Emirates Biotech

# TECHNICAL DATA SHEET.

Version 1.0 July 2025
GMS-770-00-GL-0007

## Embio® EB20MV

Medium Viscosity neat PLA resin designed for heat demanding injection molding, spunbond, and fiber spinning applications.

### DESCRIPTION

Embio grades are plant-based polymers that offer a significant reduction in carbon footprint and sustainable circular options through recycling or composting. Embio EB20MV is a neat Polylactic Acid (PLA) resin with balanced flow and crystallization rate, tailored to provide improved thermal stability and lower shrinkage in its final products. It is designed for food contact applications and meets industrial compostability standards, making it ideal for applications such as:

- Injection molded tableware.
- Spunbond fabrics.
- Staple fibers for wetlaid tea bags.
- Key building block in formulated blends.
- Textured and flat yarns for textiles.

### TYPICAL PROPERTIES

| Physical properties | Test method | Typical value |
|---|---|---|
| Melt Flow Rate, MFR, g/10 min (190°C, 2.16kg) | ISO 1133 | 5-12 |
| Melt Flow Rate, MFR, g/10 min (210°C, 2.16kg) | ISO 1133 | 20-26 |
| Density, g/cm$^3$ | ISO 1183 | 1.24 |
| Melting temperature, °C | ISO 11357 | 160-170 |
| Glass transition temperature, °C | ISO 11357 | 58-60 |
| Resin appearance | Visual | Clear (Opaque*) |
| Mechanical properties* | Test method | Typical value |
| Tensile yield strength, MPa | ISO 527 | 45-50 |
| Elongation at break, % | ISO 527 | 2.5-5.0 |
| Notched izod impact, J/m | ISO 179 | 20-35 |
| Shrinkage, % | ISO 294 | 1.7-1.8 |
| Typical fiber properties** | Test method | Typical value |
| Tenacity, g/d | ISO 2062 | 3.0-5.5 |
| Elongation, % | ISO 2062 | 10-60 |

*When fully crystallized using heated mold tooling

**0.5 denier per filament

### GENERAL INFORMATION

- Embio EB20MV resin can be used as a neat resin or as part of a formulated blend. It can be processed using standard spunbond and fiber spinning equipment for polyester with minimal processing adjustments.
- Embio EB20MV should be stored indoors in its original, unopened packaging to prevent moisture absorption and exposure to excessive heat.
- For injection molding, moisture content should be below 250 ppm, and below 50 ppm for spunbond processing, to prevent viscosity degradation. A desiccant dryer capable of delivering air with a dew point below -40°C is recommended. Suggested drying condition in each process is available in processing guideline document.
- Avoid starting up, shutting down, or transferring the line while it remains heated with PLA in the system for extended periods, as this can lead to material degradation and potential blockages.
- We recommend performing trials to validate the processing of the material and the performance of the final product. Emirates Biotech Technical Solutions team is available to help optimize the processing and to support application development.

### FOOD CONTACT STATUS.

This Embio grade is designed to comply with food contact regulations in both the USA and EU. For more information, please contact technicalsolutionsteam@emiratesbiotech.com

### COMPOSTABILITY.

This Embio grade is designed to comply with the established industrial composting standards EN13432 and ASTM D6400. For further information, please contact technicalsolutionsteam@emiratesbiotech.com