

## SAFETY DATA SHEET

### ID# SDS-47

Issue Date: June 1, 2015

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Revision No. 003

### Section 1: Identification

**Product Identifier:** TIVAR™ 88 UHMW-PE with BurnGuard

**Manufacturer:**

Mitsubishi Chemical Advanced Materials, Inc.  
2120 Fairmont Ave.  
Reading, PA 19605  
(610) 320-6600

In case of an emergency, please call Chemtrec 1-800-424-9300.

**Recommended Use:** Industrial application for abrasion and chemical resistant applications and low coefficient of friction

### Section 2: Hazard Identification

#### GHS – Classifications

**Classification:** None

**Signal Word:** None

**Pictograms and Symbols:** None

**Hazard Statements:** None

**Precautionary Statements:** None

### Section 3: Composition/Information on Ingredients

| Chemical Name    | CAS No.   | Weight % |
|------------------|-----------|----------|
| Polyethylene     | 9002-88-4 | > 80     |
| Natural Graphite | 7782-42-5 | <25      |
| Sulfuric Acid    | 7664-93-9 | < 2.5    |
| Nitric Acid      | 7697-37-2 | < 2.5    |

### Section 4: First-Aid Measures

**Eyes:** Flush with plenty of water for at least 15 minutes. Seek medical attention if irritation continues.

**Skin:** No health risks concerning skin contact at room temperature. Wash with soap and water. If molten material comes in contact with the skin, cool under running water. Do not attempt to remove the molten material from the skin. Get medical attention immediately.

**Inhalation:** If inhaled, remove to fresh air. Seek medical attention if respiratory irritation occurs or breathing becomes difficult.

**Ingestion:** Rinse the victim's mouth with plenty of water. Do not induce vomiting. Seek medical attention.

### **Section 5: Fire-Fighting Measures**

Fire-fighters should protect themselves from decomposition and combustion products (CO<sub>2</sub>, CO, etc.) by using a full-face self-contained breathing apparatus and impervious protective clothing. When heated produces respiratory sensitizers gases and/or fumes. Extinguish fires with water, foam, carbon dioxide or dry chemical media.

Dust is flammable and explosive when finely divided and suspended in air.

May release acid fumes when heated above 100° F.

### **Section 6: Accidental Release Measures**

If a spill occurs, stop the leak at the source and sweep up for disposal. Do not flush to sewers or waterways.

### **Section 7: Handling and Storage**

#### **Precautions for Safe Handling**

Personal hygiene such as washing the hands and face immediately after working with this material and before eating is recommended.

Dust may form explosive mixtures with air. Avoid dust formation and control ignition sources. Polyolefin dust particles suspended in air are combustible and may be explosive. Keep away from heat, sparks, flame, and other ignition sources. Prevent dust accumulations and dust clouds. Employ ground, bonding, venting, and explosive relief provisions in accordance with accepted engineering practices and NFPA provisions in any process capable of generating dust and/or static electricity. Explosion hazards apply only to dusts, not granular forms of this product.

The handling of powder in both loading and unloading operations, as well as fabrication, may cause dust to be formed and necessary precautions for personal protection should be used. As with all finely divided materials precautions should be taken to avoid inhalation and eye contact.

If in dust form, transfer from storage with a minimum amount of dusting. Ground all transfer, blending, and dust collecting equipment to prevent static sparks in accordance with NFPA 70 "National Electric Code." Review and comply with all relevant NFPA provisions, including but not limited to NFPA 484 and NFPA 654 related to combustible dust hazards. Remove all ignition sources from material handling, transfer, and processing areas where dust may be present. Local exhaust ventilation should be provided in work area.

Slip Hazard: Fabrication of this product generates a fine graphite dust that can create a slip hazard on floors. Floor cleaning units that dampen, brush, and vacuum the floor may be effective in reducing the slip hazard.

May release acid fumes when heated above 100° F.

#### **Precautions for Safe Storage**

Store in a sprinkler protected warehouse. Since TIVAR™ products are polyethylene, they will burn with a hot flame if ignited. Avoid contact with ignition sources such as open flames. Keep a fire extinguisher near if welding is done in the area of TIVAR™ products. If a heat source is present, keep the area well ventilated.

## Section 8: Exposure Controls/Personal Protection

| Chemical Name    | ACGIH TLV   | OSHA PEL   | NIOSH REL                             |
|------------------|---|--|---------------------------------------|
| Particulates     | 10 mg/m <sup>3</sup>  | 15 mg/m <sup>3</sup> – Total<br>5 mg/m <sup>3</sup> – Respirable | Not Established                       |
| Natural Graphite | 2.0 mg/m <sup>3</sup>                                       | 2.5 mg/m <sup>3</sup>  | 2.5 mg/m <sup>3</sup> –<br>Respirable |
| Sulfuric Acid    | 1.0 mg/m <sup>3</sup> - TWA<br>3.0 mg/m <sup>3</sup> - STEL | 1.0 mg/m <sup>3</sup>  | 1.0 mg/m <sup>3</sup>                 |
| Nitric Acid      | 2.0 ppm   | 2 ppm - TWA<br>4 ppm - STEL                                      | 2 ppm - TWA<br>4 ppm - STEL           |

### Engineering Measures:

Provide local exhaust ventilation to keep airborne concentrations below the recommended OEL.

### Personal Protective Equipment: Eyes/Face

Safety glasses with side shields.

### Personal Protective Equipment: Skin

When handling molten material, protective clothing such as long sleeves or laboratory coat should be worn. Use heat-resistant gloves, boots, and face protection.

### Personal Protective Equipment: Respiratory

If levels are above published OELs, then a NIOSH approved respirator with particulate filters. If the material is being burned wear an organic filter.

Good industrial hygiene practice should be followed which includes preventing eye contact, minimizing skin contact, and minimizing inhalation of dust, vapors or mist.

## Section 9: Physical and Chemical Properties

|  |  |
|--|--|
| Appearance and Odor                    | Waxy solid with waxy odor. Various colors.         |
| Odor Threshold                         | No Information Available                           |
| Specific Gravity (Relative Density)    | 1.0  |
| Solubility in Water                    | Negligible   |
| VOC Content (%)                        | No data available                                  |
| pH                                     | No data available                                  |
| Melting Point/Freezing Point           | 280°F  |
| Vapor Pressure                         | No data available                                  |
| Vapor Density                          | No data available                                  |
| Evaporation Rate                       | No data available                                  |
| Boiling Point                          | No data available                                  |
| Flammability                           | Combustible  |
| Flash Point                            | >662°F (ASTM-D-1929 Method B) (Setchkin)           |
| Explosion Data                         | LEL – No data available<br>UEL – No data available |
| Auto ignition Point                    | >662°F   |
| Partition Coefficient: n-octanol/water | No data available                                  |
| Decomposition Temperature              | No data available                                  |
| Viscosity                              | No data available                                  |

## Section 10: Stability and Reactivity

### Reactivity:

None known

### Chemical Stability:

Material is stable under normal industrial conditions and is not susceptible to hazardous polymerization.

### Possibility of Hazardous Reactions:

Reacts violently with fluorine

### Conditions to Avoid:

High temperatures. Incompatible materials

### Incompatibility:

Fluorine, strong acids, strong oxidizers

### Hazardous Decomposition Products:

Carbon Oxides and Aliphatic Hydrocarbons. May release acid fumes when heated above 100° F.

## Section 11: Toxicological Information

**Signs and Symptoms of Overexposure:** Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness and swelling. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.

**Aggravated Medical:** None known, however seek medical attention if constant irritation occurs. If thermal decomposition occurs, upper respiratory, eye, nose, and throat irritation may result.

**Acute Effects:** Non-toxic.

**Skin Corrosion/Irritation:** Not irritating to the skin.

**Serious Eye Damage/Irritation:** Particulates can be mechanically irritating to the eyes.

**Ingestion:** None.

**Inhalation:** Inhalation of particulates may produce respiratory tract irritation.

**Respiratory or Skin Sensitization:** Not expected to be a sensitizer.

### Chronic Effects:

**Germ Cell Mutagenicity:** Not expected to be a germ cell mutagen.

**Carcinogenicity:** Not classifiable as carcinogen to humans (group 3 IARC).

**Reproductive Toxicity:** There aren't known reproductive toxicity effects.

**STOT-single Exposure:** At dust form, may cause respiratory irritation with cough and sneezing.

**STOT –multiple Exposure:** There aren't known repeated exposure effects.

**Aspiration Hazard:** No data available. Not expected to be an aspiration hazard.

**Primary Route of Entry:** Inhalation of particulates.

## Section 12: Ecological Information

### Ecotoxicity:

There aren't known ecological toxicity values.

### Persistence and degradability:

It's expected high persistence and slow degradability. Biodegradation rate <70% in 28 days.

### Bioaccumulative Potential:

It's expected moderate to high bioaccumulative potential.

### Mobility in Soil:

No data available

### Other Adverse Effects:

No data available

| Chemical Name | Toxicity to Algae | Toxicity to Fish | Microtox | Daphnia Magna (Water Flea) |
|---------------|-------------------|------------------|----------|----------------------------|
|               |                   |                  |          |                            |

## Section 13: Disposal Considerations

According to the 'European Waste Catalogue and Hazardous Waste List', uncontaminated waste from the products is not classified as hazardous. The following six-digit codes can be used:

- 07 02 13 waste plastic from the manufacture, formulation, supply and use of plastics
- 12 01 05 plastic shavings and turnings
- 16 01 19 plastic, from end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance
- 17 02 03 plastic construction and demolition wastes
- 20 01 39 plastics from municipal wastes (household waste and similar commercial, industrial and institutional wastes)

### Waste disposal:

When recycling is not feasible, waste disposal by incineration or landfill can be applied. Disposal methods shall conform to local or other government regulations.

## Section 14: Transportation Information

US Department of Transportation Classification (49CFR)

Not classified as hazardous for transport.

## Section 15: Regulatory Information

SARA Section 302 & 304:

No chemicals



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SARA Section 311 & 312:

No reporting requirements although it is suggested that storage of >10,000 lbs. of polyethylene in one facility should be listed on a Tier II report.

SARA Section 313:

The following component is subject to reporting levels established by SARA Title III, Section 313:

TSCA:

All components of this product are either listed or are exempt on the TSCA inventory.

## Section 16: Other Information

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**Hazard Statements:** None

**Precautionary Statements:** None

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