PLA bioplastics
A SIGNIFICANT CONTRIBUTOR TO GLOBAL SUSTAINABILITY

corbion.com/bioplastics
Why bioplastics?

Safer and more friendly for our planet
PLA is made from renewable, biobased resources and has a considerably lower carbon footprint than other plastics. It is also biodegradable, leaving behind no harmful substances.

Positive business impact
Consumers are becoming increasingly aware of their impact on our planet and are starting to appreciate and seek out more environmentally friendly alternatives. Bioplastics also alleviate our reliance on increasingly expensive oil-based sources.

Why PLA?

100% biobased
PLA resin is 100% biobased and is made from renewable resources.

Highly efficient use of feedstocks
PLA is a highly efficient plastic. To make 1 kg of PLA requires just 1.6 kg of sugar. Other types of bioplastics can require significantly more natural resources to produce the same amount of end-product.

Available on an industrial scale
PLA is already available at an industrial scale and does not require the start-up investment and timeframes so commonly associated with new polymers. Together with our partners, we can help you make your bioplastic applications a reality.

Proven durable applications
PLA applications have already been developed and introduced to the consumer market. These applications have proven to be successful, which attests to the competence of this polymer. Whether you are interested in molded parts, film, foam or fiber, just ask us for some sample material and we’ll be happy to assist.

Why Corbion Purac?

Advanced technology and R&D
At Corbion Purac, we engage in ongoing R&D efforts to improve performance and sustainability of our products and processes. The breakthrough in high heat PLA performance, production of gypsum-free PLA and the use of alternative feedstocks are key focus areas for us.

Consistent high quality
Corbion Purac has mastered the production technology to make high purity, high performance Lactides at industrial scale.

100 years of experience
Corbion has 100 years of experience in sales, application development and industrial scale production. Corbion Purac is the global market leader in lactic acid, lactic acid derivatives and lactides.

Global presence
With 10 production facilities and sales offices on every continent, we are always close by to help you with your application development.

Corbion Purac:
a leading biochemical powerhouse

Corbion Purac produces high quality lactic acid and lactide using a biochemical fermentation process. Our partners convert this lactide into PLA (Poly Lactic Acid) resin, which forms the basis for your PLA applications. PLA can be converted into foam, film, molded plastic parts and fiber: the application possibilities are endless.
A cradle to cradle lifecycle

The Cradle to Cradle framework moves beyond the traditional goal of reducing the negative impact of commerce (‘eco-efficiency’), to a new paradigm of increasing its positive impact (‘eco-effectiveness’). This more comprehensive, sustainable approach replaces the linear economy with a circular, biobased economy where products are produced from sustainable, natural resources and are re-used and recycled as much as possible. At their end-of-life, these products then have a range of options to transform them back into feedstock for new, added value product life cycles.

Multiple end-of-life options:
- Recycle and reuse
- Compost/biodegrade
- Incinerate/renewable energy recovery
- Anaerobic digestion
- Feedstock recovery

PLA bioplastic offers a significantly reduced carbon footprint versus traditional oil-based plastics.

This is important for the health of our planet and is a growing concern amongst consumers, who are examining the sustainability aspects of their purchases ever more critically.

As media attention increases and regulatory activity gains momentum, bioccontent in plastic will become a more and more relevant issue for producers to address.
Corbion Purac has developed a range of high heat PLA blends. This opens up a multitude of possibilities for applications that require improved heat resistance, such as coffee cups and lids.

**High heat PLA technology**

- Improved heat stability
- Good processing economics

**Automotive**
For interiors & under-the-hood parts.
- High heat resistance
- Durable
- Hydrolytic stability

**Consumer goods**
Sunglasses, serviceware, toys.
- High heat resistance
- Excellent surface appearance
- Durable
- Good impact resistance

**Consumer electronics**
Injection molded casings & housings.
- High heat resistance
- Excellent surface appearance
- Durable
- Good impact resistance

**Packaging & disposables**
Yoghurt pots, coffee cups & lids, disposable serviceware.
- Transparent
- Compostable
- Biobased & recyclable

**Building & construction**
Foam for insulation, fibers for carpets & furnishings.
- High heat resistance
- Durable
- Weavable

**Sportswear & goods**
Fibers for apparel, foam for surfboards & helmets, molded parts for equipment.
- High heat resistance
- Good breathability
- Soft & tactile feel
- Washable & durable

**PLA bioplastics: applications & markets**
Sustainability is embedded in our long term strategy and business practices. It is based on balancing the elements of People, Planet and Profit in all that we do. We are working towards our objectives in the areas of energy, water, waste, packaging and procurement. By engaging with partners and stakeholders, we aim to increase sustainability throughout our value chain.

Sustainable business practices

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Sustainable feedstocks

Corbion Purac is actively involved in various fundamental research and development programs to develop cellulose-based, non-food raw materials into a sustainable feedstock for PLA. Corbion Purac is investigating some specific, currently available, by-product streams that can be used as PLA feedstock.

Corbion Purac is committed to having a pilot facility using these alternative feedstocks in the near future.
Corbion in bioplastics

For the plastics industry, Corbion Purac offers lactide resins for high performance PLA bioplastics. PLA (Poly Lactic Acid) is a biobased plastic with a low carbon footprint and is used in packaging, disposables, fibers, electronics and automotive markets.

About Corbion

Corbion is the global market leader in lactic acid, lactic acid derivatives and lacticides, and a leading company in functional blends containing enzymes, emulsifiers, minerals and vitamins. The company delivers high performance biobased products made from renewable resources and applied in global markets such as bakery, meat, pharmaceuticals and medical devices, home and personal care, packaging, automotive, coatings and coating resins. Corbion operates 10 production plants, in the USA, the Netherlands, Spain, Brazil and Thailand, and markets its products through a worldwide network of sales offices and distributors. In 2012, Corbion generated annual sales of €753 million and had a workforce of 1,800 employees.

Interested in solutions for PLA bioplastics? Go to corbion.com/bioplastics bioplastics@corbion.com @CorbionBioplast