

# Active Packaging Technologies

## Built-In Freshness Protection for Packaged produce



Our active packaging technologies help fruit and vegetables stay fresher for longer by addressing the two main causes of quality loss: ethylene exposure and microbial spoilage. Unlike ordinary plastic films, our solutions work inside the sealed pack, continuously improving the internal environment without requiring gas flushing or specialised equipment.

Two complementary technologies can be used individually or together.

### Why Choose Active Packaging?

#### 1. Built-In Protection

The actives are fully integrated into the film - no sachets, inserts, or additional steps.

#### 2. Works on Existing Production Lines - no need to change equipment

Compatible with PE, PP, PET in films or rigid formats.

#### 3. Reduces Waste & Improves Quality

By managing internal gases and surface microbes, our technologies help:

- Maintain firmness and colour
- Reduce spoilage
- Extend shelf life naturally

#### 4. Regulatory Alignment

Both technologies align with EU and FDA active packaging frameworks when validated.



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### The Combined Advantage

Using both technologies together provides dual protection:

- Internal atmosphere control
- antimicrobial defence at the surface of the food

This combination outperforms ordinary films and breathable structures, offering a practical, scalable way to enhance product quality and reduce waste - all without Modified Atmosphere Packaging.



 <b>Ethylene Adsorber Film</b>	 <b>Antimicrobial Film</b>
For produce sensitive to ripening, softening, and colour loss	For produce prone to mould, or high surface moisture
Inside a closed plastic bag, ethylene naturally accumulates and accelerates ageing. Our Ethylene Adsorber Film contains an active ingredient which captures these ageing-related gases before they can affect product quality.	Moisture on washed or humid produce creates ideal conditions for mould. Our Antimicrobial Film contains the active, which provides targeted protection exactly where spoilage begins - at the food film interface.
<b>How It Helps</b> <ul style="list-style-type: none"> <li>• Slows ripening and softening</li> <li>• Helps maintain firmness and colour</li> <li>• Reduces internal ethylene build-up</li> <li>• Works in PE/PP bags</li> <li>• No MAP or equipment changes required</li> </ul>	<b>How It Helps</b> <ul style="list-style-type: none"> <li>• Reduces fungal spoilage</li> <li>• Ideal for wet, washed, or high-humidity produce</li> <li>• Extends shelf life without affecting taste or aroma</li> <li>• Works in standard packaging (no MAP required)</li> </ul>
<b>How It Works</b> A d <sub>2</sub> p masterbatch is included in the plastic film at manufacture. The active ingredient is a highly porous material embedded in the film. Its microscopic structure selectively traps ethylene and other ageing-related volatiles, helping keep the internal atmosphere cleaner and slowing the natural degradation processes of the food.	<b>How It Works</b> A d <sub>2</sub> p antimicrobial masterbatch is included in the plastic film at manufacture. When moisture is present, the active becomes effective at the surface of the produce. It helps inhibit mould and yeast activity, reducing spoilage of the food.




  
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