

# MICROBARRIER ELITE™

*The next generation of antimicrobial protection  
for the food service industry*

## Authors

Courtney Cullers, VP Operations  
Ulyana Stebelska, R&D Director  
Dylan Cullers, Sales & Service Representative  
PSSI - Chemical Innovations



# TABLE OF CONTENTS

3 INTRODUCTION

4 WHAT IS MICROBARRIER ELITE™?

6 WIDESPREAD DEFENSE

9 THE SCIENCE BEHIND MICROBARRIER ELITE™

10 INTENSIVE TESTING + PROVEN EFFECTIVENESS

12 CONCLUSION





# INTRODUCTION

From food processors to fast casual restaurants, microbial contamination is one of the most concerning risks to any business across the food service industry. Spoiled product, recalls, outbreaks, and even deaths result in significant lost revenue, downtime, fines, lawsuits and irreparable brand damage.

The Centers for Disease Control and Prevention (CDC) estimates that 1 in 6 Americans get sick from contaminated foods or beverages each year, and 3,000 die. The U.S. Department of Agriculture (USDA) estimates that foodborne illnesses cost more than \$15.6 billion each year.

Regular cleaning and sanitation play a critical role in protecting food safety, however cutting-edge research and technology are opening new doors toward an even higher level of microbial defense. Talented teams of scientists and microbiologists work behind the scenes every day studying incredible amounts of data and conducting endless trial and error toward breakthrough discoveries.

One of those breakthrough innovations is a new antimicrobial technology called Microbarrier Elite. This report will provide an in-depth look at the risks of microbial growth and how Microbarrier Elite works to provide an extra layer of protection across all levels of the food service industry.

<sup>1</sup> World Health Organization, [Food Safety Fact Sheet](#), April 2020





# WHAT IS MICROBARRIER ELITE™?

Microbarrier Elite is a ready-to-use, spray-on antimicrobial coating technology designed for both food and non-food contact surfaces. Created by expert chemists and microbiologists, the antimicrobial coating is highly effective in inhibiting microbial contamination of odor- and stain-causing bacteria, fungi (mold and mildew), and algae between cleanings for up to 90 days.

## DOUBLE-GUARDED MICROBIAL PROTECTION

Microbes, including a wide-range of bacteria, mold and mildew, can not only cause product contamination leading to foodborne illness, but also contribute to product deterioration and the overall shelf-life of products.

While regular cleaning and sanitation is the most effective way to control microbial elements, there is risk for growth that can occur between cleanings. This can be activated by high temperature and moisture, or the spread of microbes across high-touch points around a facility.

Microbarrier Elite is designed to be left on surfaces for long-lasting protection. The stable molecular structure of the spray-on solution results in a strong coating that uses innovative molecular technology to prevent the growth of microbes between cleanings of odor- and stain-

causing bacteria, fungi (mold and mildew), and algae between cleanings, for up to 90 days.

Microbarrier Elite is not only incredibly effective at preventing microbial outbreaks (odor- and stain-causing bacteria, fungi (mold and mildew), and algae), but it enhances the overall timeline for future sanitation. Cleaning and sanitation efforts can be more effective with the enhanced protection, similar to a clear coat on the surface of a car that protects base paint from damage and UV rays.

The colorless, odorless Microbarrier Elite solution is safe for use across all food and non-food surfaces, with approval by the EPA and FDA.



## KEY BENEFITS



- ✓ Enhances timeline for future sanitation.
- ✓ Inhibits the growth of odor- and stain-causing bacteria, fungi (mold and mildew), and algae between cleanings, for up to 90 days.
- ✓ EPA and FDA approved to preserve food-contact articles and non-food contact surfaces.
- ✓ Water-based and odor-free.



# WIDESPREAD DEFENSE

Due to the unique nature of microbial growth, effective protection requires a holistic approach across an entire facility. Microbes can rapidly adapt, mutate, and multiply quickly across different areas with a high-risk of cross contamination. This includes vulnerable high touch or pinch point areas, as well as areas with higher temperatures and moisture that are susceptible to increased microbial growth.

The patented, registered and extensively tested Microbarrier Elite can be helpful to combat microbes on food and non-food contact surfaces, appliances, equipment and utensils used in preparing and processing of food products.







---

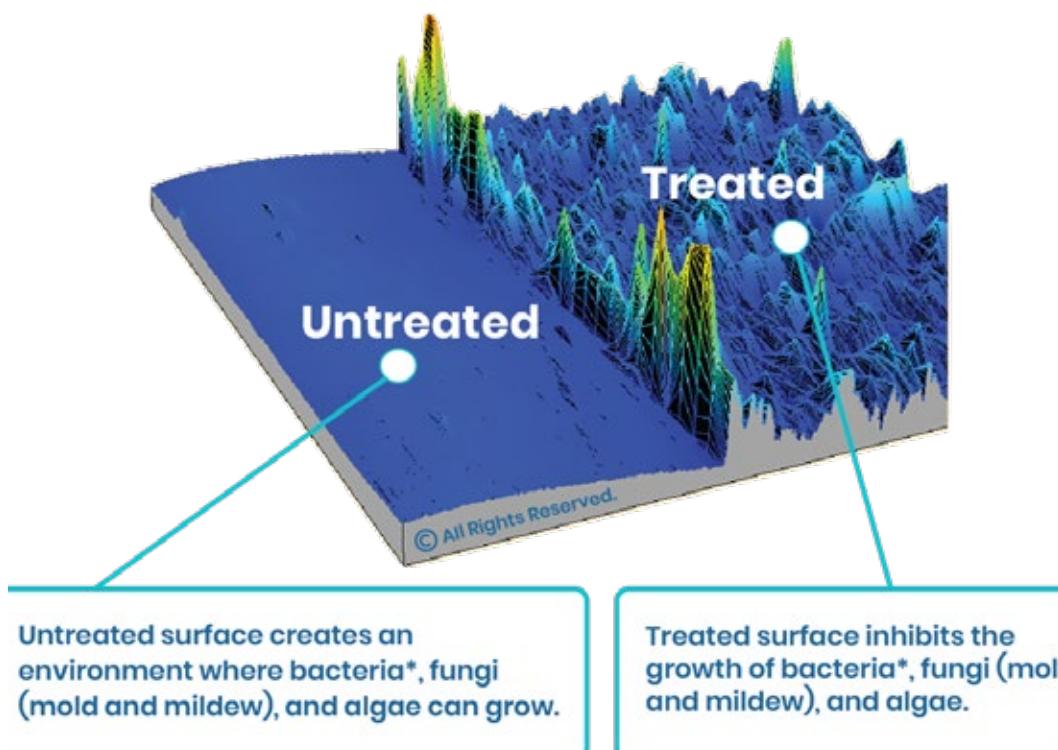
THE EFFECTIVENESS OF MICROBARRIER  
ELITE ANTIMICROBIAL COATING  
TYPICALLY LASTS UP TO 3 MONTHS.

---



# THE SCIENCE BEHIND MICROBARRIER ELITE™

Microbarrier Elite utilizes BIOPROTECT™ RTU antimicrobial technology, a groundbreaking antimicrobial by ViaClean Technologies. The active ingredient in the spray polymerizes into a thin colorless, odorless and non-corrosive coating that creates a protective shield on porous and non-porous surfaces, inhibits the growth of odor- and stain-causing bacteria, fungi (mold and mildew), and algae.





# INTENSIVE TESTING + PROVEN EFFECTIVENESS

Microbarrier Elite has undergone years of extensive independent laboratory testing. Microbarrier Elite is registered with the EPA to preserve food and non-food surfaces. As noted above, it was also tested and approved by the USDA and FDA for safe use across direct food contact surfaces.

The effectiveness of Microbarrier Elite has also been tested directly across various food service businesses with extremely positive results.

## CASE STUDY #1

### SITUATION

PSSI worked with a leading poultry plant to test the effectiveness of Microbarrier Elite on specific processing equipment. This plant runs on a 24/7 processing schedule, utilizing performance-based sanitation (PBS) during the week (Monday-Friday) with extended sanitation on the weekends.

The primary testing sites were grading belts (interlocking belts, polypropylene) and tender dumpers (interlocking dumping belts, polypropylene).

### RESULT

Prior to the Microbarrier Elite application on the grading belts, the average APC (Aerobic Plate Count) Log increase through the week was 0.77. After the Microbarrier Elite application the two-week average was 0.43, decreasing the average APC Log on grading belts by more than 44 percent.

Prior to the Microbarrier Elite application on tender dumpers, the average APC Log increase through the week was 0.54. After the Microbarrier Elite application, the two-week average was 0.13, which demonstrated that the tender dumper was able to maintain the same level of APC Log from Monday (Processing Day 1) to Friday (Processing Day 5).



## CASE STUDY #2

### SITUATION

A vegetable processing facility had issues with 56 out of 78 swabs coming back presumptive across the entire plant.

### RESULT

After the initial application of the Microbarrier Elite, 50 swabs were conducted across the entire plant and only one came back presumptive. This is a reduction of the failure rate from 71.8 percent to just 2.0 percent.

## CASE STUDY #3

### SITUATION

In a raw product facility that is treated as a ready to eat (RTE) facility, a swab-a-thon was performed. 123 swabs were taken within the facility and six swabs came back presumptive on a single processing line, which shut down the line for two weeks.

### RESULT

After the Microbarrier Elite application, another swab-a-thon was performed for two weeks with 106 swabs being taken and all coming back negative. After the initial application, the facility has been applying the MBE on a bi-weekly basis and has not had any issues since.

MICROBARRIER ELITE HAS HELPED US MAINTAIN SIGNIFICANTLY LOWER MICRO COUNTS IN TARGET PROBLEM AREAS WITH THE DATA TO BACK IT UP. WE APPLY EVERY THREE WEEKS ON HARD TO CLEAN BELT AREAS AND IT HAS PROVEN TO BE HIGHLY EFFECTIVE.

— PSSI CUSTOMER



# CONCLUSION

Microbarrier Elite isn't just another sanitation product. It is a game-changing technology that can truly change the future of food safety and overall public health. When used together with regular cleaning and sanitation, it provides a microbial shield that will give you a greater level of confidence in knowing your people and products are protected.

Microbarrier Elite is sold exclusively through PSSI Chemical Innovations. It can be purchased separately or included as part of a comprehensive sanitation plan together with PSSI Food Safety Solutions.

For more information or to inquire about purchasing Microbarrier Elite, visit [pssi.com/pci-homepage/microbarrier-elite](http://pssi.com/pci-homepage/microbarrier-elite) or call (888) 671-5366.





PSSI is North America's leading provider of food safety and contract sanitation services for food processing and distribution facilities. Its team of more than 17,000 skilled food safety sanitors, microbiologists, technical design experts, and safety specialists are committed to protecting people and brands by keeping USDA, FDA and CFIA processing facilities clean, safe and audit-ready. With 45+ years of experience and one of the highest retention rates in the industry, PSSI has the experience and scale to support any size facility.

PSSI Chemical Innovations is its exclusive in-house chemical partner. PSSI Chemical Innovations offers an extensive line of more than 325 cleaning, sanitizing and specialty chemicals. Its state-of-the-art production facility manufactures over 210,000,000 pounds of detergents and sanitizers annually, offering full-scale quality control, analysis, research and development of chemicals and engineering solutions. PSSI Chemical Innovations is also one of the only companies across its industry to earn the Safe Quality Foods (SQF) Certification Level III Food Safety and Quality verifying the quality and safety of its products.

The companies work together to protect more than 450 food processing plants across the U.S. and Canada every day, with an emphasis on reducing chemical overuse, improving cost and process control and increasing water savings.

---

For more information or to schedule a free plant sanitation assessment visit [www.pssi.com](http://www.pssi.com).

---

**PSSI.COM • 3729 Peddle Hollow Road, Kieler, WI 53182 • T: (888) 671-5366**