



What Does Biodegradable Plastic Really Mean?

- > Biodegradable is a generalised term used for physical and chemical decomposition of materials under certain environmental conditions and in the presence of specific catalysts
- > The degree of decomposition depends on the type of degradability (see below)
- > The rate of decomposition varies significantly, from a few weeks to hundreds or even thousands of years

BIO-COMPOSTABLE

- > Material that reduces to only carbon dioxide, water and biomass when mixed with microorganisms in a composting environment
- > Composting requires the presence of microorganisms and bacteria in a highly humid, high-temperature environment
- > These conditions are described as “standards” for industrial composting – EN13432 for packaging and EN14995 for plastic material
- > Cannot be recycled with mainstream plastics so waste must be separated

OXO-DEGRADABLE

- > Material with a metallic additive that sets off a slow chemical reaction in the presence of oxygen and sun light, causing the plastic to fragment into little pieces
- > Does not require microorganisms and the residue particles may still be detrimental to the environment
- > Because of the conditions required to activate decomposition this will not degrade if added to landfill, and in such conditions will perform like a conventional plastic

LANDFILL BIODEGRADABLE

- > Material with a patented additive that causes 95% faster decomposition under landfill conditions
- > Activates landfill microorganisms to metabolise the molecular structure into a natural plant fertiliser. Confirmed using standard ASTM D5511
- > No shelf-life issues as biodegradation only begins when the plastic is exposed to microbial environments such as landfill
- > 100% recyclable with other mainstream plastics



Plastic Property	Landfill-Biodegradable	Oxo-Biodegradable	Bio-Compostable
100% biodegradable in landfills?	Yes	No	No
100% recyclable with other mainstream plastics?	Yes	No	No
Special storage conditions required?	No	Yes	No
Shelf life / has expiration dates?	No	Yes	No
Will degrade when exposed to sunlight or high heat	No	Yes	No
Fragments into small pieces in air	No	Yes	No
Biodegradation begins at time of disposal, not before	Yes	No	Yes, in compost facility only
Will biodegrade in commercial and municipal composts	Yes	No	Yes
Needs oxygen in order to biodegrade	No	Yes	Yes

