

Biodegradable Polymers

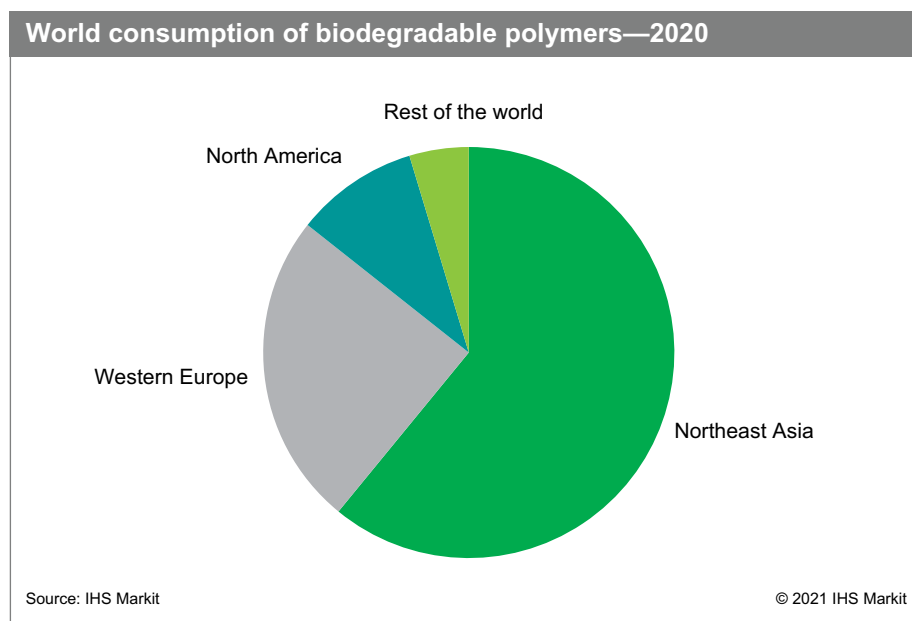
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Abstract

Biodegradable polymers, as defined in this report, are bio-based or synthetic polymers that undergo microbial decomposition to carbon dioxide and water in industrial compost facilities. A few of these polymers decompose in backyard compost bins or in soil, freshwater, or saltwater.

Major biodegradable polymers include polylactic acid (PLA); polyhydroxyalkanoates (PHAs), including polyhydroxybutyrate (PHB) and related copolymers; cellulose diacetate; regenerated cellulose; copolyesters such as polybutylene adipate terephthalate (PBAT) and polybutylene succinate adipate (PBSA); polybutylene succinate (PBS); polycaprolactone (PCL); polyglycolic acid (PGA); and starch compounds (mixtures of starch and other biodegradable polymers such as PBAT or PLA).

The following chart shows world consumption of biodegradable polymers in 2020. Consumption is expected to increase significantly in 2020–25, driven by surging demand for biodegradable polymers in mainland China.



Northeast Asia—mainland China, Japan, South Korea, and Taiwan—is now the world’s largest producer and consumer of biodegradable polymers. Mainland Chinese capacity for biodegradable polymers has expanded significantly since 2017, driven mainly by legislation designed to reduce the volume of plastic waste. Additional

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expansion—especially of PLA and PBAT capacity—is expected during 2020–25, assuming that adequate supplies of feedstocks such as 1,4-butanediol, lactic acid, and lactide are available.

Western Europe remains a major producer and consumer of biodegradable polymers. Legislation is an important market driver; key initiatives include plastic bag bans in Italy and France, and EU waste disposal laws that limit the disposal of organic waste in landfill and allow the collection of biodegradable and compostable packaging with organic waste. The EU's Single-Use Plastic Directive—which limits the uses of disposable cups, plates, food containers, drinking straws, and other items—has the potential to drive additional demand for biodegradable polymers.

Starch compounds, PLA, and PLA compounds accounted for the bulk of global biodegradable polymers consumption in 2020. The food packaging, dishes, cutlery, and bags market was the largest end-use segment, as well as the major growth driver for biodegradable polymers consumption.

For more detailed information, see the table of contents, shown below.

IHS Markit's Chemical Economics Handbook – *Biodegradable Polymers* is the comprehensive and trusted guide for anyone seeking information on this industry. This latest report details global and regional information, including



Global summary;
regional coverage



Producers with
annual capacities
and plant sites



Production figures
and trends



Consumption and
forecasts by end use
application



Manufacturing
processes and
environmental issues



Trade – imports
and exports

Key benefits

IHS Markit's Chemical Economics Handbook – *Biodegradable Polymers* has been compiled using primary interviews with key suppliers and organizations, and leading representatives from the industry in combination with IHS Markit's unparalleled access to upstream and downstream market intelligence and expert insights into industry dynamics, trade, and economics.

This report can help you

- Identify trends and driving forces influencing chemical markets
- Forecast and plan for future demand
- Understand the impact of competing materials
- Identify and evaluate potential customers and competitors
- Evaluate producers
- Track changing prices and trade movements
- Analyze the impact of feedstocks, regulations, and other factors on chemical profitability

Contents

Executive summary	8
Summary	10
Introduction	18
Compostability standards	19
– ASTM standards	19
– ASTM D6400	19
– ASTM D6691	20
– ASTM D6868	20
– ASTM D7081	20
– EN standards	20
– EN 13432	20
– EN 14995	20
– EN 17033	21
– ISO standards	21
– ISO 17088	21
– ISO 18606	21
– ISO 19679	21
Bio content test methods	22
– ASTM D6866	22
– CEN/TS 16137:2011	22
– ISO 16620	22
Certifying organizations	22
– Biodegradable Products Institute (BPI)	22
– DIN CERTCO	23
– Japan BioPlastics Association	23
– National Plastics Standardization Center	24
– TÜV Austria	24
– US Department of Agriculture	25
Manufacturing processes	26
Cellulose acetate	26
Polybutylene adipate terephthalate	26
Polybutylene succinate	27
Polybutylene succinate adipate	28
Polycaprolactone	28
Polyglycolic acid	29
Polyhydroxyalkanoates	29
Polylactic acid	29
– Compounding	30
– End of life	30
Starch compounds	30

Environmental issues and legislation	32
North America	32
– Solid waste disposal patterns	32
– Legislation	35
Central and South America	36
– Solid waste disposal patterns	36
– Legislation	37
Western Europe	37
– Solid waste disposal patterns	37
– Legislation	39
Central Europe	41
– Solid waste disposal patterns	41
– Legislation	43
CIS and Baltic States	44
– Solid waste disposal patterns	44
– Legislation	46
Middle East	46
– Solid waste disposal patterns	46
– Legislation	48
Africa	48
– Solid waste disposal patterns	48
– Legislation	48
India	48
– Legislation	49
– Consumer attitudes and behavior	50
Northeast Asia	50
– Mainland China	50
– Legislation	50
– Consumer attitudes and behavior	52
– Japan	52
– Legislation	52
– Consumer attitudes and behavior	53
– Taiwan	54
Southeast Asia and Oceania	55
– Malaysia	55
– Philippines	56
– Thailand	57
– Vietnam	58
– Oceania	59
Supply and demand by region	61
North America	61
– Producing companies	61
– Salient statistics	65

– Production	66
– Consumption by type	66
– Consumption by market	68
– Food packaging, dishes, and cutlery	69
– Foam packaging	70
– Compost bags	71
– Paper coatings	72
– Agriculture and horticulture	73
– Other	73
– Price	74
– Trade	75
Central and South America	76
– Producing companies	76
– Consumption	76
– Trade	77
Western Europe	78
– Producing companies	78
– Salient statistics	82
– Production	84
– Consumption by type	85
– Consumption by market	86
– Shopping and produce bags	88
– Compost bags	88
– Food packaging, dishes, and cutlery	88
– Foam packaging	88
– Agriculture and horticulture	89
– Paper coatings	89
– Other	89
– Price	90
– Trade	90
Central Europe	91
CIS and Baltic States	92
Middle East	94
Africa	94
Indian Subcontinent	95
– Producing companies	95
– Salient statistics	97
– Consumption by type	97
– Consumption by market	98
– Trade	99
Northeast Asia	100
– Mainland China	100
– Producing companies	100

– Salient statistics	107
– Production	108
– PLA	109
– PBS, PBSA, and PBAT	109
– Others	110
– Consumption by type	110
– Consumption by market	112
– Shopping and produce bags	113
– Food packaging, dishes, and cutlery	113
– Compost bags	113
– Others	113
– Price	114
– Trade	114
– Japan	115
– Producing companies	115
– Polylactic acid producers and processors	116
– PBS and PBSA producers	118
– PHBH, PGA, and copolyester producers	118
– Starch- and cellulose-based biodegradable polymer producers	120
– Nonbiodegradable bio-based polymers and bio-based chemical precursor producers	120
– Salient statistics	122
– Consumption	124
– Consumption by type	124
– Consumption by market	125
– Price	126
– Other Northeast Asia	126
– Producing companies	126
– South Korea	128
– Taiwan	129
– Salient statistics	129
– Consumption	130
– Consumption by type	131
– Consumption by market	132
– Trade	132
Southeast Asia and Oceania	133
– Producing companies	133
– Thailand	133
– PLA	134
– PBS	135
– Other biodegradable polymers	135
– Other Southeast Asia and Oceania	135
– Salient statistics	137
– Consumption by type	138

– Consumption by market	140
– Trade	141
Appendix I—Bio-based polymers	143
Appendix II—Geographic regions	145
Additional resources	146
Revisions	148
Data Workbook	149

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