



Biodegradable through Oxidation to ASTM D 6954-04

Plastics have become an integral part of everyday life. The endless uses and products that have been developed have changed our lives but also left another problem, disposal. The numerous products used daily (often single use plastics products) have added to the pollution problem.

earth2earth has been launched. It is a new oxo-biodegradable plastic creating end products that are cost competitive, It is processed on standard manufacturing machines and enables product performance to be fully functional for a controlled period of time (service life) until degradation is triggered, by heat, sunlight or mechanical stress.

How does earth2earth degrade?

Oxo-biodegradation is a two-stage process that happens as a result of exposure to heat or UV light or mechanical stresses, or to combinations thereof. Firstly the plastic is converted by reaction with oxygen into molecular fragments that are water wettable and second, these smaller oxidized molecules degrade by biodegradation. The microbial growth on the molecular fragments leads to the formation of carbon dioxide, water, and biomass.

What are the end products of degradation and how do they affect the environment?

This product has been tested extensively and confirmed to leave no harmful or toxic residues after oxidation and biodegradation. The products of biodegradation include carbon dioxide (CO₂), water and biomass, which are primarily the cells of the micro-organisms that were responsible for the biodegradation of the disposed product. The products formed during commercial composting were shown to have no negative effects in standard seed germination, plant growth, earthworm and Daphnia ecotoxicity tests. There is no accumulation of residual polymer, polymer fragments or other organic materials. The compost produced has been shown to meet the Austrian standards for premium quality compost having minimum or no trace of transition metals.

Can earth2earth plastics be recycled?

Yes. Recycling post-consumer **earth2earth** plastics is entirely possible provided they have not already started to degrade.

Can earth2earth plastics be used with food contact products?

The components of **earth2earth** are listed on national and regional substances registries as acceptable chemicals for industries use such as production, import and export.

Approval for food contact has been granted by the FDA in the U.S. and Approval for use in the UK and EU from Pira International.