

# **Bioplastic Resin Market Forecasts to 2032 – Global Analysis By Type (PBS, PHA, PET, PLA, Starch Blends and Cellulose-Based Resins), Feedstock, Application, End User, and By Geography.**

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## **Abstracts**

According to Statistics MRC, the Global Bioplastic Resin Market is accounted for \$15.5 billion in 2025 and is expected to reach \$44.7 billion by 2032 growing at a CAGR of 16.3% during the forecast period. Bioplastic Resin is a polymer derived from renewable sources like corn starch, sugarcane, or cellulose, used to manufacture biodegradable plastics. It serves as an alternative to petroleum-based resins in packaging, agriculture, and consumer products. Bioplastics reduce greenhouse gas emissions and support compostability, though performance varies by formulation. Innovations in PLA, PHA, and bio-PET are improving durability and scalability. Governments and brands are adopting bioplastic solutions to meet sustainability targets and reduce plastic pollution, driving growth in green materials.

According to a survey by the Plastics Industry Association, brand owner commitment to incorporating post-consumer recycled and bio-based resins in packaging has more than tripled in the last five years, driven by consumer pressure and regulatory mandates.

### **Market Dynamics:**

Driver:

Growing regulatory support for green plastics

Governments worldwide are implementing policies to reduce plastic pollution and promote sustainable alternatives, driving demand for bioplastic resins. Bans on single-

use plastics, extended producer responsibility (EPR) schemes, and incentives for compostable materials are accelerating adoption. Regulatory frameworks in Europe, Asia, and North America are encouraging manufacturers to shift toward bio-based inputs. This support is fostering innovation, investment, and commercialization of bioplastics across packaging, agriculture, and consumer goods sectors, positioning regulatory momentum as a key market growth driver.

#### Restraint:

##### High cost compared to conventional plastics

Bioplastic resins often carry higher production and processing costs than traditional petroleum-based plastics, limiting their competitiveness. Factors such as feedstock variability, lower economies of scale, and specialized equipment contribute to elevated pricing. These cost barriers hinder adoption in price-sensitive markets and restrict usage to premium or niche applications. Until cost parity is achieved through technological advancements and scale, bioplastics will face resistance from manufacturers and consumers accustomed to low-cost conventional plastic solutions.

#### Opportunity:

##### Expansion in sustainable packaging applications

The surge in demand for eco-friendly packaging presents a major opportunity for bioplastic resin manufacturers. Brands across food, cosmetics, and e-commerce sectors are adopting compostable and recyclable packaging to meet consumer expectations and ESG goals. Bioplastics like PLA and PHA offer functional performance with reduced environmental impact. Innovations in barrier properties, printability, and shelf-life extension are expanding use cases. As sustainability becomes a core value proposition, packaging will remain a high-growth application for bioplastic resins.

#### Threat:

##### Competition from recyclable fossil-based plastics

Advanced recycling technologies are improving the sustainability profile of fossil-based plastics, posing a threat to bioplastic adoption. Chemical recycling and closed-loop systems enable reuse of conventional polymers with reduced environmental impact. These solutions often offer better mechanical properties and lower costs than

bioplastics. As fossil-based plastics evolve to meet circular economy standards, they may capture market share from bio-based alternatives. Bioplastic producers must differentiate through biodegradability, renewability, and regulatory alignment to maintain relevance.

#### Covid-19 Impact:

The COVID-19 pandemic disrupted supply chains and shifted consumer priorities, temporarily slowing bioplastic adoption. Increased demand for hygiene products and protective packaging favored conventional plastics due to cost and availability. However, post-pandemic recovery has reignited interest in sustainable materials, with governments and brands reaffirming environmental commitments. Bioplastic resin manufacturers are investing in resilient sourcing, scalable production, and new applications. The pandemic underscored the need for sustainable packaging and supply chain diversification, reinforcing long-term market potential.

The PLA segment is expected to be the largest during the forecast period

The PLA segment is expected to account for the largest market share during the forecast period, due to its versatility, biodegradability, and commercial maturity. Derived from renewable sources like corn and sugarcane, PLA is widely used in packaging, textiles, and medical applications. Its favorable mechanical properties and compatibility with existing processing equipment support broad adoption. Regulatory approvals and consumer preference for compostable materials further boost demand. As PLA production scales and costs decline, it will remain the leading bioplastic resin segment.

The Corn Starch segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the Corn Starch segment is predicted to witness the highest growth rate, driven by their low environmental footprint and expanding use in disposable packaging. These resins are compostable, renewable, and suitable for single-use items like bags, trays, and cutlery. Innovations in blending and barrier enhancement are improving performance and broadening applications. As demand for plant-based materials rises, corn starch offers a cost-effective and scalable alternative. Its agricultural abundance and biodegradability make it a key growth driver in the bioplastics market.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, supported by strong manufacturing capabilities, rising environmental awareness, and government initiatives promoting sustainable materials. Countries like China, India, and Japan are investing in bioplastic production and infrastructure. Regional demand for eco-friendly packaging in food, retail, and agriculture is accelerating. Local feedstock availability and cost advantages further support growth. Asia Pacific's dynamic consumer base and policy landscape position it as a dominant force in bioplastic resin adoption.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR due to its advanced R&D ecosystem, strong regulatory momentum, and growing consumer demand for sustainable products. The U.S. and Canada are expanding composting infrastructure and implementing plastic reduction mandates. Brands are integrating bioplastics into packaging and product design to meet ESG targets. Venture capital and public funding are supporting innovation in bio-based materials. As circular economy principles gain traction, North America will drive rapid growth in bioplastic resin technologies.

Key players in the market

Some of the key players in Bioplastic Resin Market include NatureWorks, BASF, Braskem, Nestlé, Danimer Scientific, Novamont, Arkema, Biome Bioplastics, Total Corbion PLA, FKUR, Mitsubishi Chemical, Green Dot Bioplastics, Trinseo, Plantic Technologies, Cardia Bioplastics, Tianan Biologic, Toray Industries and Clariant.

### **Key Developments:**

In October 2025, NatureWorks and Nestlé announced a major offtake agreement for Ingeo PLA, which will be used for the brand's entire line of water-soluble detergent pods, replacing PVA.

In September 2025, BASF launched a new certified compostable bioplastic blend, leveraging Arkema's polymer expertise, designed for high-heat applications like disposable cutlery and coffee capsules, meeting industrial composting standards.

In August 2025, Braskem and Danimer Scientific formed a joint venture to construct the

world's largest PHA production facility, aiming to scale up biodegradable resin supply for flexible packaging.

#### Types Covered:

PBS

PHA

PET

PLA

Starch Blends

Cellulose-Based Resins

#### Feedstocks Covered:

Corn Starch

Sugarcane

Cassava

Wood Pulp

Algae Biomass

#### Applications Covered:

Packaging

Textiles

Consumer Goods

Automotive Components

Electronics

End Users Covered:

Manufacturers

Converters

Brand Owners

Research Institutions

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

## Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

## South America

Argentina

Brazil

Chile

Rest of South America

## Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

**What our report offers:**

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

**Free Customization Offerings:**

All the customers of this report will be entitled to receive one of the following free customization options:

**Company Profiling**

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

**Regional Segmentation**

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

**Competitive Benchmarking**

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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