



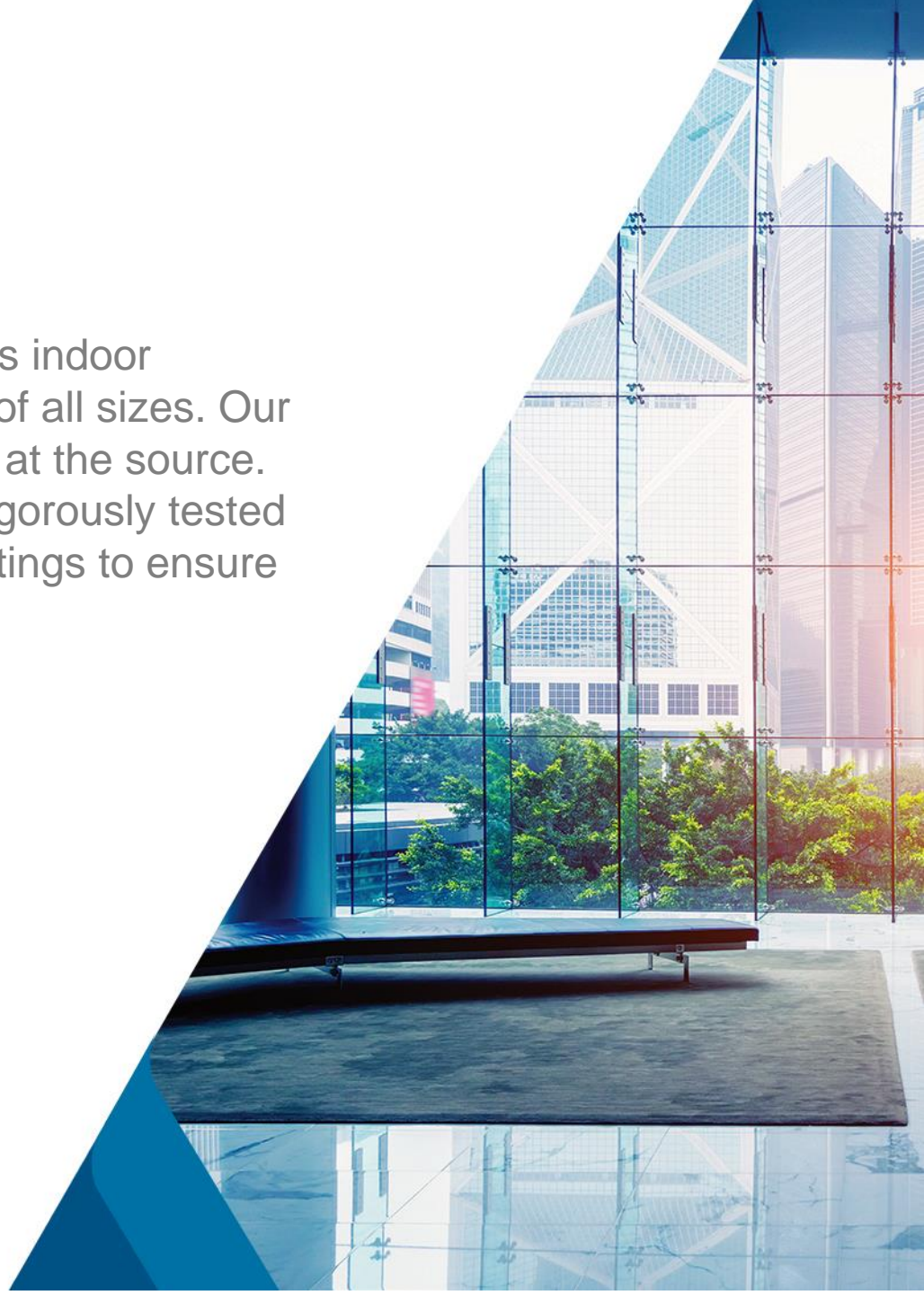
PURADIGM[®]

TESTING & VALIDATION

PURADIGM®

Puradigm designs and manufactures indoor environmental solutions for spaces of all sizes. Our custom solutions address problems at the source. All Puradigm solutions have been rigorously tested in both university and real-world settings to ensure they are:

- Effective
- Safe
- Scalable
- Cost-effective
- Serviceable



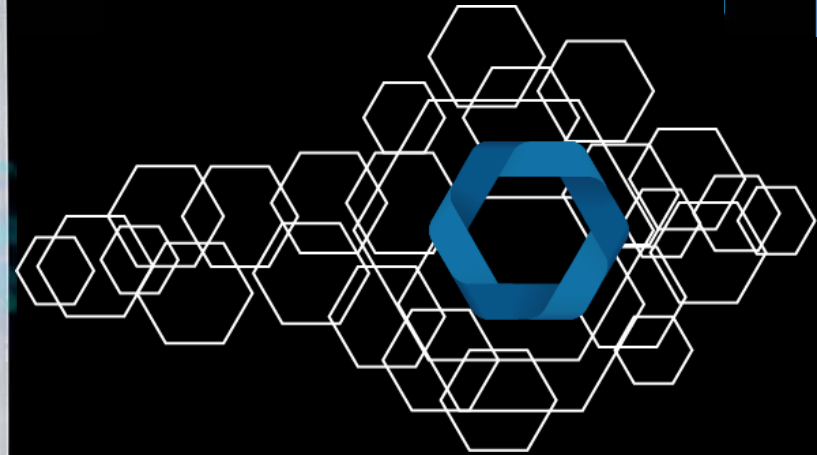
PURADIGM[®] TECHNOLOGY

How do we best apply the technology to enhance the customer experience, save money and mitigate risk?



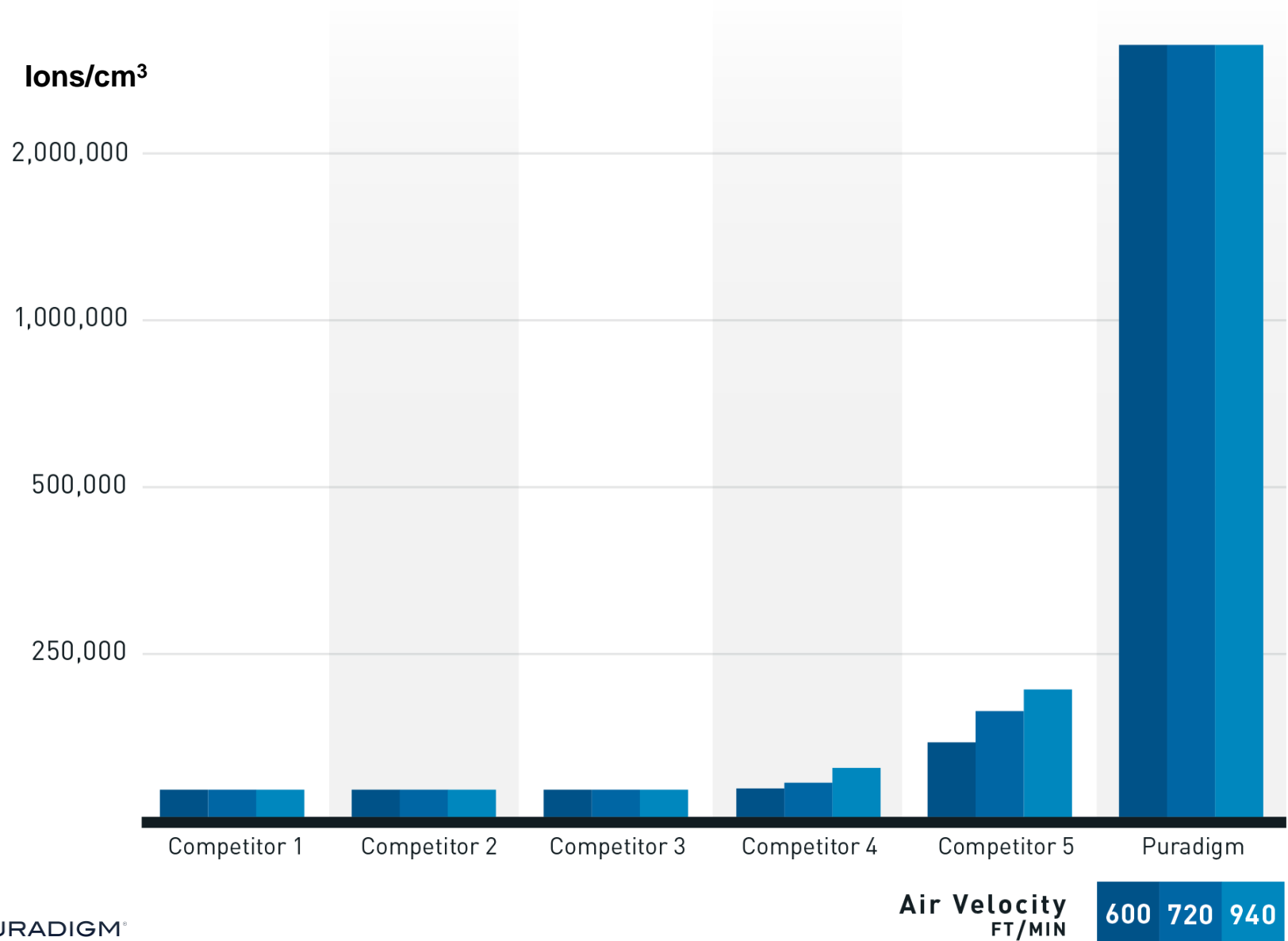
PURADIGM[®] Technology

AIR & MOISTURE



ADVANCED OXIDATION
+
HIGH ENERGY CLUSTERS

PURADIGM[®] Ionization Output cm^3 vs. Major Competitors





*Food Science
Institute*

KANSAS STATE
UNIVERSITY



Kansas State University Study

The Ten (10) Organisms were Tested

- Staph (Staphylococcus Aureus) > 99% Reduction
- MRSA (Methycillin Resistant Staphylococcus Aureus) > 99% Reduction
- E-Coli (Escherichia Coli) > 99% Reduction
- Bacillus spp. > 99% Reduction
- Streptococcus spp. >99% Reduction
- Pseudomonas aureuginos > 99% Reduction
- Listeria monocytogenes > 99% Reduction
- Candida Albicans > 99% Reduction
- Black Mold (Stachybotrys Chartarum) >99% Reduction
- Avian Influenza H5N8 > 99% Reduction



Research Results

1. Control of *Listeria monocytogenes*, *Escherichia coli*, and *Aspergillus niger* in **Ice Machines**
2. Control of Methicillin Resistant *Staphylococcus aureus* and Carbapenem-resistant Enterobacteriaceae (CRE) on **Stainless Steel Surfaces**
3. GC/MS Testing Shows that the Puradigm Technology **does not create undesirable or harmful chemicals**



Ice Machine

Listeria Monocytogenes

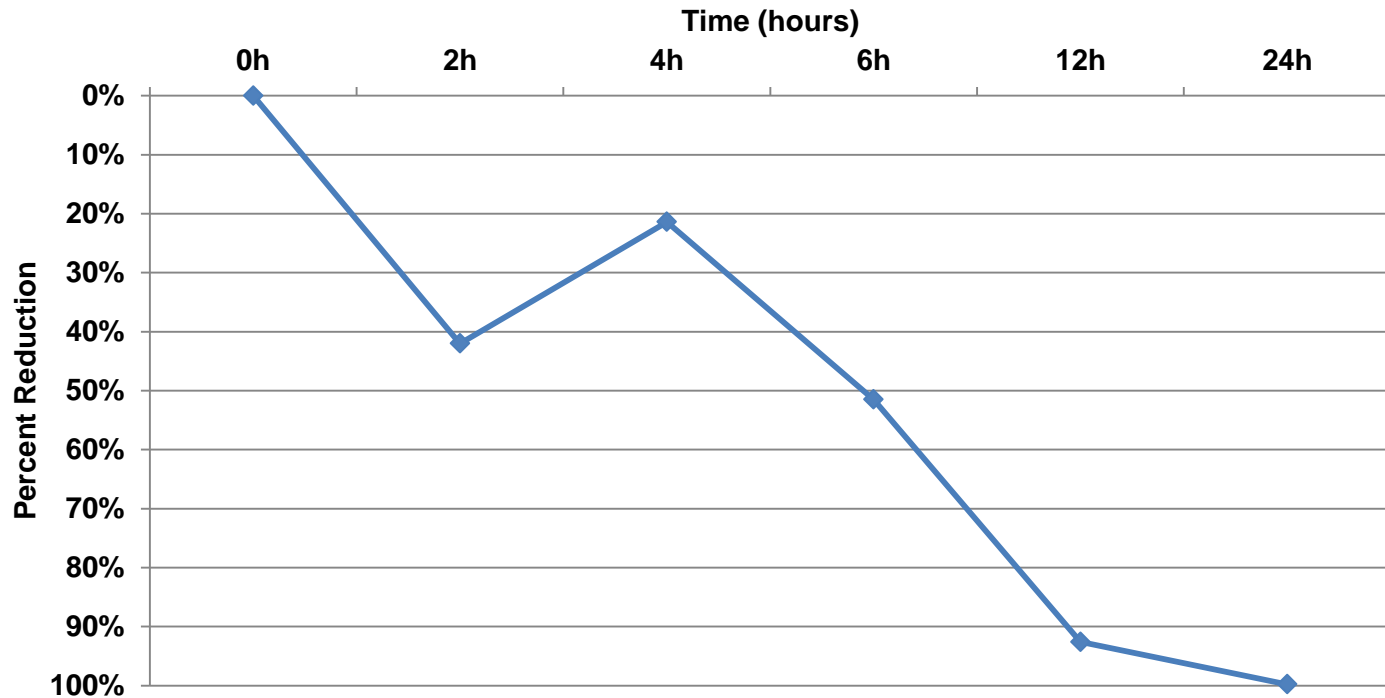
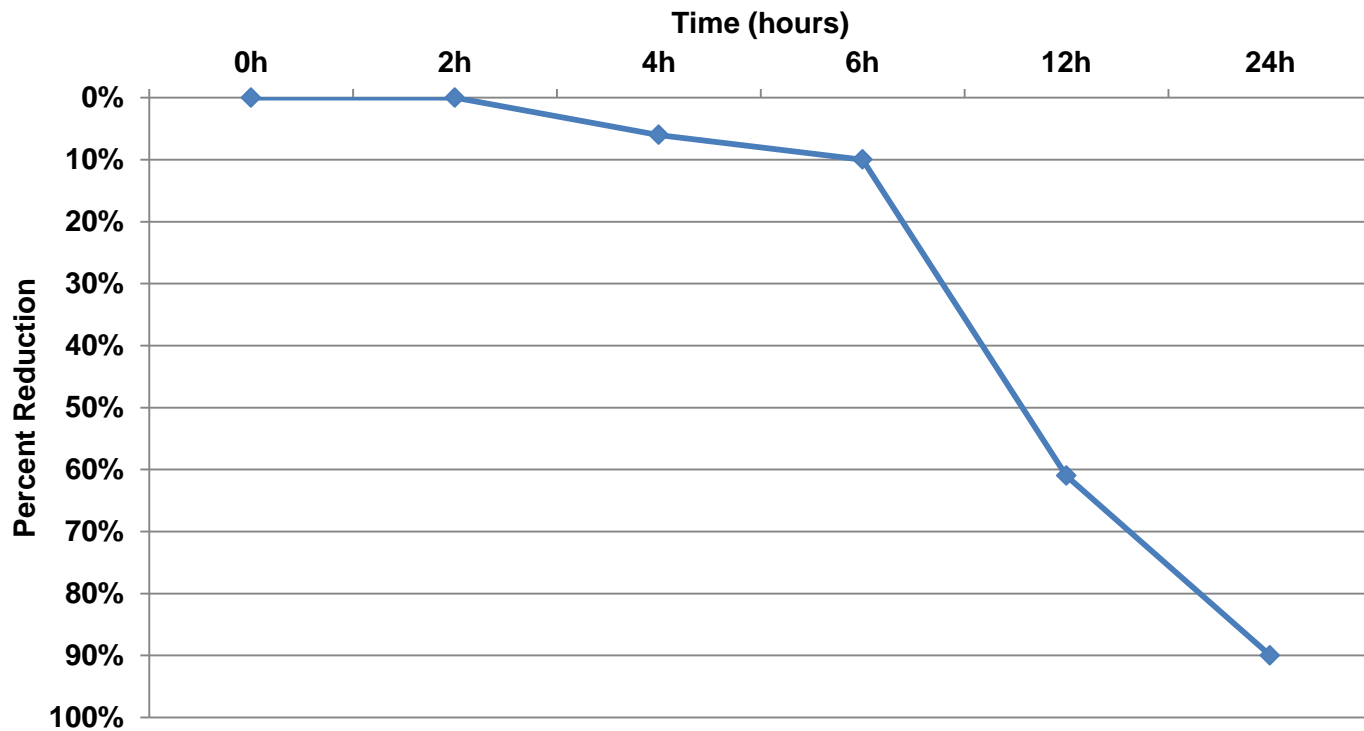


Figure: Percent reduction in Listeria monocytogenes in an icemaker due to treatment with Puradigm Technology for 24/hrs



Ice Machine

Escherichia coli

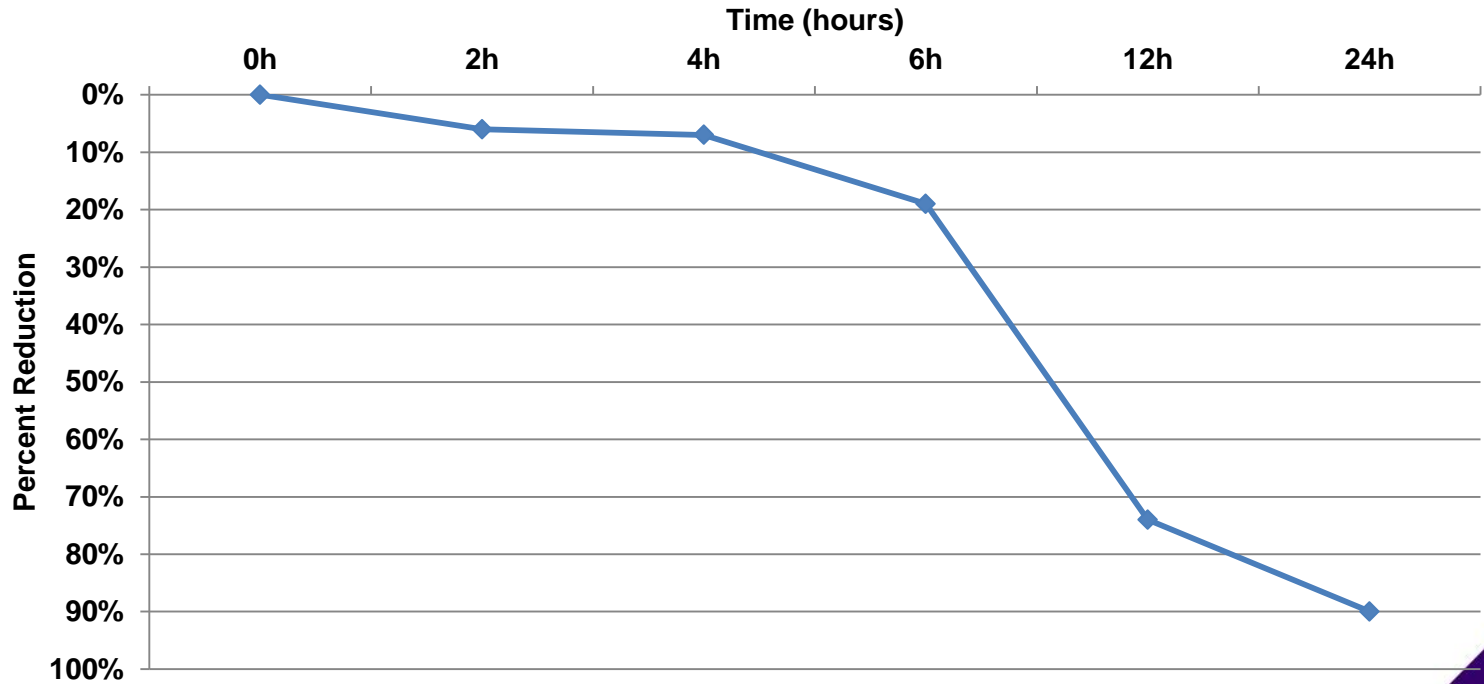


Percent reduction in Escherichia coli in an icemaker due to treatment with Puradigm Technology for 24/hrs



Ice Machine

Aspergillus niger

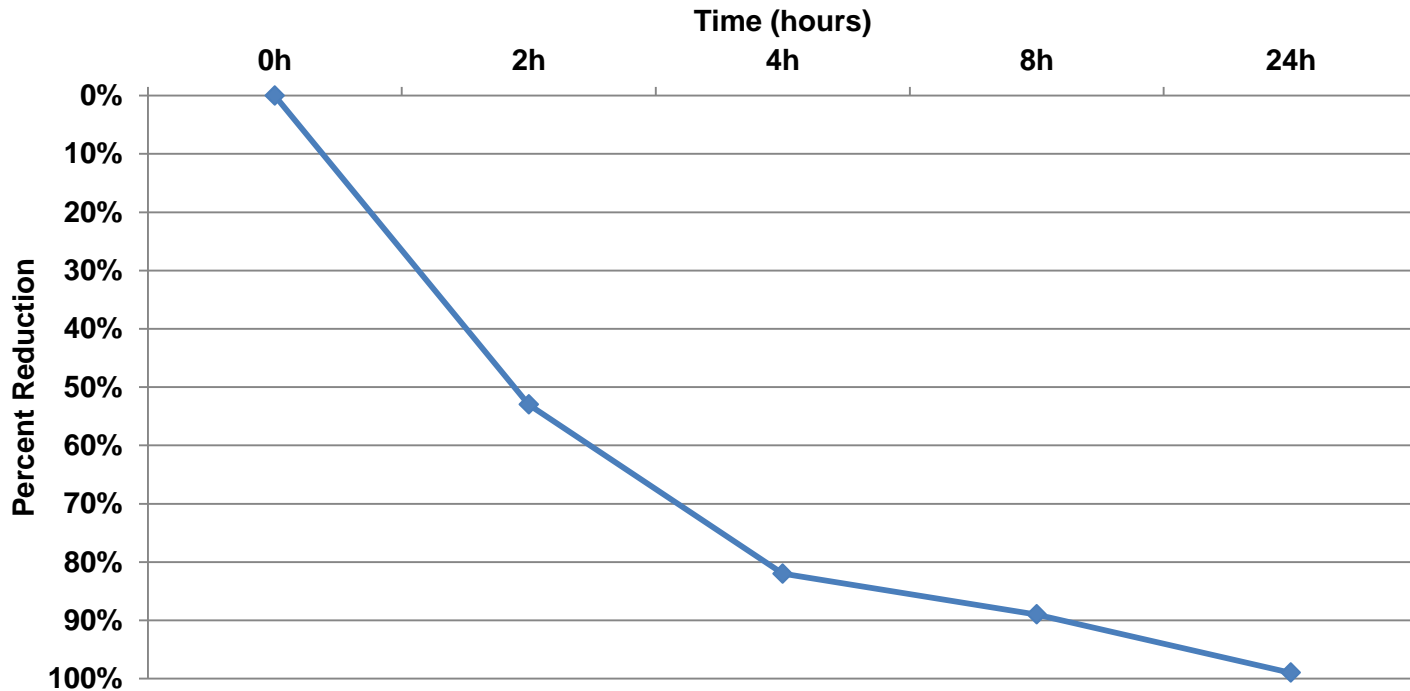


Percent reduction in Aspergillus niger in an icemaker due to treatment with Puradigm Technology for 24/hrs



Stainless Steel Coupons

Methicillin-resistant Staphylococcus aureus

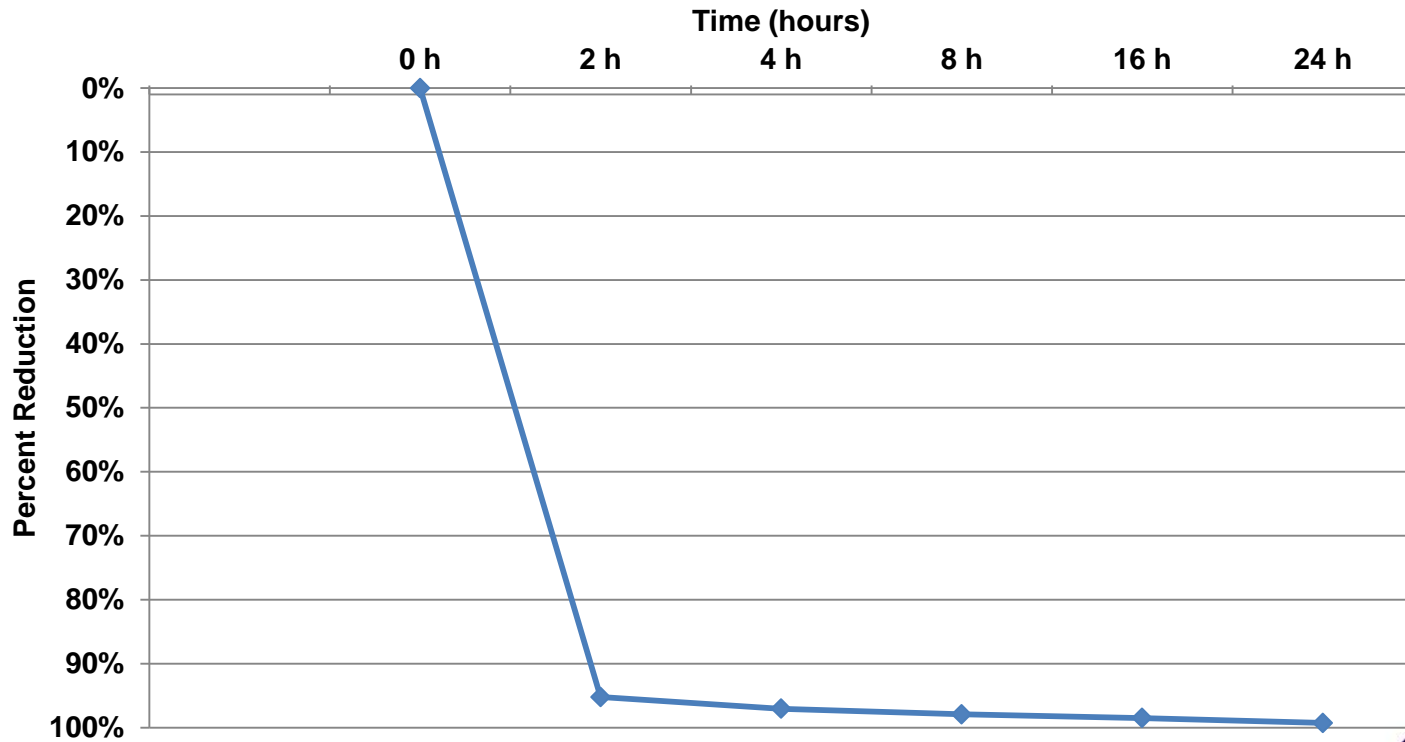


Percent reduction in methicillin-resistant Staphylococcus aureus on stainless steel coupons due to treatment with Paradigm Technology for 24/hrs



Stainless Steel Coupons

Carbapenem-resistant Enterobacteriaceae



Percent reduction in Carbapenem-resistant Enterobacteriaceae (CRE) on stainless steel coupons due to treatment with Puradigm Technology for 24/hrs



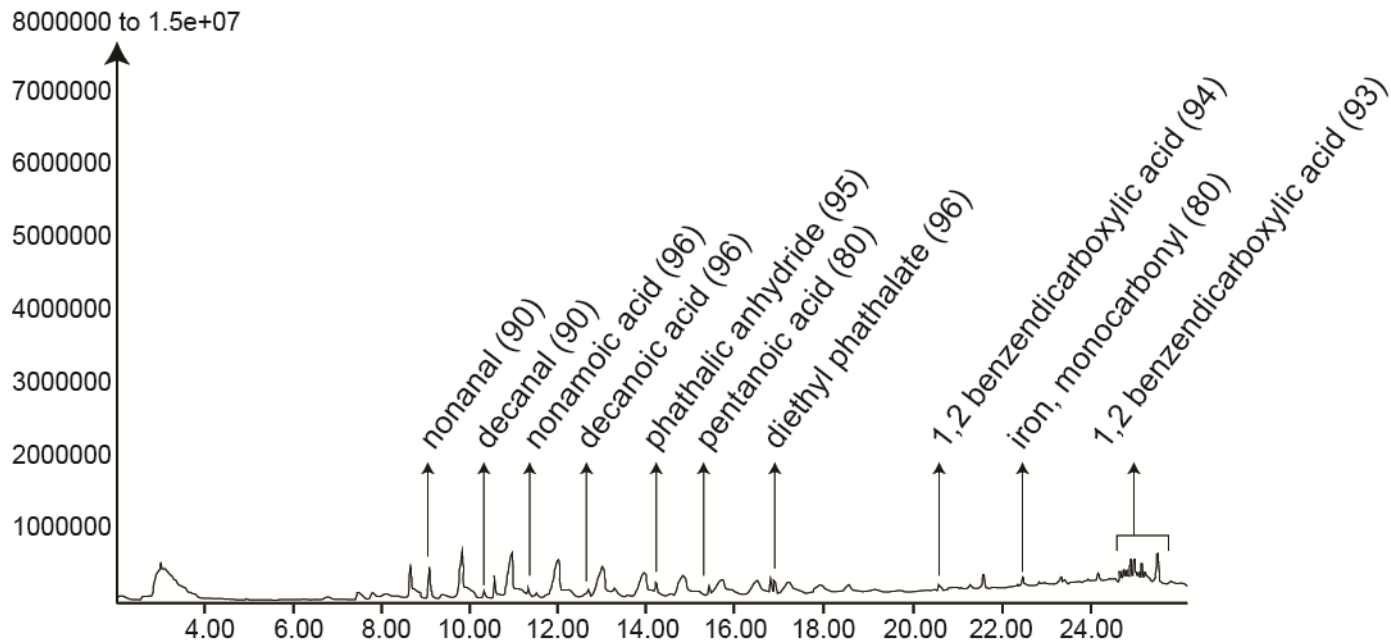
Gas chromatography– mass spectrometry (GC-MS)

GC-MS has been widely heralded as a "gold standard" for forensic substance identification because it is used to perform a *specific test*.

KANSAS STATE
UNIVERSITY

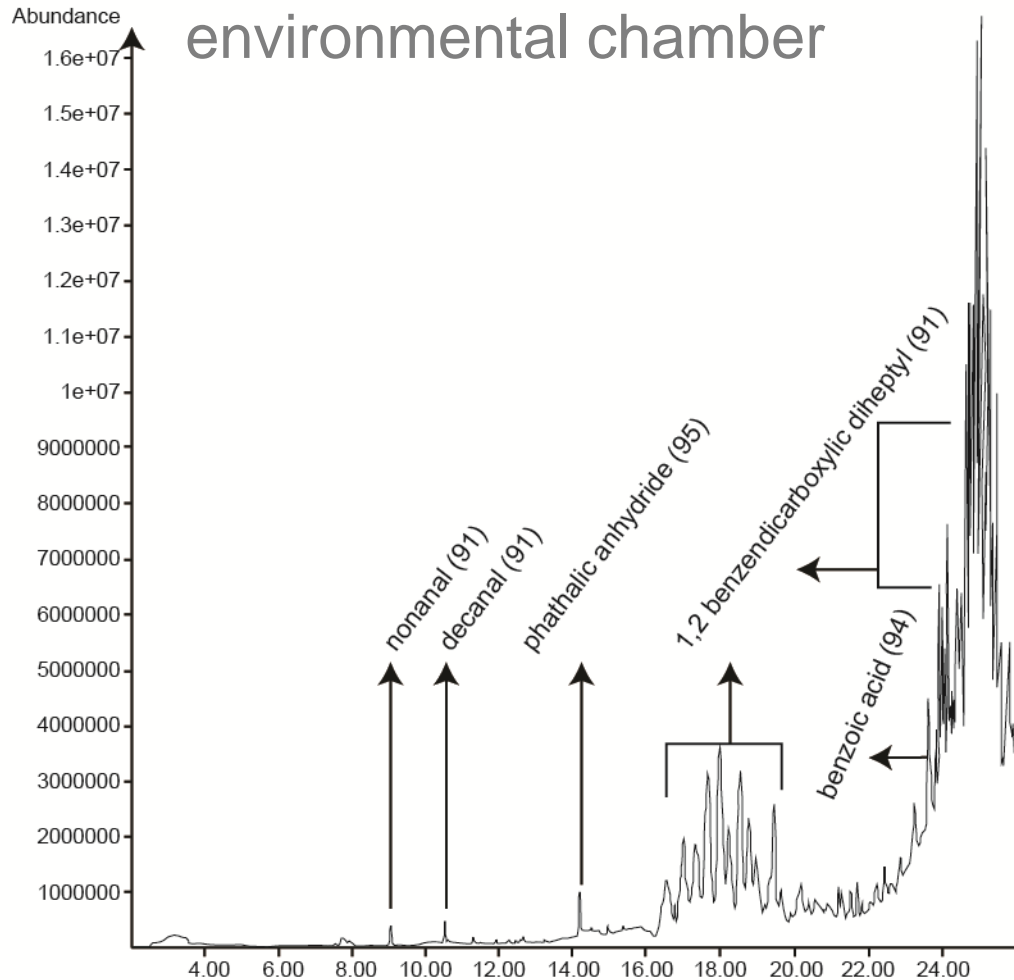
GC/MS Testing

Various compounds identified in the control air sample inside a mini environmental chamber



GC/MS Testing

Various compounds identified in air sample treated with Puradigm Technology Cell inside a mini environmental chamber





GC/MS Results

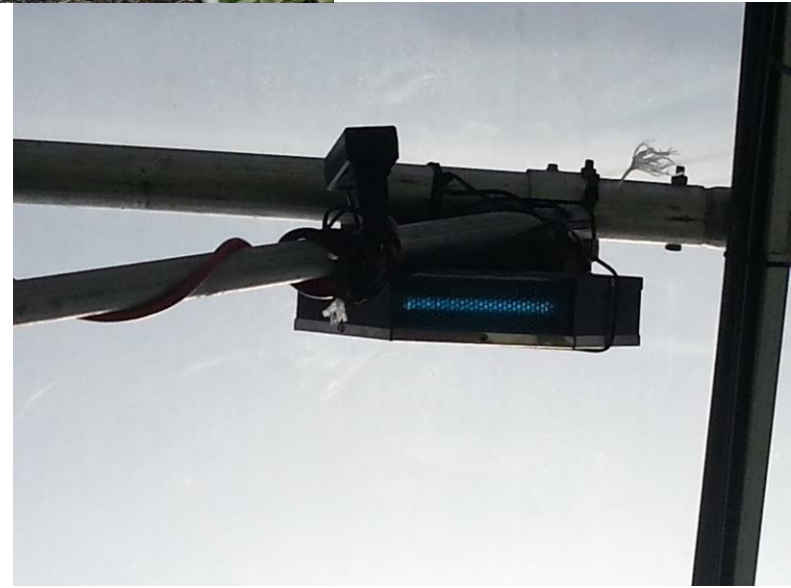
1. The only volatile organic compounds found in the air samples taken from inside the chamber were associated with plastics and adhesives from the chamber itself.
2. Levels of these compounds were lower when the Paradigm Oxidation Cell was in operation.
3. No compounds were detected that would be of public health concern.

Question: How Can Four Small Units Purify This Huge Greenhouse?

Answer: Puradigm Technology



Archie's Acres – Greenhouse Using Puradigm FLOW



Archie's Acres – Greenhouse Using Puradigm FLOW

Mold Counts Obtained From Leaf Swab Samples – Ultimate Labs, San Diego, CA

	July 29, 2013	August 5, 2013	% Reduction
Large Greenhouse	741	274	63%
Small Greenhouse	367	90	75%

“I just wanted you to know that the machines have done an amazing job of halting the mold problem. We have almost no mold in our greenhouses and considering the recent weather, our greenhouses should be covered in mold... All that to say thank you. The Puradigm machines have been a game changer.”

- Farm Manager

PURADIGM® ICE MACHINE SOLUTIONS

*How do provide a safer product and reduce
machine maintenance costs?*



PURADIGM® Cool™

- Significantly reduces mold, bacteria and yeast build-up in the ice maker and bin.
- Significantly reduces ice machine maintenance costs due to fewer and easier cleanings.
- Easy installation – 15 to 20 Minutes
- Easy Maintenance – rinse protective filter monthly and replace the Puradigm cell every 2.5 years.



PURADIGM® Cool™ - 3 Month Comparison

Ice Machine w/o Puradigm



Ice Machine with Puradigm



PURADIGM® Cool™ - 3 Month Comparison

Ice Machine w/o Puradigm



Ice Machine with Puradigm



PURADIGM® Cool™ - 3 Month Comparison

Ice Machine w/o Puradigm

- Excessive Mold on Pump & Hoses
- Mold & Slime Buildup on back panel



Ice Machine with Puradigm

- Pump & Hoses have NO Mold
- Front, Back & Side Panels have NO Mold



Thank You

Proactive Air and Surface Purification