How 2 GUIDE

How 2 understand Bioplastics

Bioplastics are promoted as a **green sustainable solution.**

But how green are they?

Converting our food waste into plastics!

Can bioplastics be recycled?

As with conventional plastics, bioplastics need to be recycled separately (BY PLASTICS TYPE)

What about greenwashing?

The most common type of greenwashing relates to plastic products that are labelled

RECYCLABLE

or

BIODEGRADABLE.

ENVIRONMENTAL CLAIMS of bioplastic products should be **specific, accurate, relevant** and **truthful**.

Anything else?

Manufacturing bioplastics is a complicated and energy-intensive process, and still depends on fossil fuels.

Energy is required to power farm machinery needed to sow and harvest crops used as raw materials, and for transportation.

Fossil fuels are also used to make fertilisers and pesticides used to increase crop yields.

PESTICIDES

Resources: European Bioplastics, www.en.european_bioplastics.org

This guide is part of the **How 2 SERIES** on Plastics and Related Issues published by PlasticsISA

For more information: www.sabioplastics.co.za

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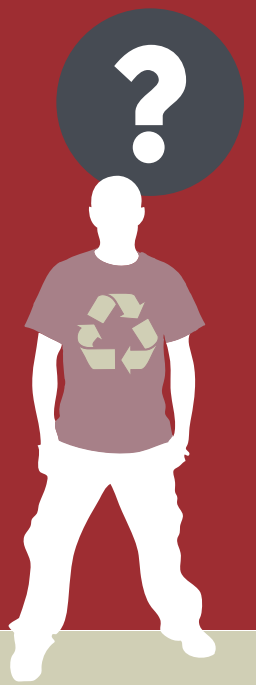
WHY Bioplastics?



With resource efficiency and climate protection gaining importance in public debate, bioplastics have been making the headlines for the past few years. Behind the term **bioplastics** resides a whole family of materials which can be **bio-based**, **biodegradable** or both.

DON'T BE **confused**

Bioplastics / Bio-based plastics

are derived from renewable resources such as **corn**, **sugar cane** or **starch**. They have the same characteristics as fossil fuel-based plastics. They allow for further diversification in plastics raw materials.

Biodegradable plastics

are made from **fossil fuel** or **biofuel** (from plants) and can be degraded by biological processes.

Recycled plastics

are made from **waste plastic materials**.

Bio-based plastics are not always **biodegradable**

Biodegradable plastics are not always **bio-based**

DID YOU KNOW?

Only about **4%** of the world's oil production is converted into plastics.

Some **bioplastics** are actually biodegradable or even recyclable?

The **bio-polyethylene milk bottle** has identical properties to a conventional polyethylene milk bottle and is also **fully recyclable**!

ARE Bioplastics good or bad?

The use of renewable resources as feedstock in the production of bio-based materials can **reduce our dependency on fossil oil**.

Bioplastics and biodegradable plastics are becoming more available and are ideally suited for certain applications,

but are not the solution to all packaging.

Some drawbacks

In most cases **Biodegradable bioplastics** will only completely biodegrade in an industrial composting cycle of **about 3 months**.

Bioplastics can be mechanically recycled, unless they are biodegradable bioplastics.

If the conditions are less than ideal, then the process will be much slower or may not occur.

Biomass used for bioplastics stems from e.g. corn, maize, sugarcane or cellulose.

Due to food scarcity, the preferred waste-biomass (non food source) is used to produce the bio-based polymer. **Therefore no critical food source is used to produce non-fossil fuel plastics.**

Some **bioplastics** are made from genetically modified corn.

Conventional bioplastics can be **recycled with the same type of polymer**, but biodegrable bioplastics must be **separated and kept out of the recycling waste stream**.