

Date last revised 09/01/2010 By M. Lykins

MSDS-47

I. Chemical Product and Company Identification

Chemical Name & Synonyms Ultra-High Molecular Weight Polyethylene	Trade Name & Synonyms TIVAR 88® with BurnGuard
Chemical Family Linear High Density Polyethylene	Formula (ch ₂ -ch ₂) _n
Proper DOT Shipping Name: N/A	DOT Hazard Classification: N/A
Manufacturer: Quadrant EPP USA, Inc. 2120 Fairmont Avenue. Reading, PA 19605 (610) 320-6600	Chemtrec Phone Number 1-800-424-9300

II. Ingredients

Principal Components	Percent	Threshold Limit Value	OSHA PEL
Polyethylene (9002-88-4)	>80%	10 mg/m ³	15 mg/m ³
Natural Graphite (7782-42-5)	<25%	2.0 mg/m ³	2.5 mg/m ³
Sulfuric Acid (7664-93-9)	<2.5%	1.0 mg/m ³	1.0 mg/m ³
Nitric Acid (7697-37-2)	<2.5%	2 ppm	5.0 mg/m ³

III. Physical Data

Boiling Point (Deg. F.) N/A	Specific Gravity (H ₂ O=1) 1.0
Vapor Pressure (mm Hg) N/A	Percent Volatile By Volume (%)
Vapor Density (Air=1) N/A	Evaporation Rate (Air =1) N/A
Solubility in Water Negligible	pH N/A
Appearance & Odor Black Solid with waxy, pungent odor.	

IV. Hazard Identification/Fire & Explosion Hazard

Flash Point (Test Method) - >350°C (662° F.) (ASTM-D-1929 Method B)(Setchkin)		
Auto Ignition Temperature - >350°C (662° F.)		
The graphite will expand at temperatures >204°C (>400 ° F)		
Flammable Limits N/A	LEL N/A	UEL N/A
Extinguishing Media Water, Foam, Carbon Dioxide, Dry Chemical		
Special Fire Fighting Procedures: Firefighter should be equipped with positive pressure, self-contained breathing apparatus in enclosed areas. NFPA Hazard Code: Health:1; Flammability:1; Reactivity:0; Special Hazard: See below		
Unusual Fire & Explosion Hazards Dust is flammable when finely divided and suspended in air.		

V. Health Hazard Data

 Carcinogen - NTP Program
 NO

 Carcinogen - IARC Program
 NO

 Symptoms of Exposure
 None Known

Medical Conditions Aggravated By Exposure

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

Primary Route(s) of Entry

Inhalation of particulates.

Other Routes of exposure

Eye contact, skin contact.

Physical Health Hazards:

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 grounding, 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. See also Special Precautions section below.

Emergency First Aid

Molten material. 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.

VI. Reactivity Data

 STABILITY Unstable
 Stable

INCOMPATIBILITY

 Hazardous May Occur

 Polymerization Will Not Occur

Conditions To Avoid

None Known

Materials To Avoid

Strong oxidizing agents.

Conditions To Avoid

None Known

Hazardous Decomposition Products:

Oxides of carbon, sulfur, and nitrogen.

VII. Environmental Protection Procedures

Spill Response

Sweep up for Disposal or reuse.

Waste Disposal Method

Incineration or landfill - dispose of in accordance with Federal, State and Local regulations.

VIII. Special Protection Information

Eye Protection

Glasses with side shields.

Skin Protection

Use insulated gloves when handling molten material.

Respiratory Protection (Specific Type): This product can create dust during machining that may cause respiratory irritation. Use a NIOSH approved dust respirator, or in the event that material is being burned, use an organic respirator.

Ventilation Recommended: Local ventilation in dusty conditions, or if thermal decomposition occurs.

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.

Other Protection

Thermal insulated gloves and protective garments when handling molten material.

IX. Special Precautions Information

Handling: 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 (See Section VIII) should be used. As with all finely divided materials, precautions should be taken to avoid inhalation and eye contact.

Hygienic Practices In Handling & Storage

Wash with soap and water.

Precautions For Repair & Maintenance Of Contaminated Equipment. Eliminate ignition sources.

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 that are 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.

May release acid fumes when heated above 100°F.

Other Precautions

Store in a sprinkler protected warehouse. Keep a fire extinguisher near if welding is done in the area of TIVAR® 88 BurnGuard. If a heat source is present, keep the area well ventilated.

MSDS-47

X. Regulatory Information

OSHA Status: Polyethylene is not considered hazardous under OHSA.

TSCA Inventory Status: All ingredients are listed.

CERCLA Reportable Quantity (RQ): None

SARA Title III:

Section 302/304. No extremely hazardous substances

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.

Section 313: No reporting requirements.

XI. Warning Labels

CAUTION: This product can create dust during machining that may cause respiratory irritation. Use a NIOSH approved dust respirator, or in the event that material is being burned, use an organic respirator. Please consult the product MSDS sheet for important information.

NFPA Code: Fire 1, Health 1, Reactivity 0

HMIS Code: Fire 1, Health 0, Reactivity 0

Hazard data contained herein was obtained from raw material suppliers. The information presented is believed to be factual, as it was derived from the works and opinions of persons believed to be qualified. However, no facts contained in the information are to be taken as a warranty, or representation, for which Quadrant EPP USA Inc. bears legal responsibility. The user should review any recommendation in the specific context of the intended use to determine if they are appropriate.

N.A.= Not Applicable N.E.= Not Established