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Bioresorbable Polymers Market Research Report - Global Forecast till 2030

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Description:

Global Bioresorbable Polymers Market Overview

Bioresorbable polymers Market Size was valued at USD 1,313.89 million in 2021. The Bioresorbable polymers market is projected to grow from USD 1,399.16 million in 2022 to USD 3,672.96 million by 2030, exhibiting a compound annual growth rate (CAGR) of 12.8% during the forecast period (2022 - 2030). Bioresorbable polymers are widely used in the healthcare sector, especially in the drug delivery system. The use of bioresorbable polymers in various applications such as orthopedic and dental is projected to boost the demand for bioresorbable polymers during the forecast period. The use of bioresorbable polymers is flourishing in the healthcare industry which is expected to drive the bioresorbable polymers market in the coming years.

Bioresorbable polymers Market Overview

Source: Secondary Research, Primary Research, MRFR Database and Analyst Review

Bioresorbable Polymers Market Trends

- **INCREASING DEMAND FOR BIORESORBABLE POLYMERS FOR DRUG DELIVERY APPLICATION**

Polymers have significantly contributed to the improvement of drug delivery technology by enabling the regulated release of therapeutic agents in consistent dosages over extended periods, cyclic dosing, and various releases of both hydrophilic and hydrophobic medicines. The area has expanded significantly from its early days of employing common materials. The rational design of polymers made to exert certain biological activities and customized for a specific cargo is currently the foundation for contemporary advancements in drug delivery. Bioresorbable polymers provide monitored release to the needed site, stability to imbalanced molecules (e.g., proteins), and has ability to alter surfaces with ligands for secrecy and targeted drug delivery purposes in the human body.

In polymer therapies and nanomedicines, polymers have been used extensively. Solid, mostly spherical structures made from organic or synthetic polymers are known as polymeric nanoparticles. One of the most significant biological uses of polymeric nanoparticles is drug delivery. A variety of drug delivery systems, including tiny hydrophilic and hydrophobic medicines, vaccines, peptides, and biological macromolecules, have been tested to deliver polymeric nanoparticles. The biodegradable polymers that produce polymeric nanoparticles most successfully include various grades of poly(lactide-co-glycolide) and poly(lactide) copolymers. Hence extensive properties of bioresorbable polymers for novel drug delivery systems, nanomedicines, and others will drive the bioresorbable polymers market in the forecast period. Thus, increasing demand for drug delivery systems from the medical sector industry is a factor driving the growth of the Bioresorbable polymers market revenue.

Bioresorbable Polymers Market Segment Insights

Bioresorbable polymers Type

The Bioresorbable polymers market segmentation, based on type, includes agro-polymer and bio-polyesters. The bio-polyesters segment accounted for the largest market share in 2021, in the Bioresorbable polymers market revenue. Agro-polymers is further divided into proteins, and polysaccharides and bio-polyesters are further divided into polyglycolic acid, polylactic acid, polycaprolactone, polydioxanone, and others.The bio-polyesters are derived from renewable sources such as oil and fats. The various bio-polyesters commonly used are polyglycolic acid, polylactic acid, polycaprolactone, polydioxanone, and others.

Bioresorbable Polymers Application Insights

The Bioresorbable polymers market segmentation, based on application, includes orthopedic, drug delivery, biodegradable devices, and others. The orthopedic segment accounted for the largest market share of 41.81% in 2021, with a market value of USD 549.46 million; it is expected to register a CAGR of 13.8% during the forecast period. Bioresorbable polymers such as polylactic acid (PLA) and polyglycolic acid (PGA) plays a prominent role in orthopedic as these polymers can be degraded by hydrolysis and enzymatic activity. They have strong physical and mechanical properties that are widely used in the production of medical devices for various orthopedic implant surgeries. The material used in an orthopedic implant will depend on the physical, mechanical, and degradation properties owing to the provide a better efficient product and beneficial for market growth.

February 2020: Evonik Industries AG has launched its world-first bioresorbable polymer in powder form, suitable for high-resolution printing of implantable medical devices. Craniomaxillofacial (CMF) plates, scaffolds for soft tissue repair, spinal fusion cages, and dental mesh are among the implantable products that can use powder-based polymers to improve patient healing and device performance across dental, orthopedic, and soft tissue application areas.

Figure 2: Bioresorbable polymers Market, by Application, 2021 & 2030 (USD Million)
Bioresorbable polymers Market, by Application, 2021 & 2030

Source: Secondary Research, Primary Research, MRFR Database and Analyst Review

Bioresorbable polymers Regional Insights

By Region, the study segments the market into North America, Europe, Asia-Pacific and Rest of the World. Among these, North America dominated the market with a share of 44.03%, accounting for USD 578.60 million in 2021; it is expected to register the highest CAGR of 12.60% from 2022 to 2030. Europe was the second largest with a share of 25.92% in 2021, sized at USD 340.59 million; it is projected to exhibit a CAGR of 11.9%.The North American market is mainly driven by the availability of raw materials and increasing demand for bioresorbable polymers across the region for various applications in medical, pharmaceutical, and others. Due to economic changes and increased per capita income, the healthcare sector is expanding throughout North America, including the US and Canada.

Further, the major countries studied are: The U.S, Canada, Germany, France, UK, Italy, Spain, China, Japan, India, Australia, South Korea, and Brazil.

Figure 3: Bioresorbable polymers MARKET SHARE BY REGION 2021 (%)
Bioresorbable polymers MARKET SHARE BY REGION 2021

Source: Secondary Research, Primary Research, MRFR Database and Analyst Review

Europe Bioresorbable polymers market accounts for the second-largest market share Bioresorbable polymers market is largely supplied by European countries such as the UK and Germany. The growing demand for drug delivery systems in the region is likely to boost the demand for the Bioresorbable polymers market. Further, the Germany Bioresorbable polymers market held the largest market share, and the fastest-growing market in the European region

Bioresorbable Polymers Key Market Players & Competitive Insights

Major market players have large production bases and advanced manufacturing facilities at the domestic and international levels. This helps them supply the product to various end users across the globe within less time as compared to the small-scale manufacturers, providing a competitive edge in the market. The leading producers of merchant bioresorbable polymers are US, and Canada. According to MRFR analysis, the bioresorbable polymers market has a huge revenue base in European countries.

One of the primary business strategies adopted by manufacturers in the Bioresorbable polymers market to benefit clients and expand the Bioresorbable polymers market sector is to manufacture locally to reduce operating costs. Intense competition, rapid advances in technology, frequent changes in government policies, and environmental regulations are key factors that confront market growth.

Poly-Med Inc. is a leader in the design and production of bioresorbable products. The company operates in five business segments: Bioresorbable polymers, Biomedical textiles & Fiber, Electrospinning, Tissue scaffolds and devices, Polymer for Drug delivery, and 3D Printing Technology. Also, the company can provide customized solutions to meet the needs of innovative medical product manufacturers. Moreover, Poly-Med is the only vertically integrated company to deliver the highest quality solutions most efficiently.

Also, Merck KGaA is vibrant science and technology company with a diversified product portfolio. The company provides progressive treatment solutions that help improve access to health. Science sits inside technologies that drive human progress and opens new possibilities to transform lives. The advanced treatment solutions and innovative technology are life-changing, influencing to tackle of major illnesses and integral to creating a better tomorrow. The major business segments of the company are Life science, health care, and electronics.

Key Companies in the Bioresorbable polymers market include

- Evonik Industries AG
- Corbion NV, Foster Corporation
- Poly-Med Inc.
- REVA Medical, Inc
- Groupe PCAS
- Merck KGaA
- Koninklijke DSM N.V
- KLS Martin
- Ashland

Bioresorbable polymers market Developments

May 2020: Evonik Industries AG announced its development of a new advanced biomaterial manufacturing facility in Birmingham, Alabama, US. The facility will expand the good manufacturing practices (GMP) compliant production capacity of RESOMER bioresorbable polymers to meet growing market demand for their application with implantable medical devices and parenteral medicines.

September 2022: Ashland Group announced the plan for the expansion of its Viatel bioresorbable polymer manufacturing and research & development site at the National Science Park. This is home to a network of innovative organizations, in Mullingar, Ireland which showcases commitment to innovation in the long-acting injectables. The capital expansion program commenced in June 2022 and is expected to complete in 2024.

Bioresorbable Polymers Market Segmentation

Bioresorbable polymers Type Outlook

- Agro-polymers
    - Proteins
    - Polysaccharides
- Bio-Polyesters
    - Polyglycolic Acid
    - Polylactic Acid
    - Polycaprolactone
    - Polydioxanone
    - Others

Bioresorbable polymers Application Outlook

- Orthopedics
- Drug Delivery
- Biodegradable Devices
- Others

Bioresorbable polymers Regional Outlook

- North America
    - US

- Canada

- Europe
    - Germany
    - France
    - UK
    - Italy
    - Spain
    - Rest of Europe

- Asia-Pacific
    - China
    - Japan
    - India
    - Australia
    - South Korea
    - Australia
    - Rest of Asia-Pacific

- Latin America
    - Mexico
    - Argentina
    - Brazil
    - Rest of Latin America

- Middle East & Africa
    - GCC Countries
    - South Africa

- Rest of Middle East & Africa

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