction code : (E)

TDG

Packaging group : II
Labels : 4.1

CFR

Packaging group : II
Labels : 4.1

IMDG

Packaging group : II
Labels : 4.1
EmS Code : F-G, S-G

IATA

Packing instruction (cargo aircraft) : 448
Packing instruction (passenger aircraft) : 445
Packing instruction (LQ) : Y441

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Packaging group : II
Labels : 4.1

14.5 Environmental hazards

14.6 Special precautions for user

IMDG Code- segregation group:

- : IMDG Code segregation group 7 - Heavy metals and their salts
- : IMDG Code segregation group 15 - Powdered metals

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable
 REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
 Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
 Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable
 REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Banned and/or restricted (titanium)

15.2 Chemical safety assessment

No data available

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SECTION 16: Other information**Full text of H-Statements**

H228 : Flammable solid.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.