

Technical Data Sheet

Diethoxypolycarbosilane (DEPCS) is a viscous 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. Ethanol is a by-product from curing or sol-gel reactions. The resultant coatings from direct-air curing or sol-gel reactions can then be heated to 400°C to achieve better mechanical properties. Either resulting solid can be pyrolyzed to form a silicon oxycarbide by heating to 1000°C.

Applications

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

Physical and Chemical Properties

Appearance	Transparent, colorless to yellow
Odor	Mild, but distinctive
Specific Gravity	1.006 at 20°C
Boiling Point	>160°C
Vapor Density	NE
Melting Point	<-20°C
Solubility	Slightly soluble in water
Vapor Pressure	< 1mm at 20°C

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.

Warranty

No analysis of this product is permitted. The data provided relates only to the material identified above, as supplied by Starfire Systems®, Inc. (SSI). Because conditions and methods of use of our products are beyond our control, this information should not be used as a substitution for customer's tests to ensure that SSI's products are safe, effective, and fully satisfactory for the intended end use. SSI's sole warranty is that the product will meet sales specifications in effect at the time of shipment.