

Environmentally friendly degradable plastics?

Degradable or compostable plastics are increasingly being marketed as an option to prevent environmental harm and thus as a solution to deal with environmental littering. It suggests that degradable or compostable means that the material is able to readily degrade, when exposed to regular environmental conditions without causing adverse effects to the biosphere. To understand why this might not always be the case, it helps to have a look at the specificities around degrading and composting.

Biodegradable plastics

To start with biodegradable plastics, it is notable that there is no official definition or requirement that specifies when a plastic is biodegradable or not. It is therefore not defined under which (a)biotic conditions or timeframe the degrading should occur. Most likely the plastic will in that case also be marketed as compostable. Also, be mindful that plastics manufactured from [bio-based substances](#) or biodegradable plastics are also included in the [Single-use Plastics Directive](#).

Compostable plastics

For compostable plastics it is important to realise that this only is possible, in almost all cases, under specific (industrial) composting conditions and not in a backyard compost heaps. There are specific standards that are being set around this type of composting in the European Norm EN 13432 and the US Standard ASTM D6400. The specifications require that the compostable products completely decompose in a composting setting within a specific time frame and leaves no harmful residues behind. Be mindful that this can only be realised if the plastics do not contain residual contamination and have carefully been separated before entering a digesting system for composting.

Oxo-degradable plastics

Another category is the oxo-degradable plastics, which should degrade due to exposure to UV-light. Chemical additives will be added to support this process, but the outcome is a plastic that fragments first and then turns into microplastics. The plastic can biodegrade, but only over the course of multiple decennia and therefore cause more issues than they solve. The EU has included oxo-degradable plastics in the Single-use Plastics Directive.

