Starfire® SP-DMPCS

POLYMER-TO-CERAMIC™ TECHNOLOGY

Technical Data Sheet

Dimethoxypolycarbosilane (DMPCS) is a liquid polymer that can be cured into solid at room temperature by moisture from air. It can also form a sol-gel material by reacting with water. Methanol is the by-product from curing or sol-gel reactions. The resultant coatings from either process can be pyrolyzed to form a silicon oxycarbide by heating to 1000°C.

Applications

- Electronic inter-layer-dielectronic
- Precursor for SiOxCy ceramic

Physical and Chemical Properties	
Appearance	Transparent, colorless to light yellow
Odor	Mild, organic
Specific Gravity	1.12 g/cm^3 @ 25°C
Boiling Point	120°C
Vapor Density	NE
Melting Point	Below -40°C
Solubility	Miscible with hexane, tetrahydrofuran, toluene, and other organic solvents. Slowly reacts with water to release methanol.

Handling and Storage:
Material should be stored in tightly sealed containers. Keep away from heat, sparks, and open flame. Material is moisture sensitive, store in a cool dry place.

Safety:

Respiratory protection:
Do not breathe vapor or mists. Use NIOSH/MSHA approved organic vapor/acid gas respirator. A self-contained breathing apparatus is required if the polymer is used at over 100°C outside a ventilation hood. Mechanical exhaust engineering controls required, or use only in chemical fume hood.

Protective Gloves:
Compatible chemical resistant gloves (Viton or Sliver Shield are recommended).

Eye Protection; Other Protective Clothing/Equipment:
Do not get in eyes, on skin, or clothing. Safety glasses/goggles, face shield (8-inch minimum), and chemical resistant clothing/apron should be worn. Emergency shower and eye bath should be available.

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