

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.

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DANIMER SCIENTIFIC
FKUR KUNSTSTOFF GMBH
FUTERRO
GALACTIC SA
HUHTAMAKI GROUP
MITSUI CHEMICALS
MITSUBISHI CHEMICAL CORP.
NATUREWORKS LLC
Novamont S.P.A.
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