

Bio-degradable Polymers Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

> **Industry:** Polymers & Sustainable Chemicals (Chemicals & Materials)
> **Source:** https://www.mordorintelligence.com/industry-reports/bio-degradable-polymers-market(https://www.mordorintelligence.com/industry-reports/bio-degradable-polymers-market)
> **Scraped Date:** 2026-09-17

Executive Market Summary

Market Metric	Details
Base Market Size	USD 340 million
Projected Forecast (2031)	USD 340 million
Growth Rate (CAGR)	16.78 %
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

! [Major players in Bio-degradable Polymers industry](images/chart_2.png)

! [Bio-degradable Polymers Market Size](images/chart_3.png)

! [Bio-degradable Polymers Market Share by Feedstock, 2025](images/chart_4.png)

! [Bio-degradable Polymers Market Share by Type, 2025](images/chart_5.png)

! [Bio-degradable Polymers Market Share by End-user Industry, 2025](images/chart_6.png)

! [Bio-degradable Polymers Market Growth Rate by Region](images/chart_7.png)

! [Bio-degradable Polymers Market Concentration](images/chart_8.png)

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Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Market Overview	Study Period	2021 - 2031
Market Volume (2026)		1.08 Million tons
Market Volume (2031)		2.35 Million tons
Growth Rate (2026 - 2031)		16.78 %
Fastest Growing Market		Asia Pacific
Largest Market		Europe
Market Concentration		Medium

Major Players*Disclaimer: Major Players sorted in no particular order

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Market Overview

Bio-degradable Polymers Market Analysis by Mordor IntelligenceThe Bio-degradable Polymers Market size is expected to increase from 1.11 Million tons in 2025 to 1.08 Million tons in 2026 and reach 2.35 Million tons by 2031, growing at a CAGR of 16.78% over 2026-2031. This outlook positions the bio-degradable polymers market size for rapid scale-up as price-focused substitution gives way to performance-driven adoption in packaging, consumer goods, agriculture, and healthcare applications. Brand mandates, carbon-pricing mechanisms, and carbon-capture-derived monomers are reshaping supplier economics, while Asia-Pacific capacity additions compress margins in starch-based and PLA grades. Europe retains first-mover advantages in certification infrastructure, yet China and India are set to invert geographic leadership on tonnage through 2031. Competitive strategies now bifurcate between high-volume PLA and PBAT lines and premium PHA portfolios that command 40–60% price uplifts for marine or medical biodegradability assurance.

Key Report Takeaways* By feedstock, sugarcane and sugar beets led with a 37.91% bio-degradable polymers market share in 2025, while algal and microbial biomass is forecast to advance at an 18.26% CAGR through 2031.

* By type, starch-based plastics captured 40.85% of the biodegradable polymers market size in 2025, while Polyhydroxyalkanoates (PHA) are forecast to advance at a 19.60% CAGR to 2031.

* By end-user industry, packaging held 62.31% of 2025 volume; consumer goods is set to expand at a 19.36% CAGR to 2031.

* By geography, Europe captured 38.95% of the bio-degradable polymers market size in 2025, while Asia-Pacific is projected to record the fastest 19.24% CAGR through 2031.

Key Market Trends

Market Trends and InsightsDrivers Impact Analysis of Bio-degradable Polymers Market*Driver | (~) % Impact on CAGR Forecast | Geographic Relevance | Impact Timeline |

Government Regulations Banning Single-Use Plastics | +4.2% | Global, led by EU, China, India | Short term (≤ 2 years) |

Rising Demand for Sustainable, Eco-Friendly Packaging | +5.8% | North America, Europe, APAC urban centers | Medium term (2–4 years) |

Accelerating Adoption in Healthcare Applications | +3.1% | North America, Europe, Japan | Medium term (2–4 years) |

Growing Use of Biodegradable Films in Agriculture | +2.9% | APAC (China, India), Mediterranean Europe, Latin America | Long term (≥ 4 years) |

Carbon-Capture-Derived Monomers Enabling Negative-Emission Plastics | +4.3% | North America, Northern Europe, early pilots in China | Long term (≥ 4 years) |

Source: Mordor Intelligence |

Competitive Landscape

Competitive Landscape

Global capacity is moderately concentrated: the top five suppliers-BASF, NatureWorks, TotalEnergies Corbion, Eni S.p.A., and Mitsubishi Chemical Group Corporation-held 60% share in 2025. Scale players pursue vertical integration, with BASF producing carbon-capture 1,4-butanediol and TotalEnergies Corbion securing cane offtakes to hedge feedstock risk. Danimer Scientific, GENECIS, and Mango Materials concentrate on high-margin PHA niches, leveraging proprietary strains and carbon-negative routes to sustain gross margins above 40%.

Technology differentiation is intensifying. Evonik's P(3HB-co-4HB) achieved 95% marine biodegradation and landed pilot salmon-net orders, while PTT MCC Biochem and Mitsubishi Chemical expand BioPBS™ capacity by 30,000 tons. Joint ventures such as Braskem-Gerdau's steel-gas-to-ethylene plant illustrate cross-sector alliances that monetize industrial CO₂ streams.

Regulatory moats matter: REACH dossiers and FDA food-contact approvals can cost up to USD 2.5 million and extend 24 months, favoring incumbents with established portfolios. Sovereign industrial policy deepens fragmentation as China subsidizes starch-based lines and the EU's Carbon Border Adjustment Mechanism prioritizes carbon-negative imports.

Bio-degradable Polymers Industry Leaders* NatureWorks LLC

- * BASF
- * Mitsubishi Chemical Group Corporation
- * TotalEnergies Corbion
- * Eni S.p.A.

* *Disclaimer: Major Players sorted in no particular order
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Scope Methodology P Space

This market covers biodegradable polymer materials sold for use in finished products, where the polymer is designed to break down under defined biological conditions and is supplied in commercial form such as resin or compound.

Scope exclusions: We exclude durable goods made mainly from conventional plastics, as well as recycling-only solutions that do not rely on biodegradation behavior.

Segmentation Container

- * By Feedstock* Sugarcane and Sugar Beets
- * Corn and Other Starch Crops
- * Cellulose and Wood Biomass
- * Waste Vegetable Oils and Fats
- * Algal and Microbial Biomass
- * By Type* Starch-Based Plastics
- * Polylactic Acid (PLA)
- * Polyhydroxyalkanoates (PHA)
- * Polyesters (PBS, PBAT and PCL)
- * Cellulosic Derivatives
- * By End-user Industry* Packaging
- * Consumer Goods
- * Textile
- * Agriculture
- * Healthcare
- * Other End-user Industries (Automotive, Construction, etc.)
- * By Geography* Asia-Pacific* China
- * India
- * Japan
- * South Korea
- * ASEAN Countries

- * Rest of Asia-Pacific
- * North America* United States
- * Canada
- * Mexico
- * Europe* Germany
- * United Kingdom
- * Italy
- * France
- * NORDIC Countries
- * Rest of Europe
- * South America* Brazil
- * Argentina
- * Rest of South America
- * Middle-East and Africa* Saudi Arabia
- * South Africa
- * Rest of Middle-East and Africa

Frequently Asked Questions

What is the projected global volume for bio-degradable polymers by 2031?

Market is forecast to reach 2.35 million tons in 2031, reflecting a 16.78% CAGR from 2026 to 2031.

Which polymer type is expanding the quickest?

Polyhydroxyalkanoates (PHA) are advancing at a 19.60% CAGR on the strength of marine-degradability certifications and medical approvals.

How do prices compare with conventional plastics?

Commodity PLA averages USD 2.80–3.50 per kg, versus USD 1.20–1.40 for virgin polyethylene, while premium PHA grades sell for USD 5.00–6.50 per kg.

Which region will add the most capacity through 2031?

Asia-Pacific is set to post a 19.24% CAGR as China and India commission large PBAT, PLA, and starch-blend lines.