

**MATERION****1. Chemical and company identification**

Name of chemical (Product name)	Titanium Product		
Company name	Materion Advanced Materials Group		
Address	42 Mt. Ebo Road South Brewster, NY 10509 United States		
Telephone	1+845.279.0900		
Emergency telephone number	Chemtrec	1+703.527.3887	
Reference number	013		

2. Hazards identification**GHS classification**

Physical hazards	Flammable solids	Category 1
	Pyrophoric solids	Category 1
	Self-heating substances and mixtures	Category 1
Health hazards	The product is not classified according to GHS.	
Environmental hazards	The product is not classified according to GHS.	

GHS label elements

Symbols	None.
Signal words	None.
Hazard statement	None.

Precautionary statement

Prevention	None.
Response	None.
Storage	None.
Disposal	None.

Other hazards which do not result in classification: None known.

Supplemental information: None.

3. Composition/information on ingredients

Substance or mixture: Substance

Components	CAS Number	Gazette notification		Concentration (%)
		ENCS no.	ISHL no.	
Titanium	7440-32-6			99.9 - 100

Chemical formula: Ti (7440-32-6)

4. First aid measures

If inhaled	Not available.
If on skin	Not available.
If in eyes	Not available.
If swallowed	Not available.

5. Fire-fighting measures

Extinguishing media	DRY sand, sodium chloride powder, graphite powder or Met-L-X powder.
Extinguishing media to avoid	None.
Special fire fighting procedures	Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency measures: Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

Environmental precautions	Not available.
Methods or materials for containment and cleaning up	Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation)	Not available.
Safe handling advice	Not available.

Storage

Safe storage conditions	Store away from incompatible materials (see Section 10 of the SDS).
Safe packaging materials	Store in original tightly closed container.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
-------------------------------------	---

Personal protective equipment

Respiratory protection	Not available.
Hand protection	Not available.
Eye protection	Not available.
Skin and body protection	Not available.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Solid.
Color	Not available.

Odor	Not available.
-------------	----------------

pH	Not available.
-----------	----------------

Melting point/Freezing point	3034.4 °F (1668 °C)
-------------------------------------	---------------------

Boiling point, initial boiling point, and boiling range	5948.6 °F (3287 °C)
--	---------------------

Flash point	Not available.
--------------------	----------------

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure	< 0.0000001 kPa at 25 °C
-----------------------	--------------------------

Vapor density	Not available.
----------------------	----------------

Specific gravity	4.51 at 20 °C
-------------------------	---------------

Solubility(ies)

Solubility (water)	Not available.
---------------------------	----------------

Partition coefficient (n-octanol/water)	Not available.
--	----------------

Auto-ignition temperature	482 °F (250 °C) 2192 °F (1200 °C)
----------------------------------	--------------------------------------

Decomposition temperature	Not available.
----------------------------------	----------------

Viscosity (Coefficient of viscosity)	Not available.
---	----------------

Other information

Density	4.51 g/cm ³ estimated at 20 °C
Molecular formula	Ti
Molecular weight	47.9 g/mol

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Not available.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	None.
Hazardous decomposition products	None.

11. Toxicological information

Respiratory or skin sensitization	
Respiratory sensitization	Not available.

12. Ecological information

Ecotoxicity	Not available.
Persistence and degradability	Not available.
Bioaccumulation	Not available.
Mobility in soil	Not available.
Hazardous to the ozone layer	Not available.

13. Disposal considerations

Dispose in accordance with all applicable regulations.

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Local disposal regulations	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

14. Transport information

IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.
Emergency Response Guide Number	135

15. Regulatory information

Industrial Safety and Health Act

Notifiable substances

Not regulated.

Labeling substances

Not regulated.

Poisonous and Deleterious Substances Control Act

Specified poisonous substances

Not regulated.

Poisonous substances

Not regulated.

Deleterious substances

Not regulated.

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

Class I specified chemical substances

Not regulated.

Class II specified chemical substances

Not regulated.

Monitoring chemical substances

Not regulated.

Priority Assessment Chemical Substances (PACs)

Not regulated.

Reporting Exempted Substances

Not regulated.

Law concerning Pollutant Release and Transfer Register

Specified class 1 substances (substance name, ordinance number and content)

Not regulated.

Class 1 substances (substance name, ordinance number and content)

Not regulated.

Class 2 substances (substance name, ordinance number and content)

Not regulated.

Ship Safety Law, Dangerous Goods Marine Transport and Storage Rule

Not regulated.

Air Law, Enforcement Rule

Not regulated.

Explosives Control Act

Not regulated.

16. Other information

Materion Advanced Materials Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.