

Bioplastics & Biopolymers Market by Product Type (Biodegradable, Non-Biodegradable/ Bio-Based), End-Use Industry (Packaging, Consumer Goods, Textiles, Agriculture & Horticulture, AnT, Coatings & Adhesives), & Region- Global Forecast to 2029

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Report description:

In 2024, the global market for bioplastics and biopolymers was valued at USD 15.3 billion, with projections suggesting it will reach USD 45.2 billion by 2029, experiencing a CAGR of 24.2% during this timeframe. The primary factors driving this market include the growing utilization of bioplastics in packaging, along with heightened government emphasis on green procurement policies and regulations.

"PHA in biodegradable type accounts for the fastest-growing segment in bioplastics & biopolymers market, by product type, during the forecast period."

Polyhydroxyalkanoates (PHA) represent a class of biodegradable polymers synthesized through microbial fermentation of renewable carbon sources. These polymers, composed of hydroxyalkanoate monomers, offer diverse structural variations and properties depending on the specific microbial strains and fermentation conditions employed. Among PHA types, polyhydroxybutyrate (PHB) stands out as a well-established polymer with characteristics akin to polypropylene, featuring high crystallinity and stiffness. PHA's renewable sourcing and inherent biodegradability make it a promising candidate for applications in biodegradable plastics, offering an eco-friendly alternative to conventional petroleum-based plastics and contributing to sustainable waste management practices.

"Cassava is estimated to be the second-growing segment in the bioplastics & biopolymers market, by raw material, during the forecast period."

Cassava has been utilized in the production of biodegradable plastics due to its rich starch content. Starch extracted from cassava can be processed into biopolymer materials, which are environmentally friendly alternatives to traditional plastics derived from

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fossil fuels. These cassava-based biodegradable plastics offer the advantage of being renewable, sustainable, and capable of decomposing naturally, reducing the environmental impact associated with conventional plastics. As a result, cassava has emerged as a promising raw material for the development of eco-friendly packaging, disposable utensils, and other plastic products, contributing to the promotion of a more sustainable and circular economy.

"Agriculture & horticulture is estimated to be fastest-growing segment in bioplastics & biopolymers market, by end use, during the forecast period."

Biodegradable plastics are transforming agriculture and horticulture by providing eco-friendly solutions for soil mulching, plant propagation, and packaging. These materials, ranging from mulch films to pots and packaging, degrade naturally, minimizing plastic waste and supporting sustainable farming practices. They offer benefits such as weed control, moisture retention, and reduced transplant shock while ensuring environmental responsibility throughout the supply chain. By embracing biodegradable plastics, the agricultural and horticultural sectors are fostering a greener and more sustainable future.

"North America region accounted for the second-fastest growing segment in the bioplastics & biopolymers market by value." Bioplastics and biopolymers are experiencing growth in North America due to several factors. Heightened environmental awareness among consumers and businesses, coupled with increasingly stringent government regulations favoring sustainable materials, has created a conducive environment for the adoption of bioplastics. Furthermore, advancements in technology and manufacturing processes have made bioplastics more cost-effective and readily available, spurring their uptake across various industries. Additionally, the growing demand for renewable and bio-based products aligns with North America's overarching goal of reducing reliance on fossil fuels and combating climate change. As a result, the region is witnessing a significant shift towards the use of bioplastics and biopolymers across diverse applications, signaling a broader transition towards a more sustainable and environmentally conscious economy.

Breakdown of primaries

In-depth interviews were conducted with Chief Executive Officers (CEOs), marketing directors, other innovation and technology directors, and executives from various key organizations operating in the bioplastics & biopolymers market, and information was gathered from secondary research to determine and verify the market size of several segments. The break-up of the primaries is as follows:

- By Company Type: Tier 1 30%, Tier 2 35%, and Tier 3 35%
- By Designation: C Level Executives- 40%, Directors 20%, and Others 40%
- By Region: North America 10%, Europe 20%, Asia Pacific 50%, Middle East & Africa 10%, and South America 10% NatureWorks LLC (US), Braskem (Brazil), BASF SE (Germany), TotalEnergies Corbion (Netherlands), Versalis S.P.A (Italy), Biome Bioplastics Limited (UK), Mitsubishi Chemical Group Corporation (Japan), Biotec Biologische Naturverpackungen GmbH & Co. (Germany), Plantic Technologies Limited (Australia), and Toray Industries, Inc. (Japan) are the key players in the bioplastics & biopolymers market.

Research Coverage:

This report provides detailed segmentation of the bioplastics & biopolymers market based on by raw material type, product type, by end-use industry, and region. Based on product type, the market has been segmented into biodegradable & non-biodegradable. Further biodegradable is segmented into PLA, PBS, PBAT, starch based, PHA, cellulose films.

Non-biodegradable/bio based is segmented into Bio-PE, Bio-PP, Bio-PET, Bio-PA, PEF, PTT. Based on raw material type, the market has been segmented into sugarcane/ sugar beet, cassava, corn starch, wheat, switchgrass, vegetable oil. Based on end-use industry, the market has been segmented into packaging (flexible & rigid), textiles, automotive & transport, consumer goods, agriculture & horticulture, coatings & adhesives, building & construction, electricals & electronics.

Key Benefits of Buying the Report:

This research report is focused on various levels of analysis - industry analysis (industry trends), market ranking analysis of top players, and company profiles, which together provide an overall view on the competitive landscape; emerging and high-growth segments of the bioplastics & biopolymers market; high-growth regions; and market drivers, restraints, opportunities, and challenges.

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The report provides insights on the following pointers:

- Market Penetration: Comprehensive information on the bioplastics & biopolymers market offered by top players in the global bioplastics & biopolymers market.
- Analysis of drivers: Analysis of drivers: (Shift in consumer preference toward eco-friendly plastic products, Increasing use of bioplastics in packaging industry, Increase in waste management regulations in Europe, Focus of governments on green procurement policies and regulations, Increased focus on bio-based content over biodegradability), restraints (Higher prices of bioplastics than conventional plastics, Performance issue of bioplastics), opportunities (Development of new applications, High potential in emerging countries of Asia Pacific), and challenges (Segregation and processing of bioplastics, Fluctuating oil prices create volatility in demand for biodegradable plastics, Expensive and complex production process, Limited regulations related to bioplastics in developing countries) influencing the growth of bioplastics & biopolymers market.
- Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the bioplastics & biopolymers market.
- Market Development: Comprehensive information about lucrative emerging markets the report analyzes the markets for bioplastics & biopolymers market across regions.
- Market Capacity: Production capacities of companies producing bioplastics & biopolymers market are provided wherever available with upcoming capacities for the bioplastics & biopolymers market.
- Competitive Assessment: In-depth assessment of market shares, strategies, products, and manufacturing capabilities of leading players in the bioplastics & biopolymers market

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