

Polyhydroxyalkanoate (PHA) Market by Type (Short Chain Length, Medium Chain Length), Production Method (Sugar Fermentation, Vegetable Oil Fermentation), Application (Packaging & Food Services, Biomedical), and Region - Global Forecasts to 2030

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Report description:

The polyhydroxyalkanoate (PHA) market size was USD 123.8 million in 2025 and is projected to reach USD 265.2 million by 2030, at a CAGR of 16.5% between 2025 and 2030.

[https://mnmimg.marketsandmarkets.com/Images/polyhydroxyalkanoate-\(pha\)-market-img-overview.webp](https://mnmimg.marketsandmarkets.com/Images/polyhydroxyalkanoate-(pha)-market-img-overview.webp)

"Regulatory pressure and sustainability mandates to accelerate PHA market growth"

Strict global policies against plastic waste and the use of fossil-based substances are a major driver of the PHA market. Governments are also taking actions such as banning single-use plastic, encouraging bio-based polymers, and making compostability mandatory, which provide a regulatory push towards PHAs. Such policies have been especially significant in areas like packaging, consumer goods, agriculture, and biomedical applications, where adherence to environmental and safety standards is becoming a prerequisite. Brands are being pressurized to enhance sustainability activities and are compelled to implement PHAs to achieve corporate ESG goals. These regulatory and corporate sustainability requirements are providing a boost to the transition to PHA-based solutions in industries.

"Agriculture sector to account for third-largest market share during forecast period"

In 2024, the agriculture sector accounted for the third-largest share in the overall PHA market. The increase in demand for biodegradable and soil-safe materials in agricultural activities is driving the market in this application. As there is an ongoing shift

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toward sustainability and regulatory standards, PHA is being implemented in mulch films, plant pots, seed coatings, and controlled-release fertilizers by manufacturers who are avoiding the use of conventional plastics. Its biodegradation in soil saves waste-management expense and reduces environmental impact. Moreover, government incentives for the use of environmentally friendly farm inputs also speed up adoption.

"Short chain length segment projected to be fastest-growing type of PHA during forecast period"

The short chain length PHA segment is estimated to be the fastest-growing type, in terms of value, during the forecast period. Short chain length PHA is more mechanically strong, more crystalline, and applicable in a wide range of packaging, agriculture, and biomedical products. Its performance properties resemble traditional plastics and, hence, is a suitable alternative in industries that are rapidly moving towards biodegradable products. The intense regulatory pressure to minimize the consumption of fossil-based plastics further boosts the demand for short chain length PHA. Moreover, the expansion of production capacities and enhancement of cost structures are facilitating increased commercial usage.

"Asia Pacific accounted for third-largest share of global PHA market, in terms of value, in 2024"

Asia Pacific is the third-largest PHA market in 2024. The market in the region is driven by the increase in demand for biodegradable materials in the packaging, agriculture, and consumer goods applications. Increasing regulatory intervention with single-use plastics in China, Japan, India, and South Korea is creating a motivating push towards PHA-based products. The region's market is also supported by a growing biopolymer production base and a high level of government attention toward the circular economy. The growing consumer interest in sustainable materials, as well as the booming development of e-commerce packaging, further supports the market growth.

-□By Company Type: Tier 1 - 55%, Tier 2 - 25%, and Tier 3 - 20%

-□By Designation: Directors - 50%, Managers - 30%, and Others - 20%

-□By Region: North America - 40%, Europe - 35%, Asia Pacific - 20%, RoW- 5%

The key players profiled in the report include Teknor Apex (US), Kaneka Corporation (Japan), Ecomann Biotechnology Co., Ltd. (China), RWDC Industries (Singapore), Bluepha Co., Ltd. (China), Newlight Technologies, Inc. (US), Ningbo Tianan Biologic Materials Co., Ltd. (China), Biomer (Germany), Beijing PhaBuilder Biotechnology Co., Ltd. (China), and TerraVerdae Bioworks Inc. (Canada).

Study Coverage

This report segments the market for PHA based on type, production method, application, and region, and provides estimations of value (in USD Million) for the overall market size across various regions. A detailed analysis of key industry players has been conducted to provide insights into their business overviews, services, and key strategies associated with the PHA market.

Reasons to Buy this Report

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

The report provides insights into the following points:

-□Market Penetration: Comprehensive information on PHA offered by top players in the global market

-□Analysis of key drivers: (Green procurement policies, High availability of renewable and cost-effective raw materials, Biodegradability driving consumption, Increasing concerns about human health and safety), restraints (High price compared to conventional polymers and Performance issues), opportunities (Increasing scope in end-use segments, Emergence of new raw materials, Cyanobacteria enabling cost reduction, and Growth opportunities in Asia Pacific) and challenges (Manufacturing technology in initial phase and Expensive and complex production process) influencing the growth of PHA market

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-□Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the PHA market

-□Market Development: Comprehensive information about lucrative emerging markets-the report analyzes the market for PHA across regions.

-□Market Diversification: Exhaustive information about new products, untapped regions, and recent developments in the global PHA market

-□Competitive Assessment: In-depth assessment of market shares, strategies, products, and manufacturing capabilities of leading players in the PHA market

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