



EcoPure® is an organic additive that causes plastic to biodegrade* through a series of chemical & biological processes in a landfill or marine environment.

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The simple step of adding our organic additive to drastically accelerate the biodegradation of plastic, now makes it a material that is not harmful to the environment, in fact it will enrich it. Our organic additive opens up the molecular structure of plastic and lets in the plastic eating enzymes and microbes that are in the land and marine environment. They get inside and digest the plastic, then excrete natural minerals that enrich the soil or ocean.

Why the need for change



Consumers are demanding packaging that is eco-friendly and sustainable.



The most common form of packaging in the beauty industry is plastics, but in a landfill they will currently take up to 500 years to biodegrade.



As the world moves transportation and energy away from fossil-based fuels (oil), and towards renewable sources like wind and solar, the scarcity of oil to make plastics is not as much of a concern. Most of the oil consumption is not from plastic, it is from transportation and energy.



Other products turn plastic into microplastics, which is harmful to the environment and animals, as it remains plastic and non-organic material. Fish ingest microplastics and in-turn, humans ingest these fish and the harmful chemicals that are associated with the plastics.



There has been a large push in the industry to start using bioresins like PLA, plastics in which oil is replaced by alcohol that is derived from plants like corn and sugarcane. There are a number of problems with bioresins:

1. The world is suffering from a food shortage. Using land to grow plants for bioresin takes away precious land and resources from farming food crops.
2. Most bioresins are like oil-based plastics, in that they take a very long time to biodegrade in landfills or a marine environment.
3. Bioresins do compost quickly, but this is also a disadvantage for their stability, as they will start breaking down when exposed to higher temperatures.
4. Bioresins have different rates of shrinkage during molding, so existing molds for oil-based plastics can't be used, and the new molds are expensive.
5. Clarity and compatibility issues are associated with bioresins.

* Biodegradation rates of EcoPure®-treated plastic materials measured according to the ASTM D511 test method. Actual biodegradation rates will vary in biologically-active landfills according to the type of plastic used, the product configuration, and the solid content, temperature and moisture levels of the landfill.

Why use EcoPure organic additive with all your plastics

- ✔ Our organic additive, when added at 0.5% of the total weight of plastic, drastically accelerates the biodegradation of the plastic item to a point, that based on the results of the ASTM D5511 testing, in a landfill or marine environment, the majority or all the package will be gone in less than 10 years.
> When the plastic biodegrades, it does not just break the plastic down into micro-plastics like most products do, it turns it into a mixture of raw natural materials that becomes organically rich soil or nutrients in the ocean.
- ✔ Our organic additive is FDA Food Grade approved.
- ✔ The cost of the additive is very cost effective. Only 0.5% of the total plastic used comes through the additive, so the relative increased cost is minor compared to the large increase of costs for bioresins and recycled plastics.
- ✔ Plastic is a relatively low-cost material that has great compatibility, design and decorative properties. Even if we put it in the recycling bin, USA does not have the capabilities to recycle even half of what we produce, so it ends up in landfills. Because of littering, it also ends up in our marine environments.
- ✔ Our organic additive can be added to any plastic resin without compatibility issues. What this means, is that the normal properties of the plastic are not affected in any way:
 - Shelf life:** Shelf life is not affected, because the organic additive is not activated until it comes in contact with microbes found in the soil, landfills and the ocean.
 - Size:** The shrink rate of the particular plastic during molding is unchanged, so there is no need for special molds or equipment. You just add the additive to the normal production process.
 - Discoloration:** The additive is present in such small quantities, that there is no discoloration or effect on the clarity of the plastic.
 - Decoration:** You decorate the package the same way you would normally decorate it, without any change to the color or durability of the decoration. Even if you metalize the components, it will still be effective.
 - Recycling:** If the package with the additive ends up in the recycling center, it does not affect the recyclability of the plastic. Most plastic in the USA ends up in landfills and is not recycled.

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