



# Environmental Fact Sheet

## THE FACTS ON DEGRADABLE PLASTICS

### FROM EPA'S *REPORT TO CONGRESS ON METHODS TO MANAGE AND CONTROL PLASTIC WASTES*

*Discarded plastic products and packaging make up a growing proportion of municipal solid waste. By the year 2000, the amount of plastic we throw away will increase by 50 percent. Current volume estimates for plastic waste range from 14 to 21 percent of the waste stream. By weight plastics contribute seven percent, and less than one percent of plastic waste is currently recycled. Additionally, some plastic items end up as litter that poses ecological risk to the marine environment and aesthetic and economic loss. These facts have led to the exploration of degradable plastics as one possible solution.*

#### **Degradable Plastics Defined**

Degradable plastics are engineered to be less resistant to degradation than "normal" plastic. The following are currently the most prominent technologies being investigated for consumer products and packaging:

**Photodegradation** adds a sun-sensitive component that triggers physical disintegration when exposed to sunlight.

**Biodegradation** adds a natural polymer such as corn starch or vegetable oil that degrades into smaller pieces of plastic when exposed to the appropriate environment.

## **Do Degradables Fit into Solid Waste Solutions?**

*Reduction of Waste:* Degradable plastics do NOT reduce the volume or toxicity of waste produced. In fact, for certain applications, additional plastic may be required to offset the weakening effect of adding biodegradable components. The amount of waste may decrease once (and if) degradation occurs, but the amount of waste produced is the same.

*Landfilling:* Degradation in a landfill occurs very slowly. Even cabbages and carrots have been found in recognizable form in landfills after many years of burial. Enhancing the degradability of plastics will have little if any effect on landfill operation or space.

*Recycling:* Plastic recyclers fear that degradable plastics will contaminate the recycled plastic waste stream, resulting in products that do not perform well. As we learn more about how degradable plastic bags work, however, they may prove useful in collecting and composting yard waste.

*Incineration:* Degradable plastics will have little, if any, effect on incineration. In most cases, the waste will be combusted before degradation begins.

If they perform appropriately, degradable plastics may help reduce risks to wildlife and aesthetic damage from items such as six-pack beverage rings, cups, and wrappers. There is, however, some concern as to whether smaller bits of plastic may pose a greater threat to wildlife. Additionally, there is a question as to whether degradability might encourage littering. EPA has initiated a research effort to answer some of these questions.

### **Where Can I Find Additional Information?**

Call EPA's RCRA/Superfund Hotline for a free copy of the Executive Summary of EPA's *Report to Congress on Methods to Manage and Control Plastic Waste* (EPA/530-89-051A). The toll-free number is 1-800-424-9346, or TDD 1-800-553-7672 for the hearing impaired. In Washington D.C., the number is 382-3000 or TDD 475-9652. The Hotline is open from 8:30 a.m. to 7:30 p.m. EST, Monday through Friday. Ask the Hotline for information on ordering the full report.