

# Biodegradable Polymers – A Global Market Overview

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## 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), Polyhydroxyalkanoates (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

- o Agriculture & Horticulture

- o Consumer Goods

- o Healthcare

- o Packaging

- o Textiles

## Contents

### **PART A: GLOBAL MARKET PERSPECTIVE**

#### **1. INTRODUCTION**

Product Outline

Biodegradable Polymers Defined

Biodegradable Polymers Market by Type

Biodegradable Polyesters

Cellulose Derivatives

Polyhydroxylkanoates (PHA)

Polylactic Acid (PLA)

Starch-Based Polymers

Biodegradable Polymers Market by Application Area

Agriculture & Horticulture

Consumer Goods

Healthcare

Packaging

Textiles

#### **2. Key Market Trends**

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 Kunststoff GmbH  
Futamura Chemical Co Ltd  
Futerra SA  
Georgia-Pacific LLC  
Greiner GmbH  
Husman Biosciences  
Hosanger 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  
Plantec 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

3. Key Global Players

4. Key Business & Product Trends

5. Global Market Overview Global Market Overview

Global Biodegradable Polymers Market Overview by Type

Biodegradable Polymers Type Market Overview by Global Region

Biodegradable Polyesters

Cellulose Derivatives

Polyhydroxyalkanoates (PHA)

Polylactic Acid (PLA)

Starch-Based Polymers

Global Biodegradable Polymers Market Overview by Application Area

Biodegradable Polymers Application Area Market Overview by Global Region

Agriculture & Horticulture

Consumer Goods

Healthcare

Packaging

Textiles

## **PART B: REGIONAL MARKET PERSPECTIVE**

Global Biodegradable Polymers Market Overview by Geographic Region

REGIONAL MARKET OVERVIEW

6. North America

North American Biodegradable Polymers Market Overview by Geographic Region

North American Biodegradable Polymers Market Overview by Type

North American Biodegradable Polymers Market Overview by Application Area

Country-wise Analysis of North American Biodegradable Polymers Market

The United States

United States Biodegradable Polymers Market Overview by Type

United States Biodegradable Polymers Market Overview by Application Area

Canada

Canadian Biodegradable Polymers Market Overview by Type

Canadian Biodegradable Polymers Market Overview by Application Area

Mexico

Mexican Biodegradable Polymers Market Overview by Type

Mexican Biodegradable Polymers Market Overview by Application Area

## 7. Europe

European Biodegradable Polymers Market Overview by Geographic Region

European Biodegradable Polymers Market Overview by Type

European Biodegradable Polymers Market Overview by Application Area

Country-wise Analysis of European Biodegradable Polymers Market

France

French Biodegradable Polymers Market Overview by Type

French Biodegradable Polymers Market Overview by Application Area

Germany

German Biodegradable Polymers Market Overview by Type

German Biodegradable Polymers Market Overview by Application Area

Italy

Italian Biodegradable Polymers Market Overview by Type

Italian Biodegradable Polymers Market Overview by Application Area

Russia

Russian Biodegradable Polymers Market Overview by Type

Russian Biodegradable Polymers Market Overview by Application Area

Spain

Spanish Biodegradable Polymers Market Overview by Type

Spanish Biodegradable Polymers Market Overview by Application Area

The United Kingdom

United Kingdom Biodegradable Polymers Market Overview by Type

United Kingdom Biodegradable Polymers Market Overview by Application Area

Rest of Europe

Rest of Europe Biodegradable Polymers Market Overview by Type

Rest of Europe Biodegradable Polymers Market Overview by Application Area

## 8. Asia-Pacific

Asia-Pacific Biodegradable Polymers Market Overview by Geographic Region

Asia-Pacific Biodegradable Polymers Market Overview by Type

Asia-Pacific Biodegradable Polymers Market Overview by Application Area

Country-wise Analysis of Asia-Pacific Biodegradable Polymers Market

China

Chinese Biodegradable Polymers Market Overview by Type

Chinese Biodegradable Polymers Market Overview by Application Area

India

Indian Biodegradable Polymers Market Overview by Type

Indian Biodegradable Polymers Market Overview by Application Area

Japan

Japanese Biodegradable Polymers Market Overview by Type



Japanese Biodegradable Polymers Market Overview by Application Area

South Korea

South Korean Biodegradable Polymers Market Overview by Type

South Korean Biodegradable Polymers Market Overview by Application Area

Rest of Asia-Pacific

Rest of Asia-Pacific Biodegradable Polymers Market Overview by Type

Rest of Asia-Pacific Biodegradable Polymers Market Overview by Application Area

9. South America

South American Biodegradable Polymers Market Overview by Geographic Region

South American Biodegradable Polymers Market Overview by Type

South American Biodegradable Polymers Market Overview by Application Area

Country-wise Analysis of Asia-Pacific Biodegradable Polymers Market

Argentina

Argentine Biodegradable Polymers Market Overview by Type

Argentine Biodegradable Polymers Market Overview by Application Area

Brazil

Brazilian Biodegradable Polymers Market Overview by Type

Brazilian Biodegradable Polymers Market Overview by Application Area

Rest of South America

Rest of South American Biodegradable Polymers Market Overview by Type

Rest of South American Biodegradable Polymers Market Overview by Application Area

Middle East & Africa

Middle East & Africa Biodegradable Polymers Market Overview by Type

Middle East & Africa Biodegradable Polymers Market Overview by Application Area

## **PART C: GUIDE TO THE INDUSTRY**

## **PART D: ANNEXURE**

RESEARCH METHODOLOGY

FEEDBACK

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