

Material Safety Data Sheet

Titanium Aluminum Carbide Powder

Report No.: VIH241105001-1
Version: 2.1
Preparation Date: 11/05/2024
Revision Date: 11/05/2024

1. Product and Company information

1.1 Product identifiers

Product Name	Titanium Aluminum Carbide
Product No.	22130600PD
Formula	Ti ₃ AlC ₂
CAS No.	196506-01-1
EC No.	N/A

1.2 Relevant identified uses

Identified uses	Laboratory chemicals, Scientific research
Uses advised against	Consulting manufacturers

1.3 Details of the supplier

Company Name	VI HALBLEITERMATERIAL GmbH
Street	Bergener Straße 14.,
City	Hannover
State	Niedersachsen
Zip Code	30625
Country	Germany
Tel	0049 1626484175
Email	info@vimaterial.de

1.4 Emergency telephone

Emergency Phone #	0049 1626484175
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2. Hazards Identification

2.1 GHS Classification

Classification	Not classified as hazardous under normal handling conditions.
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2.2 GHS Label elements

Signal Word	N/A
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2.3 Hazard Statements

	N/A
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2.4 Precautionary Statements

	N/A
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3. Composition

Chemical Family	Inorganic Compound
Additional Names	N/A

Component	Molecular weight	CAS No.	Concentration
Titanium Aluminum Carbide	194.6 g/mol	196506-01-1	<=100%

4. First Aid Procedures

4.1 Description of first aid procedures

General Treatment	Seek medical attention if symptoms persist.
Inhalation	Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion	Make victim drink water (two glasses at most). Consult doctor if feeling unwell.
Skin	Take off immediately all contaminated clothing. Rinse skin with water/ shower.
Eyes	Rinse out with plenty of water. Remove contact lenses. Seek medical attention.

4.2 Most Important acute and delayed symptoms/effects

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

4.3 Emergency medical treatment and special instructions

1	Based on the symptoms that appear, provide targeted treatment.
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2	Be aware that symptoms may be delayed.
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5. Firefighting Measures

5.1 Extinguishing Media

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	N/A

5.2 Special hazards arising from the substance or mixture

1	Carbon oxides
2	Titanium/titanium oxides
3	Aluminum oxides
4	Non-flammable
5	Ambient fires may release harmful vapors.

5.3 Special protective equipment and precautions for firefighters

1	Wear self-contained breathing apparatus when extinguishing fire.
2	Fight fire from a safe distance and with adequate protection.
3	Prevent firefighting water from contaminating surface and groundwater systems.

6. Accidental Release Measures

6.1 Personal protection, protective equipment and emergency procedures

1	Wear appropriate respiratory and protective equipment specified in special protection information.
2	Isolate spill area and provide ventilation.

6.2 Environmental Precautions

1	Isolate runoff to prevent environmental pollution.
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6.3 Containment and cleanup methods for chemical spills and disposal materials used

1	Collect and arrange disposal.
2	Keep the chemical in suitable and closed containers for disposal.
3	Take care not to raise dust.

4	Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
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7. Handling and Storage

7.1 Handling conditions

1	Handle in a well-ventilated area.
2	Wear appropriate personal protective equipment.
3	Wash thoroughly after handling.

7.2 Storage conditions

1	Keep the container tightly closed.
2	Store in a dry, cool, and well-ventilated area.
3	Keep away from heat, sparks, open flames, and hot surfaces.
4	Store apart from materials and conditions listed in section 10.

8. Exposure Controls and Personal Protection

8.1 Control parameters

Component	Exposure limit
Ti ₃ AlC ₂	N/A

8.2 Engineering controls

1	Maintain adequate ventilation.
2	Wash hands after working with substance.
3	Set up emergency evacuation passages and necessary risk relief areas.

8.3 Personal protective equipment

Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.
Respiratory Protection	If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.
Protective Gloves	The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Eye Protection	Wear tightly fitting safety goggles with side-shields conforming to

	EN 166(EU) or NIOSH (US).
Body Protection	Wear fire/flamm resistant and impervious clothing.

9. Physical and Chemical Characteristics

Color	Gray black
Molecular weight	No data available
Form	Powder
Odor	No data available
pH	No data available
Boiling Point	No data available
Melting Point	No data available
Flash Point	No data available
Evaporation rate	No data available
Flammability	No data available
Vapor pressure	No data available
Density	No data available
Water Solubility	No data available
Viscosity	No data available

10. Stability and reactivity

Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No data available.
Conditions to avoid	No data available.
Incompatible materials	Strong oxidizing agents.
Hazardous Decomposition Products	In the event of fire: see section 5

11. Toxicological Information

11.1 Acute toxicity

Oral	No data available.
Inhalation	No data available.
Dermal	No data available.

11.2 Carcinogenicity

IARC	No data available.
NTP	No data available.
OSHA	No data available.

11.3 Other information

Skin corrosion/irritation	No data available.
Serious eye damage/eye irritation	No data available.
Skin sensitization	No data available.
Respiratory sensitization	No data available.
Reproductive toxicity	No data available.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	No data available.
Germ cell mutagenicity	No data available.
Reproductive toxicity additional hazard	No data available.

12. Ecological Information

12.1 Toxicity

Toxicity to fish	No data available.
Toxicity to daphnia and other aquatic invertebrates	No data available.
Toxicity to algae	No data available.
Toxicity to microorganisms	No data available.

12.2 Persistence and degradability

Persistent retention	No data available.
Degradability	No data available.

12.3 Bioaccumulative potential

Bioaccumulative potential	No data available.
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12.4 Mobility in soil

Mobility in soil	No data available.
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12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
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13. Disposal Considerations

Waste material	Please refer to national and local regulations before disposal.
Contaminated packaging	Packaging containing product residues must be treated under the same conditions as the product itself.
Disposal precautions	Please refer to waste chemicals and contaminated packaging.

14. Transportation Data

14.1 Shipping Labels

Hazardous	Not hazardous for transportation.
Labels	N/A

14.2 ADR/RID

UN number	N/A
UN Proper shipping name	N/A
Transport subsidiary hazard class	N/A
Transport hazard class(es)	N/A
Packaging group	N/A

14.3 IMDG

UN number	N/A
UN Proper shipping name	N/A
Transport subsidiary hazard class	N/A
Transport hazard class(es)	N/A
Packaging group	N/A
Marine Pollutant (Yes/No)	No

14.4 IATA-DGR

UN number	N/A
UN Proper shipping name	N/A
Transport subsidiary hazard class	N/A
Transport hazard class(es)	N/A
Packaging group	N/A

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

Component	EINECS	EC Inventory	TSCA	IECSC	NZIoC	PICCS	KECL	NCI
Ti ₃ AlC ₂	x	x	x	x	x	x	x	x

[EINECS] European Inventory of Existing Commercial Chemical Substances

[EC Inventory] EC Inventory

[TSCA] United States Toxic Substances Control Act Inventory

[IECSC] Chinese Chemical Inventory of Existing Chemical Substances

[NZIoC] New Zealand Inventory of Chemicals

[PICCS] Philippines Inventory of Chemicals and Chemical Substances

[KECL] Korea Existing Chemicals List

[NCI] Vietnam National Chemical Inventory

Note: “√” Listed
 “x” No data / Not listed

16. Other information

16.1 Revision information

Preparation date	11/05/2024
Revision date	11/05/2024
Revision reason	Creation

16.2 Abbreviations and acronyms

CAS	Chemical Abstracts Service
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
RID	Regulation concerning the International Carriage of Dangerous Goods by Rail

IATA	International Air Transportation Association
IMDG	International Maritime Dangerous Goods
LC50	Lethal Concentration 50%
LD50	Lethal Dose 50%
TWA	Time Weighted Average

16.3 References

- [1] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- [2] ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>
- [3] eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- [4] Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- [5] HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- [6] IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- [7] IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- [8] ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

16.4 Disclaimer

The information of this safety data sheet is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products. For further information please contact info@vimaterial.de.