

Technical Data Sheet

Polyhydroxybutyrate-co-valerate (PHBV)

Overview

PHBV is a naturally derived, fully biodegradable polyester. It presents good processability for extrusion, injection moulding, and film forming applications.

Key characteristics: Bio-based · Home compostable · Non-toxic · High molecular weight · Thermoplastic

Storage: Store in a dry place with sealed packaging.



Physicochemical properties

Appearance	White, free-flowing powder
Density at 25 °C (g/cm ³)	1.25
Monomeric Composition	97–99 mol% 3-Hydroxybutyrate (3-HB) 1–3 mol% 3-Hydroxyvalerate (3-HV)
Melting Temperature, T _m (°C)	160–180
Glass Transition Temperature, T _g (°C)	3–7
Thermal Degradation Onset Temperature, T _d (°C)	250–290
Enthalpy of Fusion, ΔH _m (J/g)	75–80 (Semi-crystalline)
Average Molecular Weight <ul style="list-style-type: none"> • Mw (g/mol) • Dispersity Index, Đ 	550,000–600,000 4.1
Ultimate Tensile Strength, σ _u (MPa)	36–42
Elongation at Break, ε _b (%)	1–2
Young's Modulus E (GPa)	2.6–3.2