

United States Bioresorbable Polymers Market is expected to reach USD 3.3 billion by 2031 | DataM Intelligence

The Global Bioresorbable Polymers Market is expected to reach at a CAGR of 13.4% during the forecast period 2024-2031.

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Overview of the Market:

The Global [Bioresorbable Polymers Market](#) has emerged as a rapidly evolving segment within the biomaterials industry, driven by increasing demand for biodegradable materials in medical applications.

These polymers are designed to safely degrade within the human body, eliminating the need for surgical removal, making them an essential component in advanced drug delivery systems, tissue engineering, and orthopedic implants. According to DataM Intelligence, The Global Bioresorbable Polymers Market size reached US\$ 1.2 billion in 2022, is expected to reach US\$ 3.3 billion by 2031, growing at a CAGR of 13.4% during the forecast period (2024–2031).



The Global Bioresorbable Polymers Market is expanding rapidly, driven by rising demand in medical implants, drug delivery, and tissue engineering applications."

DataM Intelligence

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Market growth is fueled by the rising prevalence of chronic diseases, increasing surgical interventions, and the growing shift toward sustainable and biocompatible materials in healthcare. The orthopedic segment dominates the market

due to the extensive use of bioresorbable screws, plates, and pins in bone fixation and regeneration. Regionally, North America leads the global market, supported by robust healthcare



infrastructure, strong R&D investment, and a growing number of FDA-approved bioresorbable devices.

Key Highlights from the Report:

The Global Bioresorbable Polymers Market is projected to grow at a CAGR of 13.4% during 2024–2031.

North America holds the dominant market share owing to technological advancements and growing medical device approvals.

Polylactic acid (PLA) remains the most widely used polymer type due to its biodegradability and versatility in medical applications.

The orthopedic and drug delivery segments collectively account for the majority of the market revenue.

Increasing adoption of regenerative medicine and tissue engineering drives strong market potential.

Key players are focusing on strategic collaborations and R&D investments to develop next-generation bioresorbable materials.

Market Segmentation:

The Bioresorbable Polymers Market is segmented based on product type, application, and end-user industry.

By Product Type, the market is divided into polylactic acid (PLA), polyglycolic acid (PGA), polycaprolactone (PCL), polyhydroxyalkanoates (PHA), and others. Among these, PLA dominates due to its excellent mechanical strength, biocompatibility, and controlled degradation properties, making it ideal for use in sutures, implants, and tissue scaffolds. PGA and PCL are also gaining attention due to their use in drug delivery systems and soft tissue repair applications.

By Application, the market is categorized into orthopedics, drug delivery, tissue engineering, dentistry, and others. The orthopedic segment holds the largest share, primarily because of the rising number of bone injuries and reconstructive surgeries. Meanwhile, the drug delivery segment is expected to witness rapid growth as bioresorbable polymers enable controlled and sustained release of drugs at targeted sites.

By End-User, the market is segmented into hospitals, research laboratories, and pharmaceutical companies. Hospitals account for the largest end-user share due to high demand for bioresorbable implants and sutures in surgical procedures.

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Regional Insights:

North America continues to dominate the global bioresorbable polymers market, driven by the presence of major medical device manufacturers, advanced healthcare facilities, and supportive regulatory frameworks. The region also benefits from significant R&D funding and early adoption of innovative biomaterials. The U.S. accounts for the largest share, owing to rising orthopedic and cardiovascular procedures utilizing biodegradable implants.

Europe represents the second-largest regional market, with strong growth in countries like Germany, France, and the U.K., propelled by favorable government initiatives promoting sustainable materials and eco-friendly medical devices.

Asia-Pacific is anticipated to register the fastest growth rate during the forecast period. The expanding healthcare infrastructure in China, India, and Japan, coupled with the rising medical tourism industry, is contributing to the region's growing adoption of bioresorbable polymers. The availability of low-cost manufacturing and increasing awareness about advanced wound care are also major factors driving regional demand.

The Latin American and Middle East & Africa markets are at a nascent stage but present promising growth opportunities due to expanding access to advanced surgical treatments and increasing healthcare expenditure.

Market Dynamics:

Market Drivers

The primary driver of the bioresorbable polymers market is the growing preference for biodegradable medical materials that reduce long-term surgical complications. The rise in orthopedic, dental, and cardiovascular surgeries is boosting the demand for implants that naturally dissolve in the body. Additionally, advancements in polymer chemistry have led to the development of materials with improved mechanical properties and controlled degradation rates, enhancing their performance in various medical applications. Growing investments in regenerative medicine and tissue engineering further accelerate market growth.

Market Restraints

Despite its potential, the market faces challenges such as high production costs, complex manufacturing processes, and stringent regulatory requirements. The degradation rate of some polymers can vary significantly based on physiological conditions, potentially affecting clinical outcomes. Furthermore, limited awareness in developing regions and the high cost of bioresorbable products compared to conventional alternatives hinder broader market adoption.

Market Opportunities

The growing trend toward sustainable healthcare materials presents a significant opportunity for manufacturers to develop innovative bioresorbable polymers with enhanced biocompatibility

and lower production costs. Emerging markets in Asia-Pacific and Latin America offer immense potential due to their expanding healthcare systems. In addition, research into next-generation bioresorbable materials such as composites and nanofiber-based polymers opens new avenues for applications in drug delivery, wound management, and tissue scaffolding.

Frequently Asked Questions (FAQs)

How big is the global Bioresorbable Polymers Market?

What is the projected growth rate of the Bioresorbable Polymers Market from 2025 to 2033?

Who are the key players in the global Bioresorbable Polymers Market?

Which region is expected to dominate the market during the forecast period?

What are the major factors driving the demand for bioresorbable polymers in medical applications?

Company Insights:

Key players operating in the Global Bioresorbable Polymers Market include:

Ashland Global Holdings Inc

Corbion N.V

Evonik Industries AG

Poly-Med Inc

KLS Martin Group

Foster Corporation

Zeus Industrial Products

Seqens Group

REVA Medical, LLC

Nomisma Healthcare Pvt. Ltd

Recent Developments:

United States:

August 2025: Companies focused on medical device innovation have expanded research and development for bioresorbable polymers in drug delivery systems and orthopedic implants, addressing rising chronic disease prevalence and strong healthcare investment. These efforts aim at enhancing patient safety and minimizing the need for follow-up surgeries.

September 2025: Regulatory approvals were granted for advanced bioresorbable polymer-based implants, accelerating market growth. The focus has shifted towards improving polymers' biocompatibility and biodegradability, particularly for minimally invasive procedures and tissue engineering applications.

Japan:

August 2025: Japanese pharmaceutical and medical device companies increased investments in R&D around bioresorbable polymer technologies, focusing on products for aging populations and chronic disease management. Government initiatives supported healthcare innovation, particularly for minimally invasive surgical techniques.

September 2025: The market saw commercialization of new bioresorbable polymer-based implants and drug delivery systems engineered for improved mechanical properties and controlled degradation rates. These advances are addressing clinical demands for safe, effective orthopedic and cardiovascular devices as Japan's elderly population grows.

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Conclusion:

The Bioresorbable Polymers Market is entering a transformative growth phase, propelled by innovation in material science, rising surgical procedures, and growing environmental consciousness in the medical field. As the demand for safe, effective, and sustainable biomaterials continues to rise, industry players are expected to focus on improving product performance, cost efficiency, and biocompatibility. With ongoing advancements and expanding applications across orthopedics, drug delivery, and tissue regeneration, the market is poised to achieve strong, long-term growth through 2033.

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