

PLA bioplastics for a brighter future

Biobased • Compostable • Innovative



| Total Corbion PLA

Total Corbion PLA is a global technology leader in Poly Lactic Acid (PLA) and lactide monomers. PLA is a biobased and biodegradable polymer made from annually renewable resources, offering a reduced carbon footprint versus many traditional plastics.

Why bioplastics?



Safer and more friendly for our planet

PLA is biobased, it is made from annually renewable biomass and has a reduced carbon footprint. It is also compostable according to EN13432 and after the biodegradation is complete, no harmful substances are left behind.



Positive business impact

Consumers are becoming increasingly aware of their impact on our planet and favor more environmentally friendly alternatives. Bioplastics also alleviate our reliance on oil-based sources.

Why PLA?



100% biobased

PLA resins are 100% biobased and are made from renewable resources.



Highly efficient use of feedstocks

PLA is a highly efficient plastic. To make 1kg 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 commercially available at an industrial scale. Contact us to 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, 3D printing or fiber, just ask us for application development support.



Why Total Corbion PLA?

Advanced technology and R&D

At Total Corbion PLA, we engage in ongoing R&D efforts to improve performance and sustainability of our products and processes. The breakthrough and commercialization of high heat PLA and the future use of alternative feedstocks are key focus areas for us.



Consistent high quality

Total Corbion PLA has mastered the production technology to make high purity, high performance PLA resins at industrial scale.



Global presence

With sales offices on every continent, we are always close by to help you with your application development.



PLA and the circular economy

In the circular economy, so-called 'waste streams' and products at their 'end-of-life' form the basis for new products, instead of being disposed of. 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 re-cycled 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
- Incineration with renewable energy recovery
- Anaerobic digestion
- Feedstock recovery

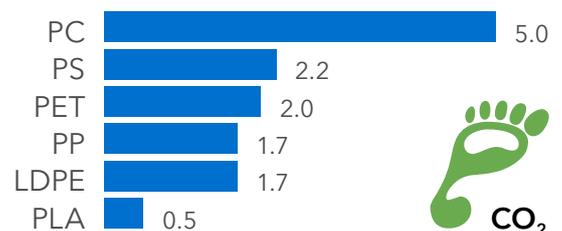


Low carbon footprint

PLA bioplastics offer 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, biocontent in plastic will become a more and more relevant issue for producers to address.

Emissions from production of common polymers

*(kg CO₂ eq per kg of polymer - cradle to gate)



*Source: www.lca.plasticseurope.org & Corbion



Sustainable agricultural practices

Total Corbion PLA's approach to a sustainable supply chain and responsible sourcing is founded on principles of ethical business practices, human and labor rights and environmental protection. Our key agricultural material is raw sugar from cane that is grown in Thailand. A code of conduct for sustainable sourcing of sugarcane describes our expectations of our cane sugar suppliers to fulfill our responsible sourcing commitment.

The cane sugar code of conduct is applicable to all of our cane sugar suppliers and is embedded in our supplier qualification process. The code is publicly available.

At Total Corbion PLA, we offer our customers PLA produced from GMO-free feedstocks.

Bonsucro

Bonsucro is a global, non-profit, multi-stakeholder organization founded by WWF in 2005 to advance a more economically, environmentally, and socially responsible sugarcane sector. The Bonsucro Production Standard covers the following 5 key principles: obey the law, respect human rights and labor standards, manage input, production and processing efficiencies to enhance sustainability, actively manage biodiversity and ecosystem services and lastly, continuously improve key areas of the social, environmental and economic sustainability.

Luminy PLA made from Bonsucro certified cane sugar is available for those customers that require it.

High heat PLA technology

Total Corbion PLA has developed a range of high heat PLA compounds. This opens up a multitude of possibilities for applications that require improved heat resistance, such as coffee cups and lids, tea bags and coffee capsules.



Standard PLA
Coffee at 100°C



Luminy® high heat PLA
Coffee at 100°C

Luminy®

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Total Corbion PLA's Luminy® portfolio includes a number of PLA products tailored to specific market needs and conversion processes, including:

- High heat PLA
- Standard PLA
- PDLA

Markets & applications



Packaging & disposables

Yoghurt pots, coffee cups & lids, disposable serveware.

- Transparent
- Compostable
- Biobased
- Recyclable



Automotive

For interiors & under-the-hood parts.

- High heat resistance
- Durable
- Hydrolytic stability



3D printing & consumer products

Injection molded casings & housings.

- High heat resistance
- Excellent surface appearance
- Durable
- Good impact resistance



Fibers & non wovens

Fibers for apparel, wipes, diapers and technical fibers & filters.

- High heat resistance
- Good breathability
- Soft & tactile feel
- Biodegradable/Compostable

About Total Corbion PLA

Total Corbion PLA is a global technology leader in Poly Lactic Acid (PLA) and lactide monomers. PLA is a biobased and biodegradable polymer made from annually renewable resources, offering a reduced carbon footprint versus many traditional plastics. The Luminy® PLA portfolio, which includes both high heat and standard PLA grades, is an innovative material that is used in a wide range of markets from packaging to consumer goods, fibers and automotive. Total Corbion PLA, headquartered in the Netherlands, will start up a new production plant in Thailand in the second half of 2018. The company is a 50/50 joint venture between Total and Corbion.

www.total-corbion.com

