



Safety Data Sheet
according to Regulation (EC) No. 453/2010

PS7165-21 Ti6Al4V Titanium alloy

Revision Date: December 12, 2014

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

1.1. Product identifier

Product form : Solid mixture
Product name. : PS7165-21 Ti6Al4V Titanium alloy
Product group : Ti-6Al-4V

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

1.2.1. Relevant identified uses

Main use category : For use with Phenix™ and ProX™ 100, 200, 300 systems

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

3D Systems
Parc Européen d'Entreprises
63200 Riom - FRANCE
T +33 (0)4 73 33 45 85 - F 33 (0) 4 73 33 45 86

1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number
UNITED KINGDOM	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)
UNITED KINGDOM	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Show CLP information + DPD classification in section 2.1

Flam. Sol. 1 H228

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available



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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H228 - Flammable solid

Precautionary statements (CLP) :

P210 - Keep away from ignition sources. - No smoking
P231+P232 - Handle under inert gas. Protect from moisture
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical equipment
P280 - Wear eye protection, protective gloves
P370+P378 - In case of fire: Use Specific metal powder for extinction
P402+P404 - Store in a dry place. Store in a closed container

2.3. Other hazards

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Vanadium	(CAS No) 7440-62-2 (EC no) 231-171-1	< 5	F; R17 Xi; R36/37/38

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Vanadium	(CAS No) 7440-62-2 (EC no) 231-171-1	< 5	Pyr. Sol. 1, H250 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Full text of R- and H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Not applicable.
First-aid measures after inhalation : When symptoms occur: go into open air and ventilate suspected area. In case of irritation of the respiratory tract seek medical advice.
First-aid measures after skin contact : Wash with water and soap.



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- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Take victim to a doctor if irritation persists.
- First-aid measures after ingestion : Rinse mouth with water. Drink plenty of water. Do not induce vomiting.

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

- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after skin contact : None under normal use.
- Symptoms/injuries after eye contact : May cause slight irritation.
- Symptoms/injuries after ingestion : No data available.

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

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- suitable extinguishing media : Sand/earth. Specific metal powder.
- Unsuitable extinguishing media : Water. Foam. ABC powder. CO2 Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : In dry state: combustible.
- Explosion hazard : Explosive dust-air mixtures may form.

5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Prevent dust cloud formation. In case of dust production: no naked flames or sparks.

6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses.
- Measures in case of dust release : In case of dust production: no naked flames or sparks.

6.1.2. For emergency responders

- Protective equipment : Wear gloves. Wear a dust mask and safety glasses.

6.2. Environmental precautions

Avoid release to the environment. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.3. Methods and material for containment and cleaning up

- For containment : Dam up the solid spill.
- Methods for cleaning up : Solid spill: shovel.

6.4. Reference to other sections

No additional information available



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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Avoid generation of dust.
Precautions for safe handling : Keep away from sources of ignition - No smoking. Take precautions against electrostatic charges.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed.
Storage conditions : Keep container closed when not in use. Store in dry protected location to prevent any moisture contact. Do not mix with acids.
Incompatible products : strong acids. Oxydizing.
Heat and ignition sources : ignition sources.
Prohibitions on mixed storage : (strong) acids. highly flammable materials.
Special rules on packaging : Store in a closed container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

PS7165-21		
EU	Local name	4
United Kingdom	WEL TWA (mg/m ³)	4 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	10 mg/m ³

8.2. Exposure controls

- Materials for protective clothing : neoprene/natural rubber. nitrile rubber..
Hand protection : In case of repeated or prolonged contact wear gloves. latex, neoprene, nitrile.
Eye protection : Use glasses if there is a risk of contact with eyes.
Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Dust production: dust mask with filter type P2. Dust production: dust mask with filter type P3.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
Appearance : Metal powder.
Colour : Grey.
Odour : Odourless.
Odour threshold : No data available



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pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable solid
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: No data available
Solubility	: Insoluble in water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Dust may form explosive mixture in air.
Oxidising properties	: No data available
Explosion limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

(some) acids/bases. halogens compounds..

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Dust may form explosive mixture in air. Reacts with (some) acids.



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10.4. Conditions to avoid

Open flame.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Reacts with (some) acids with: release of highly flammable gases/vapours (hydrogen).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available



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12.5. Results of PBT and vPvB assessment

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PBT: not relevant – no registration required
vPvB: not relevant – no registration required

12.6. Other adverse effects

Other adverse effects : No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
EURAL code : 12 01 04 - non-ferrous metal dust and particles

SECTION 14: Transport information

In accordance with ADR / RID / ADN / IMDG / ICAO / IATA

14.1. UN number

UN-No. (ADR) : 3089
UN-No.(IATA) : 3089
UN-No. (IMDG) : 3089
UN-No.(ADN) : 3089

14.2. UN proper shipping name

Proper Shipping Name (ADR) : METAL POWDER, FLAMMABLE, N.O.S.
Proper Shipping Name (IATA) : METAL POWDER, FLAMMABLE, N.O.S.
Proper Shipping Name (IMDG) : METAL POWDER, FLAMMABLE, N.O.S.
Proper Shipping Name (ADN) : METAL POWDER, FLAMMABLE, N.O.S.
Transport document description (ADR) : UN 3089 METAL POWDER, FLAMMABLE, N.O.S., 4.1, II, (E)

14.3. Transport hazard class(es)

Class (ADR) : 4.1
Classification code (ADR) : F3
Class (IATA) : 4.1
Class (IMDG) : 4.1
Class (ADN) : 4.1
Classification code (ADN) : F3
Danger labels (ADR) : 4.1



Division (IATA) : 4.1
Hazard labels (IATA) : 4.1





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Danger labels (IMDG) : 4.1



Danger labels (ADN) : 4.1



14.4. Packing group

Packing group (ADR) : II
Packing group (IATA) : II
Packing group (IMDG) : II
Packing group (ADN) : II

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.) : 40
Classification code (ADR) : F3
Orange plates :



Special provision (ADR) : 552
Transport category (ADR) : 2
Tunnel restriction code (ADR) : E
Limited quantities (ADR) : 1kg
Excepted quantities (ADR) : E2
EAC code : 4Y

14.6.2. Transport by sea

Limited quantities (IMDG) : 1 kg
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P002
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B2, B4
Tank instructions (IMDG) : T3
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-G
EmS-No. (Spillage) : S-G
Stowage category (IMDG) : B
MFAG-No : 170

14.6.3. Air transport

CAO packing instructions (IATA) : 448
CAO max net quantity (IATA) : 50kg
PCA packing instructions (IATA) : 445
PCA Limited quantities (IATA) : Y441



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PCA limited quantity max net quantity (IATA) : 5kg
PCA max net quantity (IATA) : 15kg
PCA Excepted quantities (IATA) : E2
Special provision (IATA) : A3
ERG code (IATA) : 3L

14.6.4. Inland waterway transport

Special provision (ADN) : 552
Limited quantities (ADN) : 1 kg
Excepted quantities (ADN) : E2
Equipment required (ADN) : PP
Number of blue cones/lights (ADN) : 1
Carriage prohibited (ADN) : No

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no substances with Annex XVII restrictions
Contains no REACH candidate substance
Contains no REACH Annex XIV substances.

Seveso Information :

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.



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SECTION 16: Other information

Indication of changes:

SDS Creation Date: 01/07/2013

SDS Revision #: -01-A

SDS Revision Date: 12 December 2014

Reason for Revision: Revised safety data sheet in accordance with commission regulation (EU) No 453/2010.
Update format

Full text of R-, H- and EUH-phrases::

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Sol. 1	Flammable solids, Category 1
Pyr. Sol. 1	Pyrophoric Solids, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H228	Flammable solid
H250	Catches fire spontaneously if exposed to air
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
R11	Highly flammable
R17	Spontaneously flammable in air
R36/37/38	Irritating to eyes, respiratory system and skin
F	Highly flammable
Xi	Irritant

SDS UE (Annexe II REACH)

www.3dsystems.com

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