

# Biodegradable Polymers – A Global Market Overview

https://marketpublishers.com/r/BE844BAC1D20EN.html

Date: September 2024

Pages: 287

Price: US\$ 4,500.00 (Single User License)

ID: BE844BAC1D20EN

# **Abstracts**

Biodegradable Polymers Market Trends and Outlook

Biodegradable Polymers, as against their fossil fuel-derived counterparts, form a specialized class of polymers that get degraded into simpler molecules, such as carbon dioxide, water, nitrogen, etc., under aerobic or anaerobic environment via microorganic or enzymatic actions. The decomposition of these polymers follows the processes of enzymatic hydrolysis and oxidation. Apart from being found in nature, Biodegradable Polymers can also be synthetically produced, the major constituents of which comprise ester, amide and ether functional groups. The structure of these polymers establishes their properties and mechanism of breakdown. Encompassing several types and numerous applications, the most common methods of synthesizing Biodegradable Polymers include condensation reactions, ring opening polymerization and metal catalysts.

The global market for Biodegradable Polymers is estimated at US\$7.4 billion in 2024 and is poised to post a very strong CAGR of 22.1% during the 2024-2030 analysis period in reaching a projected US\$24.4 billion by 2030.

The worldwide Biodegradable Polymers demand is expected to register a strong growth over the analysis period owing to several reasons, including growing number of end-applications, evident benefits of these materials, packaging industry forming the cornerstone of the market, growth in demand from food packaging applications, greater traction in textile industry, increasing healthcare applications and growing agriculture applications.

Biodegradable Polymers Regional Market Analysis

By region, Europe represents the primary global market for Biodegradable Polymers,



with North America following closely in terms of percentage share. Both these are highly advanced regions where the population recognizes the detrimental effects of environmental degradation and are striving to overcome this issue by various means, of which Biodegradable Polymers forms a significant component. As a result of this awareness also growing in Asia-Pacific, the region is likely to register the fastest growth in demand for Biodegradable Polymers worldwide. China, with its massive population base, will be the fastest growing market for these materials in Asia-Pacific, due to ecological factors that are promoting the use of eco-friendly alternatives, such as Biodegradable Polymers.

Biodegradable Polymers Market Analysis by Product Type

The major types of Biodegradable Polymers include Starch-Based Polymers, Polylactic Acid (PLA), Polyhydroxylkanoates (PHA), Biodegradable Polyesters [incl. Polybutylene Succinate (PBS), Polybutylene Succinate Adipate (PBSA), Polybutylene Adipate Terephthalate (PBAT) & Polycaprolactone (PCL)] and Cellulose Derivatives. Among these, Starch-Based Polymers account for the largest share, as they are derived from renewable plant sources, such as corn and potatoes, which are easily available, inexpensive and biodegradable. Polylactic Acid (PLA)-based biopolymers are also much in demand, since they are made using fermented plant sugars, such as corn starch, adding to their versatility and wide range of application areas, making them the fastest growing Biodegradable Polymer type.

Biodegradable Polymers Market Analysis by Application Area

Biodegradable Polymers are widely utilized in Agriculture & Horticulture, Consumer Goods, Healthcare, Packaging and Textiles, among others. Packaging corners the largest share of the global market for Biodegradable Polymers, since these are ideal alternatives to regular plastic packaging materials, which are a major source of environmental pollution. Another prominent application for Biodegradable Polymers includes Agriculture & Horticulture, where these are used as mulch films, in controlling soil erosion and packaging of crops. Consumer Goods encompass Biodegradable Polymer-based products, such as disposable cutlery, food containers and shopping bags, which appeal to the aware public, making it the fastest growing application for these materials. Healthcare applications of Biodegradable Polymers include medical devices, drug delivery systems and surgical implants, which are highly beneficial for patients.

Biodegradable Polymers Report Scope



This global report on Biodegradable Polymers analyzes the market based on type and application area. In addition to providing profiles of major companies operating in this space, the latest corporate and industrial developments have been covered to offer a clear panorama of how and where the market is progressing.

**Key Metrics** 

Historical Period: 2021-2023

Base Year: 2023

Forecast Period: 2024-2030

Units: Value market in US\$

Companies Mentioned: 50+

Biodegradable Polymers Market by Geographic Region

North America (The United States, Canada and Mexico)

Europe (France, Germany, Italy, Russia, Spain, The United Kingdom and Rest of Europe)

Asia-Pacific (China, Japan, India, South Korea and Rest of Asia-Pacific)

South America (Argentina, Brazil and Rest of South America)

Rest of World (Middle East & Africa)

Biodegradable Polymers Market by Type

Biodegradable Polyesters

Cellulose Derivatives

Polyhydroxylkanoates (PHA)



Polylactic Acid (PLA)

Starch-Based Polymers

Biodegradable Polymers Market by Application Area

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- o Packaging
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**Consumer Goods** 

Healthcare

Packaging

**Textiles** 

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Agrana

Akro-Plastic GmbH

Arkema SA

Avantium NV

**Avient Corp** 

**BASF SE** 

**BEWI** 

Biome Technologies PLC

**Biomer Biopolyesters** 

Bio-On

BIOTEC Biologische Naturverpackungen GmbH & Co. KG

**Borealis Group** 

Braskem SA

Carbiolice

Cardia Bioplastics

Cereplast

Changshu

CJ Chieljedang Corp

Corbion NV



**Danimer Scientific** 

DIC Corp

Dow, Inc.

DuPont De Nemours Inc.

Eastman Chemical Co

**Evonik Industries AG** 

FKuR Kunstsoff GmbH

Futamura Chemical Co Ltd

Futerro SA

Georgia-Pacific LLC

**Greedn Dot Bioplastics** 

Hiusan Biosciences

Hosg?r Plastik

Ingevity

Japan Corn Starch Co Ltd

Jiangmen Xinshuo New Materials Co Ltd

Kaneka Corp

Kingfa Science & Technology Co Ltd

Koninklijke DSM NV

Merck KGaA

Mitsubishi Chemical Group Corp

Mondi

NatureWorks LLC

NaturTec

**Novamont SpA** 

Plantic Technologies Ltd.

PTT MCC Biochem

Rodenburg Biopolymers

Smurfit Kappa

Solutions 4 Plastic

Solvay SA

Synbra Technologies

Tate & Lyle

Teijin Ltd

**Tianan Biologic Materials** 

Toray Industries Inc.

**Total Corbion PLA** 

Toyobo Co. Ltd.

Trinseo



Westrock Co

Yield 10 Bioscience, Inc.

Zhejiang Hisun Biomaterials

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