

# Catalyst for Degradation of Traditional PET

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## Non-degradability of PET

Polyethylene terephthalate, or PET, is a versatile petroleum-based polymer that is widely used in a variety of consumer products including beverage bottles, food containers, clothing, and packaging materials as well as to create a water barrier in applications including coffee cups, take-out food containers and food shipping containers. PET is widely used mainly for its excellent water barrier properties; however, this makes it non-biodegradable in its current state in the market. Current methods of disposal of PET are via incineration or landfill, which has adverse environmental effects.

## Catalyzed Degradation of PET

Innovators at Georgia Tech have developed a solution to the issue of the non-degradability of PET. This involves introducing a catalyst to the molding process that imparts a time-dependent degradation of the PET into molecular-sized non-hazardous parts with no microplastics upon degradation. The application of this catalyst-assisted PET to paper or paper-like materials would be highly beneficial to single-use plastic products that currently do not biodegrade or compost.

## Summary Bullets

- Degradation of PET products lead to less landfill waste.
- The technology has applications in bio-based packaging to eliminate single-use plastics.
- Degradation does not give rise to microplastics, which are hazardous.

## Solution Advantages

- **Environmentally friendly:** Degradation of PET products lead to less landfill waste.
- **Less wasteful:** Bio-based packaging to eliminate single-use plastics.
- **No microplastics:** Degradation does not give rise to microplastics, which are hazardous.

## Potential Commercial Applications

- Food packaging
- Use in making disposable utensils like take-out containers, glasses etc.

## **Inventors**

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## **IP Status**

<p>Patent application has been filed</p>: US63/399405

## **Publications**

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## **Images**

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