

# Bio<sup>1</sup>Degradable<sup>2</sup> Carrier Bag

**100% Degradable Plastic Carrier Bags** produced from commodity PE resins and incorporating EPI's TDPA<sup>®</sup> (Totally Degradable Plastic Additives).

0 Days



After 30 Days



After 55 Days



*Photo illustration of the thermal degradation of a carrier bag incorporating EPI's TDPA<sup>®</sup> additive (top row) vs. a bag without EPI's TDPA<sup>®</sup> additive (bottom row). Test procedures follow ASTM D5272 "Outdoor Exposure Testing of Photo Degradable Plastics" Guidelines.*

This product is made possible by EPI's pioneering OXO-BIODEGRADABLE additive technology that has been recognized under the ASTM D 6954-04 guide. Exposure to sunlight or heat triggers a two-step degradation process, in which the plastic breaks down through oxidation into small fragments, which then decompose into the natural elements of carbon dioxide, water, biomass, and minerals.

Today's consumers want a responsible and sustainable approach to protecting our environment while using low-cost, convenient, and disposable products. These bags are just as strong as ever, they are not affected by moisture and can be used again and again until the breakdown process begins.



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<sup>1</sup> When discarded in soil with the presence of microorganisms, moisture and oxygen, this product will BIODEGRADE decomposing into simple materials found in nature, as described in ASTM D 6954 - 04. <sup>2</sup> This product is DEGRADABLE when discarded in landfill within 12 to 24 months.

The environmental claims statements represented above are provided to EPI's licensees merely as representative examples, and therefore EPI disclaims any and all liability in connection with its use by licensees. Licensees shall perform their own due diligence and obtain their own independent advice relating to any and all environmental claims statements made or declared by the licensee with respect to products incorporating EPI's TDPA<sup>®</sup> additives. However, EPI's legal counsel, Keller and Heckman LLP, have provided legal opinions to EPI stating that the above claims are appropriately qualified to meet the relevant legal and regulatory requirements for environmental claims both in the United States and the European Union, including but not limited to requirements under the Federal Trade Commission Guides. Nevertheless, for environmental claims statements made or declared in the state of California, licensees are referred to the California Public Resources Code, Division 30, Part 3, Chapter 5.7, Sections 42355 - 42357, for guidance.

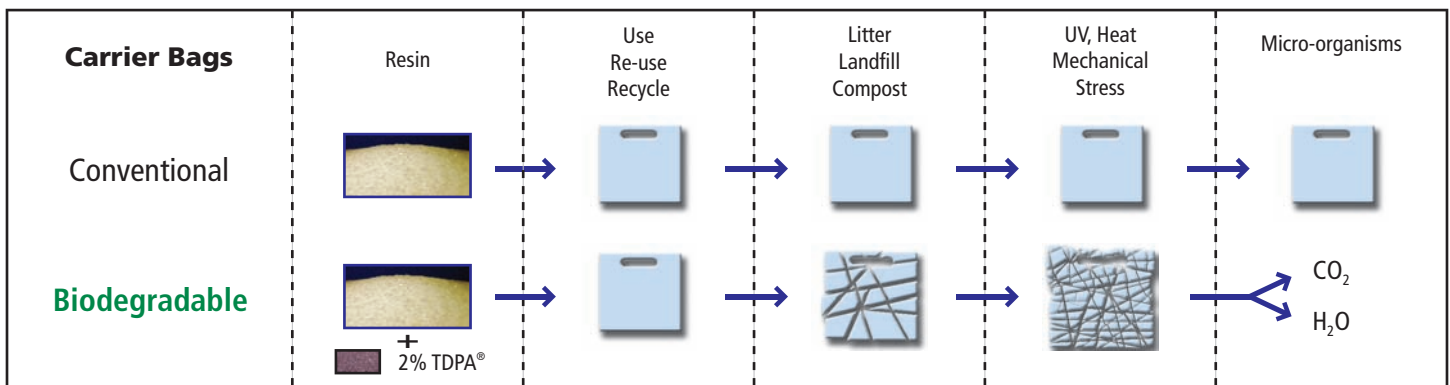
# 100% Degradable Plastic Carrier Bags



**IMAGINE** the benefits of totally degradable plastic carrier bags that:

- when disposed of in landfill sites or when inadvertently littered, will degrade and ultimately biodegrade into carbon dioxide, water and biomass
- help reduce the build up of dangerous methane gas in landfill sites
- save valuable landfill space and extend landfill life
- keep you ahead of both environmental legislation and public opinion

## The Cycle



## EPI's Totally Degradable Plastic Additives (TDPA®) differ substantially from existing starch based technologies

EPI's TDPA®:

- are incorporated into **PE, PP or PS resins** and processed on **standard plastic processing machines** to produce plastic end products with **controlled life cycles**
- produce uniform quality end products which are 3 – 4 times more economical than existing starch based technologies
- can produce degradable plastic products in numerous colors and transparencies

Degradable plastic products incorporating EPI's TDPA® additives:

- retain the characteristics of regular plastics (strong, tough, and flexible) during use
- degrade and ultimately biodegrade into carbon dioxide, water and biomass with no harmful residues
- start degrading when subjected to sunlight, heat and/or mechanical stress
- degrade in landfills, when buried in soil, when inadvertently disposed of as litter, or in compost facilities



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