

# What are biodegradable plastics?

## The need for a clarified terminology



The discussion around bioplastics is **often confused** by misleading terminology, which covers various types of materials that behave differently, hence they must be considered differently.

### BIODEGRADABLE PLASTIC

**Plastic which degrades under biological (mainly microbial) action.** Some biodegradable plastics are compostable (but not all), which means they only degrade under controlled conditions (e.g. industrial composting sites). Our focus is on **compostable plastic**, as these, under some circumstances, can be included in compost schemes and support separate waste collection.

#### Compostable plastics

Compostable plastics have to meet certain requirements, which are defined by specific standards. Most common is the EU standard EN 13432, which is quite widely used as a reference. The key requirement is that the plastic should be compostable in **industrial conditions**: compostable plastics that meet set criteria, carry specific labels, and are validated by a neutral third party. Some examples:

#### How to recognise compostable plastic?



### Some confusing terms or materials which can be misleading:

#### Bio-based plastic

Plastic where the fossil source is replaced with a biological one (meaning it can behave like regular plastic and should preferably go to recycling or be disposed of). This refers to sources, not to end-of-life behavior. The properties of bio-based plastics can vary a lot depending on the material. Some bio-based plastics can be biodegradable (e.g. polylactic acid - PLA), but not all.

#### Bioplastic

May mean either *bio-based* or *biodegradable*; it is a confusing term, and needs further clarification, therefore:

**we do not recommend using this term.**

#### Oxo-degradable plastic

A specific case is **oxo-degradable plastic** (sometimes misleadingly called oxo-biodegradable) – **neither bio-based nor biodegradable**, but simply breaks into smaller fragments (hence, it can end up as micro-plastic). They may hamper both recycling and composting; hence we do not support them. The EU is also moving to restrict/ban them.

#### What are limits and conditions for the use of compostable plastic?

Compostable plastics **are not a solution to littering and cannot be seen as a 100% replacement** for regular plastic.

Reusable options should always be first choice, whenever suitable!

Compostable plastics only biodegrade in specific conditions and must be connected to separate collection of organics and composting schemes.



**Compostable plastics should always be sent to composting!** When mixed with other plastics, they can hamper mechanical properties of recyclates; when landfilled, their degradation in the absence of oxygen releases methane, which is a strong greenhouse gas.

#### Some examples of where compostable plastic makes sense:

**Compostable bags** to make separate collection of organics more user-friendly and maximise captures, above all (but not only) in urban areas



Compostable **tableware** in conditions where reusable is not possible (e.g. outdoor festivals with no dishwashers)

Compostable **coffee capsules** if traditional coffee-making is not possible (e.g. many offices)



Some specific fruit & vegetable **wrappers** as a transitional plan while moving towards package-free shops



**Disaster relief operations**