

Safety Data Sheet

1. Product and Company Identification

Product Name:	Titanium
Chemical Formula:	Ti
CAS#:	7440-32-6
Identified uses:	Substrates for new generation solar cell and fuel cell.
Contact Information:	MTI Corporation 860 South 19 th Street Richmond, CA 94804, USA Tel: 510-525-3070 Fax: 510-525-4705 Email: info@mtixtl.com Website: www.mtixtl.com
Non-emergency assistance:	1-888-525-3070
Emergency assistance:	Company: CHEMTEL (MTI Contract# MIS2559467) Day or Night Tel (Within USA and Canada): 1-800-255-3924 Tel (Outside USA and Canada): 1-813-248-0585

2. Hazards Identification

Emergency Overview: GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Not Classified

GHS Label elements, including precautionary statements

Not Classified

Hazards not otherwise classified (HNOC) or not covered by GHS

This product does not contain any substances classified as PBT or vPvB. Based on available knowledge of this material, it has been determined to be non-hazardous and will not pose a risk to persons or the environment in its provided form. However, any cutting, welding, melting, grinding, or use for deposition will produce dust, fume, or particulates containing component elements of this material. Exposure to these components may present significant health hazards. Note: Fine particulate may be a combustible dust which, when dispersed in air, may present an explosion hazard.

3. Composition/Information on Ingredients

Substance Name

Formula	Ti
CAS-No.	7440-32-6

Hazardous Components

Not Classified

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

4. First Aid Measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled



No specific recommendations. If throat irritation or coughing persists, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if any discomfort continues.

In case of skin contact

No specific recommendations. Rinse with water. Get medical attention if any discomfort continues

In case of eye contact

Eye contact Rinse with water. Get medical attention if any discomfort continues.

If swallowed

No specific recommendations. If throat irritation or coughing persists, proceed as follows. Rinse mouth. Get medical attention if any discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

No specific symptoms known.

4.3 Indication of any immediate medical attention and special treatment needed

No special treatment required

5. Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire

5.2 Special hazards arising from the substance mixture

None known

5.3 Advice for firefighters

Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out.

5.4 Further Information

No data available

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

No specific recommendations. For personal protection, see Section 8.

6.2 Environmental precautions

Avoid discharge into drains or watercourses or onto the ground.

6.3 Methods and materials for containment and cleaning up

Reuse or recycle products wherever possible. Collect spillage with a shovel and broom, or similar and reuse, if possible.

Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water.

Wash thoroughly after dealing with a spillage. Dispose of contents/container in accordance with national regulations

6.4 Reference to other sections

For disposal see section 13.

7. Handling and Storage

7.1 Precautions for safe handling

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use.

7.2 Conditions for safe storage, including any incompatibilities

No specific recommendations.

7.3 Specific end use(s)



Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. Exposure Control/ Personal Protection

8.1 Exposure controls

Appropriate engineering controls

No specific ventilation requirements.

Personal protective equipment

Eye/face protection

No specific eye protection required during normal use. Large Spillages: Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.

Skin protection

No specific hand protection recommended. Large Spillages: Wear protective gloves.

Hygiene measures

Wash hands thoroughly after handling. Wash at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

Respiratory protection

No specific recommendations. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.

Control of environmental exposure

Not regarded as dangerous for the environment.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: Foil
b) Odor	No characteristic odor
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	1668°C
f) Initial boiling point and boiling range	No data available
g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	2.506 g/cm ³ at 25 °C (77 °F)
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	1200°C
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

No data available

10. Stability and Reactivity

10.1 Reactivity

There are no known reactivity hazards associated with this product.

10.2 Chemical stability

Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3 Possibility of hazardous reactions

No potentially hazardous reactions known

10.4 Conditions to avoid

There are no known conditions that are likely to result in a hazardous situation

10.5 Incompatible materials

No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6 Hazardous decomposition products

Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Based on available data the classification criteria are not met.

Skin corrosion/irritation

Based on available data the classification criteria are not met.

Serious eye damage/eye irritation

Based on available data the classification criteria are not met.

Respiratory or skin sensitization

Germ cell mutagenicity

No data available

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

Based on available data the classification criteria are not met.

12. Ecological Information

12.1 Toxicity

Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

12.2 Persistence and degradability

No data available on bioaccumulation

12.3 Bioaccumulative potential

No data available on bioaccumulation

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment PBT/vPvB assessment

This product does not contain any substances classified as PBT or vPvB.

12.6 Other adverse effects

No data available

13. Disposal Considerations

13.1 Waste treatment methods

Product

Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of the local water authority

Contaminated packaging

Dispose of as unused product.

14. Transport Information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. Regulatory Information

SARA 302 Components

None of the ingredients are listed or exempt.

SARA 313 Components

None of the ingredients are listed or exempt.

SARA 311/312 Hazards

None of the ingredients are listed or exempt.

Massachusetts Right to Know Components

None of the ingredients are listed or exempt.

Pennsylvania Right to Know Components

None of the ingredients are listed or exempt.

New Jersey Right to Know Components

None of the ingredients are listed or exempt.

California Prop. 65 Components

None of the ingredients are listed or exempt.

16. Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, it does not represent any guarantee of the properties of the product. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we shall not be held liable for any damage resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes.