Changing plastic.
For good.

IM123 - Versatile Bioplastic for Injection Molding

IM123 is a bioplastic based on PLA, suitable for use in a variety of injection molding applications. The formulation is based on a very high proportion of renewable raw materials, which allows for a reduction in carbon footprint by up to 109% compared to conventional fossil-based plastics.

- Up to 109% lower CO2 footprint
- Very high proportion of renewable content
- Recyclable
- Free from permanent microplastics
- Food safe
- Glossy surface

Environmental Benefits

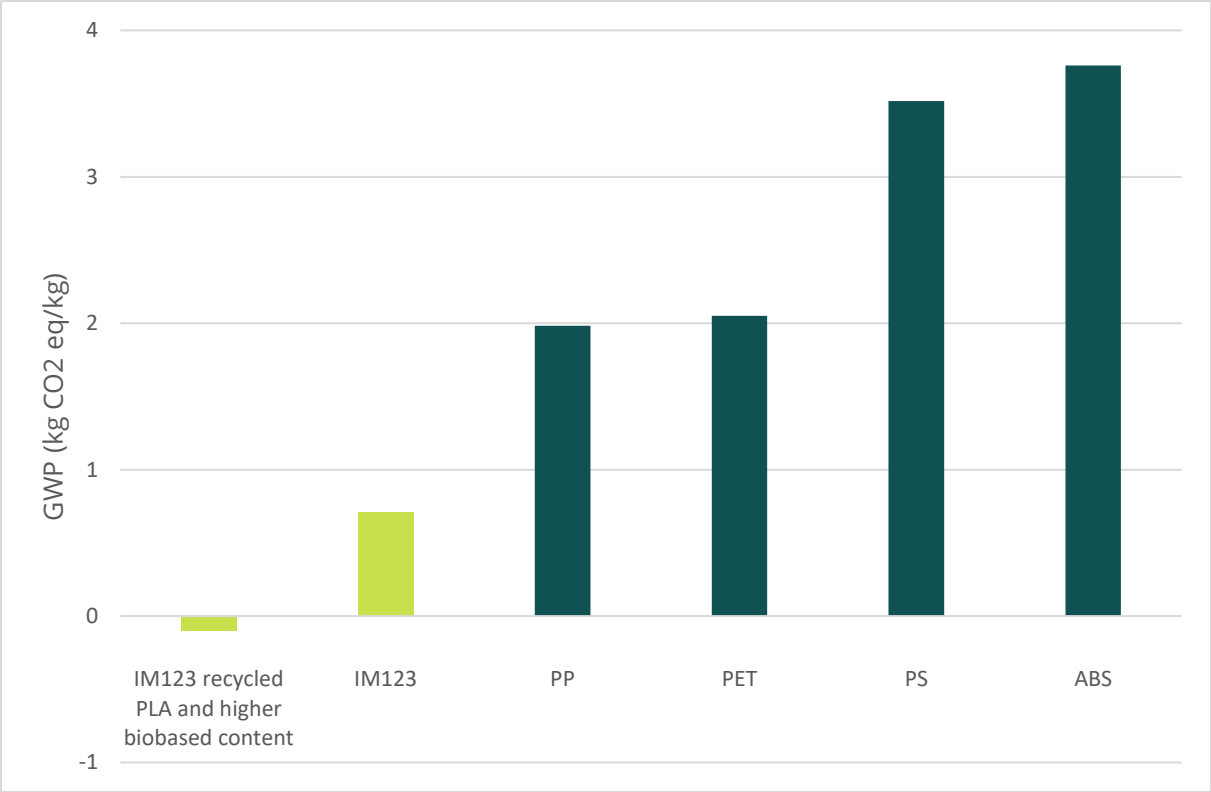
IM123 has been developed as a sustainable alternative to fossil-based plastic for injection molding. A very high proportion of the raw material comes from renewable sources.

According to life cycle assessment (LCA) calculations, IM123 has a global warming potential (GWP) of -0.17 kg CO2 eq./kg of produced material (including biogenic carbon, cradle-to-gate)* when chemically recycled PLA and a higher proportion of bio-based raw materials are used. This is significantly lower than for conventional plastic (see chart below) and shows how switching to BIQ Materials IM123 can noticeably reduce the CO2 footprint of your company's products. GWP for IM123 without recycled PLA and with slightly lower renewable content is 0.72 kg CO2 eq./kg of produced material (including biogenic carbon).

Please feel free to contact us so we can discuss how you specifically can improve the environmental profile of your products.

* The CCaLC2 software, version 1.7, and its database were used to perform this life cycle analysis.

Global Warming Potential for IM123 Compared to Conventional Plastic



Recyclable and Biodegradable

IM123 is biodegradable but can also be recycled or incinerated, thus having many ways to complete the carbon cycle when its usage period is over. Through recycling, the carbon footprint can be further reduced. In this way, it is a good material choice for companies that want to mark their transition towards a circular economy with a reduced environmental footprint. Compared to conventional plastics, PLA breaks down as carbon dioxide and water over time in the environment. If it ends up in nature, it does not leave any permanent microplastics behind.

An Easy Transition

IM123 stands out with well-balanced mechanical properties combined with good processability. It can replace fossil-based plastic in many different injection molding tools and applications, which both simplifies and reduces the cost of transitioning to bioplastic. Please contact us, and we will help your company make the switch.

Food Safety

All raw materials used in the formulation are approved for contact with food according to EU Regulation 10/2011. For more information, please contact BIQ Materials, and we will gladly provide a declaration of compliance.

Technical Data

The table below shows a selection of properties for IM123:

Parameter	Value	Unit	Method
Color	Easy to color	-	-
Density	1,33	Kg/dm³	ISO 1183
Melt Flow Index (190 °C; 2,16 kg)	23	g/10	ISO 1133
Melting Temperature	175	°C	Internal
E-modulus	2800	MPa	ISO 527
Charpy Impact Test (unnotched)	49(complete break)	kJ/m²	ISO 179
Proportion of Renewable Raw Material	89-99*	%	Internal

*The remaining content consists of non-bio-based but biodegradable polymers and processing aids.