

# What is BioStar™?



Our new range of oxo-biodegradable films, marketed under the BioStar™ trademark, contains a metal ion pro-degradant which imparts a photo-degradable and thermo-degradable property to polymers. In addition, they contain a unique secondary stage biodegradation promoter. Our system utilises a carefully selected reaction rate modifier to control the timing and triggering of the oxo-biodegradation process. BioStar™ can be made in all colours and thicknesses in both PE and PP.

## How does BioStar™ work?

1. The oxo-biodegradation process uses two methods to initiate the biodegradation, photodegradation (UV) and oxidation.
2. BioStar™ films initially catalyse the oxodegradation of polymer chains, and then promote the growth of microbial colonies to expedite the second biodegradable stage.
3. BioStar™ can be formulated to remain dormant for a given period. This allows your film to perform its primary function.
4. After complete biodegradation, the end products are H<sub>2</sub>O, CO<sub>2</sub> and biomass.

## How do you control the lifespan of the film?

If we know the following, we can control the degradability process:

- climate in the country of use
- how long the film will be stored
- how long the film will be exposed before chain scission

Providing we know the uses for the BioStar™ film, we can make lifespan recommendations for all uses and applications.



## The benefits of using BioStar™ oxo-biodegradable films versus compostable films are:

- their competitive price
- their ease convertability
- their acceptance of most printing processes
- they do not lose their tensile or elongation strength
- they can be made in PP and PE film substrates
- they are available in thicknesses of 10 to 400 µm
- they can be made in any colour
- their biodegradation can be controlled
- they can be recycled

## Storage and Usage

We recommend that BioStar™ films are to be used within 8 months after extrusion manufacturing. We also recommend that all BioStar™ films be wrapped in BioStar™ black protective film, which allows the films to be dormant during this period. BioStar™ films are best stored in dry conditions, protected from direct sunlight and from heat in excess of 38°C.



## The BioStar™ family of films have many possible applications, including:

- courier and mail order bags
- films for coating and laminations
- food packaging
- box and drum liners
- shrink films
- magazine wrappers
- labels and tags
- horticultural plant pot labels
- films for graphic arts
- general packaging