

TITANIUM

SAFETY DATA SHEET

DATE OF LAST REVISION: 07/10/15

Section 1: Identification

Product Name: Titanium
CAS Number: 7440-32-6 / **EC Number:** 231-142-3
Company: Angstrom Sciences, Inc.
40 South Linden Street
Duquesne, PA 15110
For more information call: 412-469-8466
(Monday - Friday 9-5:00 EST)

Section 2: HAZARD IDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008

The substance is not classified as hazardous to health or the environment according to the CLP regulation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Not applicable

Information concerning particular hazards for human and environment: No information known.

Hazards not otherwise classified: No information known.

Label elements

Labeling according to Regulation (EC) No 1272/2008 Not applicable

Hazard pictograms Not applicable

WHMIS classification Not controlled

classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) = 0

Flammability = 0

Physical Hazard = 0

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

Section 3: Composition/Information on Ingredients

Chemical characterization: Substances

CAS# Description: 7440-32-6

Identification number(s):

EC number: 231-142-3

TITANIUM
SAFETY DATA SHEET

Section 4: FIRST AID MEASURES

Eye Contact: Rinse immediately with plenty of water, including under the eyelids, for at least 15 minutes. Call a physician.

Skin Contact: Immediately wash with soap and water and rinse thoroughly.. Seek medical treatment.

Inhalation: Remove to fresh air. If required, give artificial respiration. Keep patient warm. Seek medical advice.

Ingestion: Seek medical treatment.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing Media: Special powder for metal fires. Do not use water.

Unsuitable extinguishing Media: Water

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released: Titanium Oxides

Special protective equipment for firefighters: Wear self-contained respirator. Wear fully protective impervious suit.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.

Environmental Precautions: Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach sewage system or any water course. Do not allow to penetrate the ground/soil.

Methods and material for containment and cleaning up: Pick up mechanically.

Prevention of secondary hazards: No special measurements required.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information of personal protection equipment.

See Section 13 for disposal information.

Section 7: HANDLING AND STORAGE

Handling Precautions for safe handling: Keep container tightly sealed. Store in cool, dry place in tightly closed containers.

Information about protection against explosions and fires: No information known.

Conditions for safe storage, including any incompatibilities Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Store away from mineral acids.

Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well sealed containers.

Specific end use(s): No further relevant information available.

TITANIUM
SAFETY DATA SHEET

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute/

Control parameters

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Addition information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from food stuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands: Impervious gloves.

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Penetration time of glove material (in minutes) Not determined

Eye protection: Safety glasses

Body protection: Protective work clothing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

General information

Appearance:

Form:	Solid in various forms
Color:	Silver grey
Odor:	Odorless
Odor threshold:	Not determined
pH-Value:	Not determined

TITANIUM
SAFETY DATA SHEET

Change in condition

Melting Point/Melting Range:	1668° C (3034° F)
Boiling Point/Boiling Range:	3277° C (5931° F)
Sublimation temperature / start:	Not determined
Flammability (solid, gaseous):	Not determined
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Not determined
Danger of explosion:	Not determined
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor Pressure:	Not applicable
Density at 20°C (68°F):	4.506 g/cm ³ (37.603 lbs/gal)
Relative density	Not determined
Vapor density	Not applicable
Evaporation rate	Not applicable
Solubility in / Miscibility with	
Water:	Insoluble
Partition coefficient (n-octanol/water):	Not determined
Viscosity:	
dynamic:	Not applicable
kinematic:	Not applicable
Other information:	No further relevant information available

Section 10: STABILITY AND REACTIVITY

Reactivity:	No information known
Chemical Stability:	Stable under recommended storage conditions
Thermal decomposition/conditions to be avoided:	Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions:	No dangerous reactions known
Conditions to avoid:	No further relevant information available
Incompatible Materials:	Mineral acids
Hazardous Decomposition Products:	Titanium oxides

Section 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:	No effects known
LD/LC50 values that are relevant for classification:	No data
Skin Irritation or corrosion:	No irritant effect
Eye Irritation or corrosion:	No irritant effect
Sensitization:	No sensitizing effects known
Germ cell mutagenicity:	No effects known
Carcinogenicity:	
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic	

TITANIUM
SAFETY DATA SHEET

and/or carcinogenic and/or neoplastic data for this substance. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

Specific target organ system toxicity - repeated exposure: No effects known.

Aspiration hazard: No effects known.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Carcinogenic categories

OSHA-Ca (occupational Safety & Health Administration) Substance is not listed.

Section 12: ECOLOGICAL INFORMATION

Toxicity

Aquatic Toxicity: No further relevant information available

Persistence and degradability: No further relevant information available

Bioaccumulative potential: No further relevant information available

Mobility in soil: No further relevant information available

Additional ecological information:

General notes:

Do not allow material to be released to the environment without proper governmental permits. Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

Other adverse effects: No further relevant information available.

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation: Consult state, local or national regulations to ensure proper disposal.

Waste Classification: Recycling is preferred method of disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Section 14: TRANSPORT INFORMATION

UN-Number

DOT, ADN, IMDG, IATA

Not applicable

UN proper shipping name

TITANIUM
SAFETY DATA SHEET

DOT, ADN, IMDG, IATA Not applicable

Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA Class Not applicable

Packing group
DOT, IMDG, IATA Not applicable

Environmental Hazards: Not applicable
Special precautions for user: Not applicable
Transport in bulk according to Annex II
of MARPOL73/78 and the IBC Code: Not applicable
Transport/Additional Information:
DOT
Marine Pollutant (DOT): No
UN "Model Regulation: -

Section 15: REGULATORY INFORMATION

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

National regulations

All components of this product are listed in the U.S. Environmental protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances list (DSL).

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

California Proposition 65

Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity Substance is not listed.

Prop 65 - Developmental toxicity, female Substance is not listed.

Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.
Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorization for use) Substance is not listed.

REACH - Pre-registered substances Substance is listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

Section 16: OTHER INFORMATION

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.