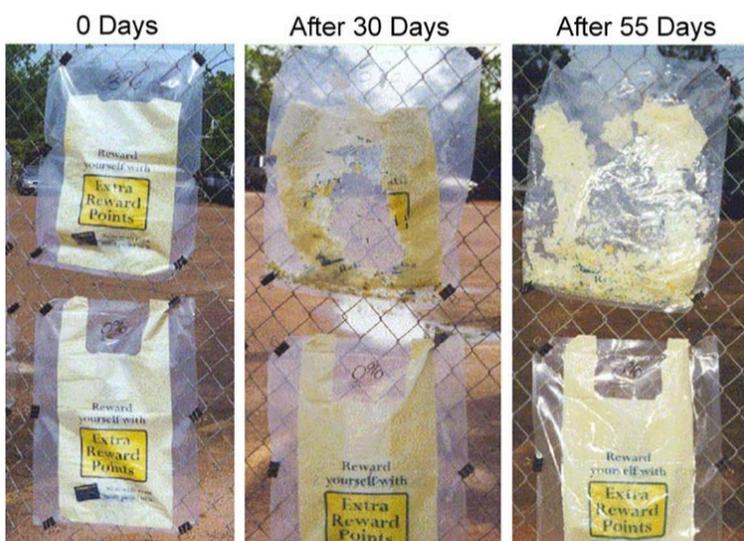


How Does Oxo-biodegradable Plastic Work?

Quickmail uses a low density polyethylene plastic for all of our plastic wrap mailouts to ensure we're doing our part for the environment, while maintaining a quality packaging option for your mail piece. The plastic wrap can be discarded in the 'green waste' bin at home and it will eventually degrade and disintegrate.

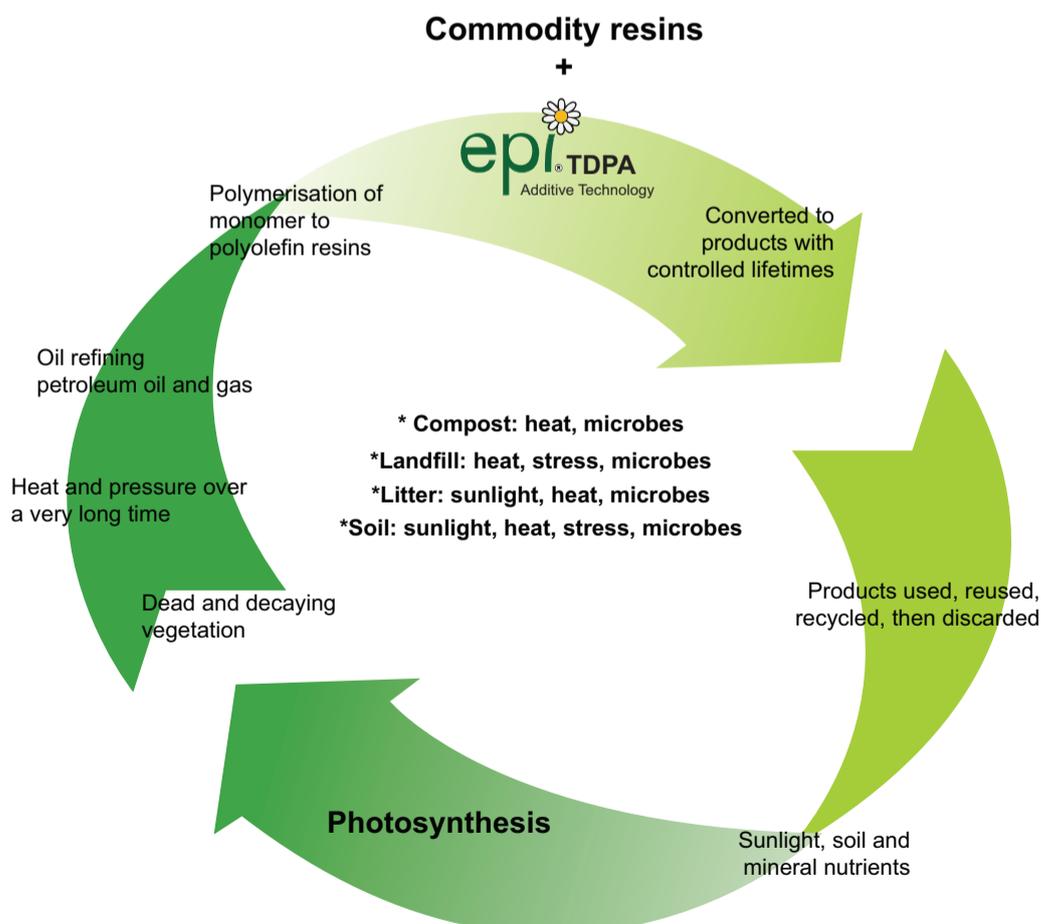
The chemical degradation process involves the reaction of very large polymer molecules of plastics, which contain only carbon and hydrogen, with oxygen in the air. This reaction occurs even without prodegradant additives but at a very slow rate. That is why conventional plastics, when discarded, persist for a long time in the environment. EPI's TDPA™ formulations accelerate this reaction and increase the rate of the degradation by several orders of magnitude. This means TDPA™ incorporated products degrade and physically disintegrate within a few weeks to 1-2 years, depending on the formulation and the disposal environment. To illustrate, a TDPA™ incorporated plastic bag and a conventional plastic bag were hung on the fence and the difference in degradation rates was observed in the degradation test.

Figure 1. Degradation Test



Demonstration of photo and thermal degradation of a shopping bag incorporating EPI'S TDPA™ Additive (top row) vs. a bag without EPI'S TDPA™ Additive (bottom row). Test procedures follow ASTM D5272 "Outdoor Exposure Testing of Photo Degradable Plastics" Guidelines.

Figure 2. Plastic incorporating EPI additives fit into the natural biocycle



*Products become biodegradable when converted to different materials by oxidative degradation. This process can be made to happen rapidly or slowly, depending on end use requirements.