

MATERIAL SAFETY DATA SHEET

MSDS No: LL75-0003

Company identification

Name of manufacturer: Mitsubishi Plastics, Inc.
Name of division: Composite Materials Department, Industrial Materials Division
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1. Product name:

ALPOLIC®/fr TCM (Titanium Composite Material)

2. Composition / Information on Ingredients:

Components:

Titanium, JIS Type 1 or equivalent
Stainless steel, grade NSSC 220M
Polyethylene
Aluminum tri-hydroxide as non-combustible mineral filler

CAS Nos. of each component:

Titanium (>=99%): 7440-32-6. It contains very small quantity of hydrogen (H<=0.013%), oxygen (O<=0.15%), nitrogen (N<=0.05%) and iron (Fe<=0.20%).

Stainless steel, grade NSSC 220M: As shown below

Ingredients	Fe	Si	Mn	Ni	Cr	Mo	Nb	Ti
CAS No.	7439-89-6	7440-21-3	7439-96-5	7440-02-0	7440-47-3	7439-98-7	7440-03-1	7440-32-6
NSSC220M	Balance	<=1.00	<=1.00	-	22.0-23.0	1.5-2.5	<=0.5	<=0.5

Polyethylene: 9002-88-4

Aluminum tri-hydroxide as non-combustible mineral filler: 21645-51-2

Fluorocarbon coating as coating layer: 98728-78-0 & 88795-12-4

Identification in accordance with UN:

Not defined in identifications in UN

The product does not contain asbestos.

3. Hazardous identification:

Not applicable to hazardous classifications

4. First-aid measures

Eye contact: When eyes are hurt with particle and/or powder during mechanical processing of the product, rinse affected eyes with clean running water. If irritation is persistent afterwards, get ophthalmic check immediately.

Skin contact: In case of slight burns due to heated product, flush out affected part with large amount of water immediately, to cool down the affected part. In case of serious burns, get medical check immediately.

Inhalation: When having inhaled a large quantity of powder and/or particle during mechanical processing of the product, move to fresh air, to ensure rest and keep warm, and get medical attention immediately.

Ingestion: When having ingested a large quantity of powder and/or particles during mechanical processing of the product, get medical check immediately.

5. Fire-fighting measures

- Prevention of fire spread: In case of occurrence of fire near by the product, cover the products with incombustible sheet or dry sand, to prevent from fire spread to the products.
- Fire extinguishing: If the product is ignited, it is effective for initial extinguishing to dash water. Fire fighting shall be done from the lower portion of the products, and then to upper portion. Fire fighting shall be done from windward side with wearing air-breathing apparatus.
- Extinguishing media: Water, carbon dioxide, dry-chemical powder and foam fire extinguisher.

6. Accidental release measures

Not applicable. Generally, the product is unlikely to spill out accidentally, because of solid nature.

7. Handling and storage

- Handling: Wear gloves to protect hands from scratch and cut with panel edges.
- Storage: Store horizontally where the products can be piled up without deflection. Do not wet the product with rain. Keep it away from such chemicals as acid, alkali, strong oxidizer and chlorides, organic solvents, spark and fire.

8. Exposure control

- Control content: Not established in Ministry of Labor of Japan, Notification No.26, March 27, 1995
- Facility measures: Normally, control is not required. But, when a large quantity of powder and particles are likely to occur due to mechanical processing of the product, provide such a suitable facility as partial ventilation and overall ventilation.
- Personal protection:
- Eye protection: When operators are exposed to particles and small chips, wear protection glasses during the operation.
 - Hand protection: Wear gloves to protect hands from scratch and cut with panel edges.
 - Skin protection: Wear working clothes and safety shoes.
 - Respiratory protection: When particle and small chips exist in certain range, wear respirator.

9. Physical and chemical properties

- Appearance: Panel of 4mm thick.
- Boiling temperature: Approx. 3200°C in titanium and 2500°C in stainless steel
- Melting temperature: Approx. 1600°C in titanium and 1400°C in stainless steel
- Specific gravity: 4.5g/cm³ in titanium and 7.7g/cm³ in stainless steel
0.89 to 1.54g/cm³ in polyethylene
- Solubility: Insoluble to water

10. Stability and reactivity

- Flash point: Approx. 340°C in polyethylene
- Ignition point: 400°C or higher in polyethylene
- Possibility of self-ignition: None
- Susceptibility of oxidization: None
- Reactivity with water: None
- Self-reactivity: None
- Danger of explosion of particle: None
- Other reactivity: None
- Stability: Stable

11. Toxicological information

There is no information.

12. Ecological information

There is no information available.

13. Disposal Consideration

In accordance with official regulations for waste disposal, dispose by incineration or reclamation as factory waste.

14. Transport Information

The product is packed in wooden crate for transportation. During transportation, please prevent the product from being wet.

15. Regulations

There is no applicable regulation.

16. Other Information

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