



# InvisiShield™

Redefining food protection



[aptarfoodprotection.com](http://aptarfoodprotection.com)

**Aptar**   
Active Material Science

# One-of-a-kind active packaging system protects against pathogens

Our groundbreaking antimicrobial delivery system provides the final risk reduction step after the food package is sealed at your facility to prevent food-borne illnesses, protecting your brand and your customers.

## What it is

InvisiShield™ technology is seamlessly integrated into a sealed package to protect fresh produce against bacteria and viruses like Salmonella, E. coli, Human norovirus, and Listeria monocytogenes without negatively impacting the product's freshness and organoleptics.

## How it works

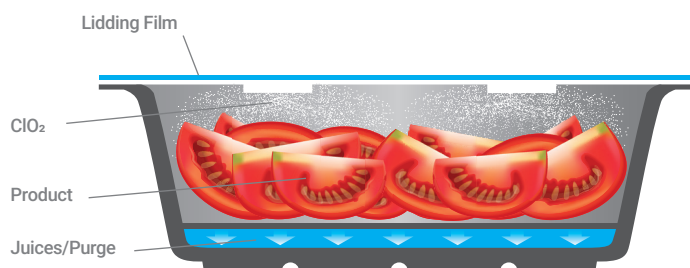
InvisiShield™ technology works inside the sealed package to safely release a specially formulated amount of ClO<sub>2</sub> into the environment surrounding the fresh cut produce. This helps eliminate pathogens that may have been introduced through the supply chain, without coming into contact with the food itself. InvisiShield™ technology is applied via a Film Applicator Machine (FAM), which can be seamlessly integrated into an existing production line. We provide complete on-site technical support at our customers' facilities during packaging to assure simple integration and successful implementation.

## Benefits

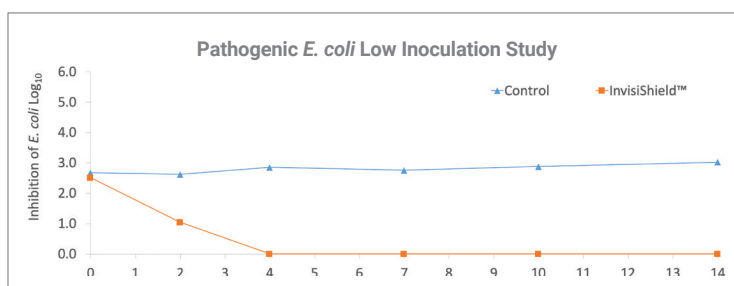
- Final intervention step and reduction of cross contamination within the sealed package
- 3rd party validation studies show effective against (1-3 logs): Pathogenic E. coli, Salmonella, Listeria monocytogenes, Human norovirus, Hepatitis A, Shigella, Campylobacter jejuni, Staphylococcus aureus, Yersinia enterocolitica, Vibrio vulnificus, Geotrichum candidum, Feline calicivirus, and Rotavirus
- Decrease in food borne illnesses due to pathogen contamination
- Outbreak mitigation without compromising quality and taste of products

## Technical Specifications

- pH range : 3.5-7.5
- Temperature range: 1-12°C
- Multiple application formats available to adapt to a wide variety of packaging and delivery systems
  - Automated inline systems available
  - Available in pouches or integrated into lidding film
  - Customization for unique packages and delivery of products available
- GRAS approved technology



## Effective Against Pathogens



3rd party validation studies proven through sliced and diced tomatoes

## Proven 1.5 to 3 log reduction during challenge studies for the following:

- |                          |                   |                           |                       |             |
|--------------------------|-------------------|---------------------------|-----------------------|-------------|
| • Salmonella             | • Human norovirus | • Campylobacter jejuni    | • Geotrichum candidum | • Rotavirus |
| • E. coli                | • Hepatitis A     | • Staphylococcus aureus   | • Vibrio vulnificus   |             |
| • Listeria monocytogenes | • Shigella        | • Yersinia enterocolitica | • Feline calicivirus  |             |

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