

TECHNICAL DATA SHEET

Certified bio-based resin for polyethylene film applications

Certified Bio-Based Content.
Familiar Processing.

Formulated with 50% corn starch and designed for conventional polyethylene film processing without additional process aids or specialized equipment.

2★
TÜV OK biobased
Class 2 certification

50%
Corn starch
Renewable formulation content

PE
Conventional processing
LDPE, LLDPE and HDPE

1T
Industrial supply
1,000 kg bulk box

PRODUCT DESCRIPTION

Bio4M is a bio-based resin formulated with 50% corn starch and engineered for polyethylene film applications. It enables manufacturers to incorporate certified renewable content while maintaining familiar processing conditions and functional performance.

KEY BENEFITS

2★
Certified renewable content
TÜV Austria OK biobased Class 2 certification with independently verified bio-based carbon content.

PE
Easy industrial integration
Developed for conventional polyethylene film-processing equipment and familiar operating conditions.

0+
No additional process aids
Designed to process without requiring external process aids or specialized equipment.

IP
Industrial performance
Developed for commercial film applications and supported by mechanical evaluation.

MATERIAL AND TYPICAL PHYSICAL PROPERTIES

PROPERTY	TYPICAL VALUE
Corn starch in formulation	50%
Certified bio-based carbon content	46%
Density	1.2 ± 0.1 g/cm ³
Moisture	< 0.3%
Pellets per gram	50-75
Appearance	Beige / light brown

PROCESSING & APPLICATION GUIDE

Practical guidance for integration into existing polyethylene film production.

RECOMMENDED USE

Compatible polymers LDPE, LLDPE and HDPE	Primary processes Monolayer and coextruded blown film
Typical incorporation Up to 50% in polyethylene film formulations*	Main applications Shopping bags, liners, industrial film, flexible packaging and agricultural film

*Recommended starting point; final formulation depends on equipment, product design and required performance.

PROCESSING CONDITIONS

PARAMETER	GUIDANCE
LDPE / LLDPE extrusion	160-170 °C
HDPE extrusion	170-180 °C
Sealing	Approximately 110 °C
Corona treatment	Approximately 38 dynes when printing is required
Drying if moisture is detected	4 hours at 85-90 °C

✓ No additional process aids required	✓ No specialized equipment required	✓ Minor adjustments may vary by machine and application
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APPLICATIONS

1 Retail bags T-shirt and boutique-style bags	2 Trash & liners Household and industrial liners	3 Industrial film Roll stock and technical film
4 Flexible packaging Unprinted film and pouches	5 Agricultural film Selected film applications	

STORAGE, SUPPLY & CERTIFICATION

Commercial presentation, handling recommendations and certified product information.

STORAGE & HANDLING

Storage	Keep in a dry environment, in the original closed package, protected from direct sunlight and excessive heat.
Opened packaging	Process within 48 hours after opening whenever possible.
Drying if moisture is detected	Dry for 4 hours at 85-90 °C before processing.
Recommended shelf life	12 months in original sealed packaging under recommended storage conditions.

COMMERCIAL PRESENTATION

Primary package 1,000 kg net bulk box / Gaylord	Handling Industrial pallet designed for efficient forklift movement
Minimum commercial order 1,000 kg	Country of origin Manufactured in Mexico for North American distribution

CERTIFICATION & SUPPORTING INFORMATION

2★ TÜV Austria OK biobased Class 2 certification. Certificate TA8072509379. Valid from 22 August 2025 to 22 August 2030.	46% Bio-based carbon content Independent determination of bio-based carbon content: 46%.
SGS US FDA 21 CFR 177.1520 testing Evaluated samples passed the tested extractable and soluble fraction requirements under applicable sections.	SDS Safety & transport Not classified as a dangerous good for transport based on the current Safety Data Sheet.

IMPORTANT TECHNICAL NOTICE

The values shown are typical and do not constitute guaranteed specifications. Recommended conditions are starting points. Users should conduct plant trials and determine the appropriate formulation and settings for their equipment, product design and performance requirements. Regulatory suitability must be evaluated for each final application.