



TECHNICAL INFORMATION SHEET 7

The Efficacy of Reverte Oxo-Biodegradable Products.

"It has been well known for many years that the presence of certain metal ions in polymers such as polyethylene and polypropylene can accelerate the degradation of these polymers.

In the presence of oxygen the metal ions catalyse the breakdown of the polymer, causing oxidative chain scission and subsequent polymer embrittlement and degradation.

When the polymer molecular weight is sufficiently reduced it becomes available for microbial attack which further breaks down the polymer into Carbon dioxide, water and biomass.

This complete process is known as oxo-biodegradation. Reverte products are unique because they are formulated to control the reaction kinetics and additionally contain a secondary biodegradation initiator to speed up the final biodegradation phase.

In common with any chemical reaction, the speed of the breakdown reaction is dependent on the light levels, ambient temperature and some other natural variables. For example, a 10°C reduction in temperature will double the time to embrittlement. On the other hand a 10°C rise in temperature will halve this rate.

We can confirm that plastic products containing Reverte additives have demonstrated excellent oxo-biodegradable characteristics both in laboratory and field trials and have been shown to give dependable oxo-biodegradable breakdowns in numerous applications.

However, there can be times when adverse conditions of weather or temperature slow down the onset of initial degradation. This does not mean that the breakdown is not occurring, merely that the onset and progress of the process has been retarded.

Within the normally anticipated weather and temperature swings, Reverte products generally give a time to initial embrittlement of between 3 and 9 months followed by a timescale of 6 to 18 months for the onset of the secondary biodegradation phase.

Reverte products have been designed to introduce an oxo-biodegradable property to plastic products. We can confirm that this is what they do but that their performance will be dependent on natural conditions."


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