

Biodegradable Polymers: Global Markets and Technologies

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Abstracts

Report Scope:

Controversy within the industry as to which materials should be considered biodegradable continues. Biodegradable currently includes polyolefin-based compositions containing starch and polymers containing aromatic groups that microorganisms have difficulty metabolizing.

Additives convert petroleum-based resins to biodegradable versions. The resultant resins are oxo-biodegradable.

Part of the current debate revolves around defining an acceptable period for biodegradation to be completed. Almost all carbon-based materials are biodegradable if given enough time.

This report includes polymers that producers market as fully biodegradable. Most define a fully-biodegradable polymer as a polymer that is completely converted by microorganisms into carbon dioxide, water and humus.

In the case of anaerobic biodegradation, carbon dioxide, methane and humus are the degradation products. However, many within the industry insist on a period for degradation such that the terms biodegradable and compostable are not synonymous.

The issue concerning biodegradable versus compostable resins is a very important issue that is discussed in detail. Polymers derived from renewable resources (non-petroleum-based) are not covered unless considered biodegradable; many polymers derived from renewable resources are not biodegradable. These materials are often

termed biobased. Some polymers are both bio-based and biodegradable.

The scope of the report covers the overview and clear understanding of the global market scenario for biodegradable polymers and the analysis of global market trends, with market data from 2021, considering 2021 as the base year and estimates for 2021 to 2027 with projection of the compound annual growth rate (CAGR) during the forecast period.

This report covers the chemical types of biodegradable polymers: properties, production, producers and applications. Definitions and standards, market drivers, biodegradation testing, environmental issues, composting and relevant technologies will also be discussed.

Different chemical types of biodegradable polymers considered in this report are polylactic acid (PLA), starch-based and polyhydroxyalkanoates (PHA). Qualitative analysis of protein-based products, biodegradable polymers from soybeans, genetically modified (GM) biodegradable polymers and oxo-biodegradable polymers are also covered in the report. This report further includes a discussion of the application of biodegradable polymers such as packaging, fibers/fabrics, agriculture, medical, food service, electrical and electronics and automotive, among others.

This report concludes with a special focus on the competitive landscape, key strategies adopted by manufacturers and detailed profiles of major manufacturers, product offerings, strategies (including trade names) and impact on the market

Report Includes:

62 data tables and 47 additional tables.

An overview of the global markets and technologies for biodegradable polymers

Estimation of the market size and analyses of global market trends, with data from 2021, estimates for 2022, with projections of compound annual growth rates (CAGRs) through 2027

Highlights of the market potential for biodegradable polymers market both in terms of value and volume, and their corresponding market share analysis by chemical type, application, and region

Identification of market drivers, restraints and other forces influencing the progress of this market

Detailed description of biopolymer and the synthetic polymer gap; discussion on integration of biodegradable plastics with disposal infrastructure, and information on non-uniform degradable tests such as ASTM D-6400

Discussion on modes of degradation of biodegradable polymers and effect of environmental exposure conditions and polymer structure on biodegradation

Coverage of recent developments in the biodegradable polymers market and insights into regulations and R&D activities

Information about compostable vs. biodegradable polymers, key properties for compostable plastics, restrictions on compostable claims, standards and specifications and PLA problems associated with composting facilities

Market share analysis of the key companies of the industry and coverage of events like mergers & acquisitions, joint ventures, collaborations or partnerships, and other key market strategies

Company profiles descriptions of the market leading participants, including BASF, BIOMER, Mitsubishi Chemical Holdings Company (MCHC) and Rodenburg Biopolymers B.V.

Contents

CHAPTER 1 INTRODUCTION

Market Introduction
Study Goals and Objectives
Reasons for Doing This Study
What's New in This Update?
Scope of Report
Intended Audience
Methodology and Information Sources
Geographic Breakdown
Analyst's Credentials
BCC Custom Research
Related BCC Research Reports

CHAPTER 2 SUMMARY AND HIGHLIGHTS

CHAPTER 3 TERMINOLOGY

Background
Environmental Issues
Definitions
Bio-based
Degradable and Biodegradable
Compostable vs. Biodegradable

CHAPTER 4 BACKGROUND/HISTORY

Overview
The Biopolymer/Synthetic Polymer Gap
Niche Market
A New Emphasis
Environmental Problems Persist
Early Starch-Based Materials
Continued R&D
Early Entrants
The Importance of Loose-Fill
Other Factors

Biopolymers, Conventional Plastics and Plastics
Natural or Synthetic
The Move to Renewable Sources
Extending the Recycling Loop
Processing
Properties
Defining Biodegradable Polymers
Public Attitudes
Environmental Issues
Composting

CHAPTER 5 DEFINITIONS AND STANDARDS

Overview
Confusion in Biodegradable Definitions
Technical Aspects
Background
The Term Bio-based is Confusing to Consumers
Nonuniform Degradable Tests
Overview
Oxo-Bio Standards
Hydro-Bio Standards
AS D-6400
Conclusions
Summary of Standards

CHAPTER 6 TECHNICAL ASPECTS OF THE DEGRADABILITY OF RESINS

Polyolefins
Polystyrene
Polyvinyl Chloride (PVC)
Other Thermoplastics and Thermosets
Modes of Degradation: Selected Biodegradable Polymers
Effect of Polymer Structure on Biodegradation
Background
Morphology
Background
Early Regulations
Significance of Moisture, Temperature and/or Oxygen

Role of Microorganisms
Presence of Methane
Increasing Decomposition in Landfills
Compost Operations
Other Factors
Conclusions
Composting Details
Overview
Background
Key Properties of Compostable Plastics
Materials that Meet Specifications
Compost Stream and Infrastructure
Compostable Plastics
Biodegradability and Compostability
Restrictions on Compostable Claims
Standards and Specifications
Challenges of Compostable Plastics
U.S. Activities
European Activities
Japanese Activities
Green Plastics Industry and Composting
PLA Problems in Composting Facilities
Baffling Definitions
Recent Development
Third-Party Certification Program

CHAPTER 7 MARKET OVERVIEW

Overview
Challenges with Biodegradable Plastics
Environmental Impact
Impact of the COVID-19 Pandemic
Market Dynamics
Drivers
Restraints
Opportunities

CHAPTER 8 MARKET BREAKDOWN BY CHEMICAL TYPE

Overview
Background
Comparison of Biodegradable Materials
PLA
PBAT
PHA
PBS
Price Estimates of Biodegradable Materials
Market Size Estimation and Forecast
PLA and PBAT
Polylactic Acid (PLA)
Polybutylene Adipate Terephthalate (PBAT)
Polyhydroxyalkanoates (PHAs)
Background
Chemistry
Technology Details
Applications
Process
Properties
Biodegradability
Compostability
Recycling
Certification and Testing
Review of Recent Advancements: Biodegradability of PHA
Other Important Biodegradable Polyesters
Polycaprolactone (PCL)
PBS-Type Polyesters
Polyvinyl Alcohol (PVOH)
Polyvinyl Alcohol-Based Materials
Market Size Estimation and Forecast
Starch-Based Biodegradable Polymers
Agro-Polymers
Sustainable/Biodegradable Corn Starch Products
Mixtures of Starch and Biodegradable Polymers
Application of Thermoplastic Starch Polymers
Environmental Issues
Starch-Filled Polymer Composites
Market Size Estimation and Forecast
Other Types of Biodegradable Polymers

Protein-Based Plastics
Biodegradable Polymers from Soybeans
Genetically Modified (GM) Biodegradable Polymers
Oxo-Biodegradable Plastics

CHAPTER 9 MARKET BREAKDOWN BY APPLICATION

Overview
Market Size Estimation and Forecast
Strategies of Key Players
Packaging
Background
Resin in Sustainable Packaging
Issues
Targeted Applications
Market Size Estimation and Forecast
Fibers/Fabrics
Overview
Nonwovens
Biodegradable Drug-Loaded Fibers
Market Size Estimation and Forecast
Agriculture
Overview
Positive Aspects: Biodegradable Agricultural Film
A Recent Update
Production of Biodegradable Plastic Mulches
Market Size Estimation and Forecast
Medical
Overview
Background
Properties Required
Breadth of Applications
Criteria for Polymer Selection
Orthopedic Fixation Devices
Types of Biodegradable Polymers: Medical Field
Packaging and Sterilization Implications
Degradation of Medical Plastics
Commercial Biodegradable Medical Devices
Market Size Estimation and Forecast

Food Service

Overview

Biodegradable Paper Coating

Biodegradable Polymer Coated Paper and Paperboard

Paper Cups

Market Size Estimation and Forecast

Electrical and Electronics

Overview

Current Status of Electronics Applications

Biodegradable Electronics Research

Market Size Estimation and Forecast

Automotive

Overview

Current Status of Auto Applications

Biomaterials in the Automotive Industry

Challenges and New Developments

Market Size Estimation and Forecast

Others

Overview

Market Size Estimation and Forecast

CHAPTER 10 MARKET BREAKDOWN BY REGION

Overview

Asia-Pacific

Market Size Estimation and Forecast

Europe

Impact of 2022 Russia/Ukraine War on Plastics Market

Market Size Estimation and Forecast

North America

Market Size Estimation and Forecast

South America

Market Size Estimation and Forecast

Middle East and Africa (MEA)

Market Size Estimation and Forecast

CHAPTER 11 COMPETITIVE LANDSCAPE

Industry Structure and Overview

Key Drivers of the Global Market for Biodegradable Polymers
Global Biodegradable Polymer Producers
Production Capacity of Key PLA Players
Production Capacity of PHA

CHAPTER 12 COMPANY PROFILES

BASF
BEWISYNBRA GROUP
BIOLOGISCHE NATURVERPACKUNGEN GMGH & CO. KG (BIOTEC)
BIOME BIOPLASTICS LTD.
BIOMER
CEREPLAST
DANIMER SCIENTIFIC
FKUR KUNSTSTOFF GMBH
FUTERRO
GALACTIC SA
HUHTAMAKI GROUP
MITSUI CHEMICALS
MITSUBISHI CHEMICAL CORP.
NATUREWORKS LLC
Novamont S.P.A.
PLANTIC TECHNOLOGIES LTD.
PSM NORTH AMERICA
RODENBURG BIOPOLYMERS B.V.
TEIJIN LTD.
TIANAN BIOLOGIC MATERIAL CO. LTD.
TIANJIN GREENBIO MATERIALS CO. LTD.
TORAY INDUSTRIES INC.
TOTAL CORBION PLA BV
TOYOBO CO. LTD.
ZHEJIANG HISUN BIOMATERIALS CO. LTD.

CHAPTER 13 APPENDIX: ACRONYMS

List Of Tables

LIST OF TABLES

Summary Table A: Global Market Volumes of Biodegradable Polymers, by Application, Through 2027

Summary Table B: Global Market for Biodegradable Polymers, by Application, Through 2027

Table 1: Key AS Standards Related to Biodegradable Polymers

Table 2: AS Tests and Specifications, by Type of Environment

Table 3: Time Lag for Visual Change During Degradation for Selected Materials

Table 4: Time Lag for Visual Change During Degradation for Selected Materials

Table 5: Estimated Composting Time

Table 6: Degradation Time for Packaging Materials

Table 7: Comparison of Biodegradable Materials

Table 8: Price Estimates: Biodegradable Materials, 2021

Table 9: Global Market Volumes of Biodegradable Polymers, by Chemical Type, Through 2027

Table 10: Global Market for Biodegradable Polymers, by Chemical Type, Through 2027

Table 11: Global Market Volumes of PLA and PBAT, by Region, Through 2027

Table 12: Global Market for PLA and PBAT, by Region, Through 2027

Table 13: Global Market Volumes of PHAs, by Region, Through 2027

Table 14: Global Market for PHAs, by Region, Through 2027

Table 15: Types of Products Made with Master-Bi

Table 16: Global Market Volumes of Starch-Based Biodegradable Polymers, by Region, Through 2027

Table 17: Global Starch-Based Market for Biodegradable Polymers, by Region, Through 2027

Table 18: Global Market Volumes of Biodegradable Polymers, by Application, Through 2027

Table 19: Global Market for Biodegradable Polymers, by Application, Through 2027

Table 20: Strategies Adopted by Key Players in Various Application Areas, 2022

Table 21: Global Market Volumes of Biodegradable Polymers in Packaging Applications, by Region, Through 2027

Table 22: Global Market for Biodegradable Polymers in Packaging Applications, by Region, Through 2027

Table 23: Global Market Volumes of Biodegradable Polymers in Fiber/Fabric Applications, by Region, Through 2027

Table 24: Global Market for Biodegradable Polymers in Fiber/Fabric Applications, by

Region, Through 2027

Table 25: Global Market Volumes of Biodegradable Polymers in Agriculture Applications, by Region, Through 2027

Table 26: Global Market for Biodegradable Polymers in Agriculture Applications, by Region, Through 2027

Table 27: Global Market Volumes of Biodegradable Polymers in Medical Applications, by Region, Through 2027

Table 28: Global Market for Biodegradable Polymers in Medical Applications, by Region, Through 2027

Table 29: Fast-Moving Consumer Goods Companies and Bioplastics

Table 30: Global Market Volumes of Biodegradable Polymers in Food Service Applications, by Region, Through 2027

Table 31: Global Market for Biodegradable Polymers in Food Service Applications, by Region, Through 2027

Table 32: Global Market Volumes of Biodegradable Polymers in Electrical and Electronics Applications, by Region, Through 2027

Table 33: Global Market for Biodegradable Polymers in Electrical and Electronics Applications, by Region, Through 2027

Table 34: Global Market Volumes of Biodegradable Polymers in Automotive Applications, by Region, Through 2027

Table 35: Global Market Volumes of Biodegradable Polymers in Automotive Applications, by Region, Through 2027

Table 36: Global Market Volumes of Biodegradable Polymers in Other Applications, by Region, Through 2027

Table 37: Global Market for Biodegradable Polymers in Other Types of Applications, by Region, Through 2027

Table 38: Global Market Volumes of Biodegradable Polymers, by Region, Through 2027

Table 39: Global Market for Biodegradable Polymers, by Region, Through 2027

Table 40: Asia-Pacific Market Volumes of Biodegradable Polymers, by Country, Through 2027

Table 41: Asia-Pacific Market for Biodegradable Polymers, by Country, Through 2027

Table 42: Asia-Pacific Market Volumes of Biodegradable Polymers, by Chemical Type, Through 2027

Table 43: Asia-Pacific Market for Biodegradable Polymers, by Chemical Type, Through 2027

Table 44: Asia-Pacific Market Volumes of Biodegradable Polymers, by Application, Through 2027

Table 45: Asia-Pacific Market for Biodegradable Polymers, by Application, Through 2027

Table 46: European Market Volumes of Biodegradable Polymers, by Country, Through 2027

Table 47: European Market for Biodegradable Polymers, by Country, Through 2027

Table 48: European Market Volumes of Biodegradable Polymers, by Chemical Type, Through 2027

Table 49: European Market for Biodegradable Polymers, by Chemical Type, Through 2027

Table 50: European Market Volumes of Biodegradable Polymers, by Application, Through 2027

Table 51: European Market for Biodegradable Polymers, by Application, Through 2027b

Table 52: North American Market Volumes of Biodegradable Polymers, by Country, Through 2027

Table 53: North American Market for Biodegradable Polymers, by Country, Through 2027

Table 54: North American Market Volumes of Biodegradable Polymers, by Chemical Type, Through 2027

Table 55: North American Market for Biodegradable Polymers, by Chemical Type, Through 2027

Table 56: North American Market Volumes of Biodegradable Polymers, by Application, Through 2027

Table 57: North American Market for Biodegradable Polymers, by Application, Through 2027

Table 58: South American Market Volumes of Biodegradable Polymers, by Country, Through 2027

Table 59: South American Market for Biodegradable Polymers, by Country, Through 2027

Table 60: South American Market Volumes of Biodegradable Polymers, by Chemical Type, Through 2027

Table 61: South American Market for Biodegradable Polymers, by Chemical Type, Through 2027

Table 62: South American Market Volumes of Biodegradable Polymers, by Application, Through 2027

Table 63: South American Market for Biodegradable Polymers, by Application, Through 2027

Table 64: Middle East and African Market Volumes of Biodegradable Polymers, by Country, Through 2027

Table 65: Middle East and African Market for Biodegradable Polymers, by Country, Through 2027

Table 66: Middle East and African Market Volumes of Biodegradable Polymers, by

Chemical Type, Through 2027

Table 67: Middle East and African Market for Biodegradable Polymers, by Chemical Type, Through 2027

Table 68: Middle East and African Market Volumes of Biodegradable Polymers, by Application, Through 2027

Table 69: Middle East and African Market for Biodegradable Polymers, by Application, Through 2027

Table 70: Key Global Biodegradable Polymers Manufacturers

Table 71: Key Global Polylactic Acid Manufacturers

Table 72: Key Global Polyester Biodegradable Polymer Manufacturers

Table 73: Key Global Starch-Based Biodegradable Polymer Manufacturers

Table 74: PLA Production Capacity of Key Manufacturers

Table 75: PHA Manufacturers by Major Companies

Table 76: Recent Developments in the Market for Biodegradable Polymers, 2020-2022

Table 77: BASF: Products Offered

Table 78: BASF: Recent Developments

Table 79: BEWiSynbra Group: Products Offered

Table 80: Biologische Naturverpackungen GMGH & Co. KG (BIOTEC): Products Offered

Table 81: Biome Bioplastics Ltd.: Products Offered

Table 82: Biomer: Products Offered

Table 83: Cereplast: Products Offered

Table 84: Danimer Scientific: Products Offered

Table 85: Danimer Scientific: Recent Developments

Table 86: FKUR Kunststoff GmbH: Products Offered

Table 87: FKUR Kunststoff GmbH: Recent Developments

Table 88: Futerro: Products Offered

Table 89: Futerro: Recent Developments

Table 90: Galactic SA: Products Offered

Table 91: Huhtamaki Group: Product Offered

Table 92: Mitsui Chemicals: Product Offered

Table 93: Mitsubishi Chemical Corp.: Product Offered

Table 94: NatureWorks: Products Offered

Table 95: NatureWorks: Recent Developments

Table 96: Novamont S.p.A.: Products Offered

Table 97: Novamont S.p.A.: Recent Developments

Table 98: Plantic Technologies Ltd.: Products Offered

Table 99: PSM North America: Products Offered

Table 100: Rodenburg Biopolymers B.V. Products Offered

Table 101: Teijin Ltd.: Products Offered

Table 102: Tianan Biologic Material Co. Ltd.: Products Offered

Table 103: Tianjin Guoyun Bio-Materials Co. Ltd.: Products Offered

Table 104: Toray Industries Inc.: Products Offered

Table 105: Toray Industries Inc.: Recent Developments

Table 106: Total Corbion PLA bv: Products Offered

Table 107: Corbion: Recent Developments

Table 108: Toyobo Co. Ltd.: Products Offered

Table 109: Zhejiang Hisun Biomaterials Co. Ltd.: Products Offered

List Of Figures

LIST OF FIGURES

Summary Figure: Global Market for Biodegradable Polymers, by Application, 2021-2027

Figure 1: Categories of Biodegradable Polymers

Figure 2: Biomass Segments

Figure 3: Global Market Volume Shares of Biodegradable Polymers, by Chemical Type, 2021

Figure 4: Global Market for PLA and PBAT Biodegradable Polymers, by Region, 2021-2027

Figure 5: Global Market for PHAs, by Region, 2021-2027

Figure 6: Global Market for Starch-Based Biodegradable Polymers, by Region, 2021-2027

Figure 7: Global Market Shares of Biodegradable Polymers, by Application, 2021

Figure 8: Global Market for Biodegradable Polymers in Packaging Applications, by Region, 2021-2027

Figure 9: Global Market for Biodegradable Polymers in Fiber/Fabric Applications, by Region, 2021-2027

Figure 10: Global Market for Biodegradable Polymers in Agriculture Applications, by Region, 2021-2027

Figure 11: Global Market for Biodegradable Polymers in Medical Applications, by Region, 2021-2027

Figure 12: Global Market for Biodegradable Polymers in Food Service, by Region, 2021-2027

Figure 13: Global Market for Biodegradable Polymers in Electrical and Electronics Applications, by Region, 2021-2027

Figure 14: Global Market for Biodegradable Polymers in Automotive Applications, by Region, 2021-2027

Figure 15: Global Market for Biodegradable Polymers in Other Types of Applications, by Region, 2021-2027

Figure 16: Global Market Shares of Biodegradable Polymers, by Region, 2021

Figure 17: Asia-Pacific Market Volumes Shares of Biodegradable Polymers, by Country, 2021

Figure 18: Asia-Pacific Market Volumes Shares of Biodegradable Polymers, by Chemical Type, 2021

Figure 19: Asia-Pacific Market Volumes Shares of Biodegradable Polymers, by Application, 2021

Figure 20: European Market Volumes Shares of Biodegradable Polymers, by Country,

2021

Figure 21: European Market Volumes Shares of Biodegradable Polymers, by Chemical Type, 2021

Figure 22: European Market Volume Shares of Biodegradable Polymers, by Application, 2021

Figure 23: North American Market Volume Shares of Biodegradable Polymers, by Country, 2021

Figure 24: North American Market Volume Shares of Biodegradable Polymers, by Chemical Type, 2021

Figure 25: North American Market Volume Shares of Biodegradable Polymers, by Application, 2021

Figure 26: South American Market Volume Shares of Biodegradable Polymers, by Country, 2021

Figure 27: South American Market Volume Shares of Biodegradable Polymers, by Chemical Type, 2021

Figure 28: South American Market Volume Shares of Biodegradable Polymers, by Application, 2021

Figure 29: Middle East and African Market Shares of Biodegradable Polymers, by Country, 2021

Figure 30: Middle East and African Market Shares of Biodegradable Polymers, by Chemical Type, 2021

Figure 31: Middle East and African Market Shares of Biodegradable Polymers, by Application, 2021

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