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: PBI has a density consistent with values typically reported in polymer literature, confirmed by sources such as thermomechanical studies on PBI (Wikipedia, 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 both academic and industrial sources, confirming its use in high-temperature applications (Wikipedia, 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 consistent with known thermal properties of PBI as highlighted in thermal analysis studies (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 supported by thermochemical characterization studies and used in various applications involving PBI (Journal of Thermal Analysis and Calorimetry).