

Technical Data Sheet

Polyramic® SPR-036 is a liquid precursor to thermally stable silicon oxycarbide ceramics. SPR-036 is one of a family of polymers containing both Si-C and Si-O bond structures that cure to a thermoset at low temperatures. The cured polymer can then be fired to form a high temperature, oxidation resistant, glassy material. The low viscosity liquid polymer can be used to produce coatings, molding compounds, and ceramic matrix composites.

Product Highlights

• Ease of Processing

Low Viscosity Resin

- Facilitates high solids loading with fillers.
- Simplifies reinfiltration of composite.
- Virtually no odor, air stable.

Low Temperature Cure

- Curable from 180°C to 225°C by use of suitable catalysts.
- Use of organic resin molding techniques and materials to make near net shape components.

Simple direct pyrolysis to form ceramics

- Pyrolysis at 1°C/min to 850-1,100°C produces black glassy material with ceramic yields of 60% to 80%.

• Long Term Oxidation Resistance

Retains > 98% of original mass and appearance after:

- One hour at 1,400°C in flowing air
- 500 hours in 800°C air with repeated insertions/removals from furnace at temperature
- 500 hours in 1,100°C air with repeated insertions/removals from furnace at temperature

Properties of Polyramic® SPR-036

Density	1.1 cm ³
Appearance	Clear, slightly milky
Viscosity	50 - 500 cPs
Solubility	Hexanes, Tetrahydrofuran, Toluene, Xylene
Flash Point	56°C
Surface Tension	-
Odor	Mild
DOT / IATA Regulations	Hazardous
Storage	Room Temperature*

*May refrigerate to extend shelf life. Must vent containers.

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.