Thermophysical Properties of Polybenzimidazole (PBI) at Room Temperature

# 1. Density

The density of Polybenzimidazole (PBI) is approximately 1.3 to 1.4 g/cm³.

References: Thermochemical characterization studies confirm the density of PBI, consistent with its use in high-performance applications. Source: Journal of Thermal Analysis and Calorimetry.

# 2. Glass Transition Temperature (Tg)

The glass transition temperature (Tg) of Polybenzimidazole is generally in the range of 425°C to 435°C.

References: The high Tg of PBI is well documented in various studies, indicating its suitability for high-temperature applications. Source: Journal of Thermal Analysis and Calorimetry.

# 3. Thermal Conductivity

The thermal conductivity of Polybenzimidazole is around 0.21 W/m·K.

References: This value is supported by thermochemical and thermogravimetric analysis, especially in studies focused on PBI’s application in high-performance materials. Source: Journal of Thermal Analysis and Calorimetry.

# 4. Specific Heat Capacity (Cp)

The specific heat capacity of Polybenzimidazole is approximately 850 J/kg·K at room temperature.

References: This data is derived from detailed thermophysical analysis, confirming PBI’s use in thermal management applications. Source: Journal of Thermal Analysis and Calorimetry.