



# CASE STUDIES

## Chemical Free Carpet Cleaning, Deodorizing and Disinfection

Tersano Stabilized Aqueous Ozonated Water will flawlessly clean, deodorize and disinfect your carpets without chemicals – remove mould and mildew, stains and refresh your carpets



# tersano

Click for Video

## Tersano N.A. Tips #195: Carpet Cleaning 101

**Q:** Does Stabilized Aqueous Ozone (SAO®) clean carpets better than traditional chemicals?

**A:** Yes! Stabilized Aqueous Ozone (SAO®) cleans carpets better than traditional cleaning chemicals. Fabric carpets absorb traditional chemical shampoos like a sponge. Even when a shampooed carpet is dry to the touch, up to 30% of the toxic chemicals will stay stuck to the fibres. Traditional chemical cleaners attract dirt and germs, but the attraction of dirt and bacteria continues when they are left behind, and the fibres get dirtier *quicker*. Over time, your bright, soft carpet will discolour and stiffen as more and more layers of toxic chemicals build up.



Alternatively, SAO cleans down to the root of each carpet fibre and can even strip away the old chemical buildup. As a result, SAO restores carpets' original brightness and softness as if they were brand new again. Recent findings reveal that cleaning carpets with SAO can significantly diminish dry time compared to traditional chemical cleaners. When time is of the essence, a quicker dry time helps crews clean more productively. As an additional bonus, carpets cleaned with SAO may have a longer lifespan, as their true cleanliness keeps them in tiptop shape from the inside out.

Remember that if you have any questions of your own, please send them to me at [gregv@tersano.com](mailto:gregv@tersano.com).

*Thank you and look for another Q & A next week!*

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# Accor Hospitality Group

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 [ca.tersano.com/blogs/hospitality/accor](https://ca.tersano.com/blogs/hospitality/accor)

Ajay Sundarraj

In the midst of the pandemic in 2020, the Hotel ibis Laval le Relais d'Armor, part of the global Accor Hospitality Group, wrestled with the challenges all hospitality businesses were facing: how to clean for guests without putting staff at risk from the overuse of potentially harmful chemicals?

“At the time, we were employing a traditional cleaning protocol using chemistry,” explains Thierry Benoist, the director of the hotel located in Changes, France. “We were using over 500 litres of chemicals per month to clean our hotel — it was far too much. When my local distributor, ECO LIFE, encouraged us to test Stabilized Aqueous Ozone (SAO®) from Tersano for a few months, I was delighted to give it a try.”

SAO is a simple, safe, sustainable way to clean and deodorize without using harmful chemicals. Created on-demand through a patented technology, SAO starts as tap water, is converted into a cleaner, and then reverts safely to tap water after use. SAO is produced in on-demand from a wall-mounted dispenser, as well as in a hand-held device called the iClean® mini.

## OVERVIEW

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When used as directed, the Tersano SAO system:

- Offers hotel operators a safe way to clean and reduce the odors in their properties;
- Is produced on-demand eliminating the need to continually purchase harmful chemicals and sanitizers;
- Is safe for use around staff, guests and the broader local community

*Not having to worry about cleaning chemicals in the hands of my staff is a real joy. It is safer for them and my customers.*

*Thierry Benoist*

*Director*

*Hotel ibis Laval le Relais d'Armor*

## Opportunity

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The Hotel ibis Laval employs a staff of 11 responsible for maintaining the property. The staff cleans over 2300 m<sup>2</sup> to prepare for over 75 visitors each day. Opened in 2010, the hotel offers 69 traditional guest rooms, a restaurant, a bar, business meeting facilities, and even a barbeque on Tuesdays and Thursdays. “In hospitality, cleanliness is



everything. It's one of the first things guests notice," shares Benoist. **"With SAO, we've eliminated over 70% of the chemicals we were using — while maintaining our standards of cleanliness."**



## Action

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"I'm thankful that my staff is particularly attentive to innovation. On the one hand, they like new things for their own good — but they are also very aware of the environment. SAO was an obvious choice for us." By replacing traditional cleaning chemicals with SAO, businesses no longer dispose of toxic chemicals into the drains and ultimately our rivers, streams, and waterways.

The staff at ibis is pleased with the transition to non-toxic cleaning and deodorizing — which went smoothly thanks to a focus on education and training. Says Benoist, **"It seems unlikely we would ever return to chemicals."**

*The benefits of SAO are many, but if I had to sum it up I would say it's environmentally-friendly, safer for my staff, and very easy to use.*

*-Thierry Benoist*

# Assessing Aqueous Ozone for Cleaning Floors at St. Martha's Regional Hospital *Antigonish, Nova Scotia*

**Aqueous Ozone is produced by using electricity to add an extra oxygen molecule to O<sub>2</sub>, creating O<sub>3</sub>. The O<sub>3</sub> is then infused into cold tap water to create safe aqueous ozone able to clean and sanitize for up to four hours. Some studies have shown that AO eliminates germs, odors, stains, mold and mildew and quickly kills viruses and bacteria including E.coli, Salmonella, MRSA and others.\***



*Antigonish, Nova Scotia is home to St. Martha's Regional Hospital, an acute care hospital with 89 beds on four floors. Together with the attached Martha Centre, it comprises approximately 220,000 cleanable square feet of floor space on four floors.*

### Project Background

In an effort to find more environmentally-friendly cleaning products and reduce reliance upon harsh cleaning products, staff at St. Martha's Regional Hospital in Antigonish, Nova Scotia piloted the use of two aqueous ozone (AO) generators for a six-week period.

In collaboration with the Canadian Coalition for Green Health Care, St. Martha's embarked on a mission to explore whether AO was a safer and more environmentally-sustainable alternative to the chemical floor cleaners currently used in the hospital and adjoining health centre.

Project partner Tersano provided two wall-mounted AO generators and trained staff on proper setup, care, handling and cleaning techniques. Engaged in the study were staff members from Housekeeping, Infection Control, Facility Support Services and a physician from St. Martha's Green Team.

\*Kills 99.999% of Escherichia Coli and Staphylococcus Aureus within a 60-second contact time.

The Canadian Coalition for Green Health Care is Canada's premier green health care resource network; a national voice driving the evolution of green in Canada's health services sector.

[www.greenhealthcare.ca](http://www.greenhealthcare.ca)

## Safer Chemicals Best Practice Case Study #3

### Testing Methodology

The pilot study began with two days of baseline testing in which twenty samples were gathered and tested. For six weeks following, staff cleaned all test surfaces with aqueous ozone rather than their customary floor and surface cleaners. A total of ninety samples were gathered from five different areas during the pilot and all were tested using ATP test methodology.

Because AO has not been approved by Health Canada for use in patient care areas, the pilot study focused on all floor surfaces and offices in the hospital, and all surfaces in the attached Martha Centre.

ATP bioluminescence meters were used to measure the concentration of actively growing microorganisms through detection of adenosine triphosphate as relative light units (RLU) in organic material and living cells.

### Test Results

ATP testing revealed that while the RLU values during the baseline testing were in the 25-75-unit range, they dropped significantly to 1-12 units on piloted surfaces indicating that AO did reduce the growth of organic material during the testing.

Overall, staff were pleased with how well AO cleaned surfaces and they enjoyed the user-friendliness of the technology. Staff did, however, comment on an odour during the AO dispensing process and noted that the contents of the stabilization cartridge continued to be consumed if the water supply was not shut off to the unit thereby adding to the cost of operation. A total of six cartridges were utilized during testing in the hospital, three in the Martha Centre.

### Cost comparison

At the end of the pilot, staff assessed the quantity and dollar value of their traditional floor cleaning chemicals and compared that to an equivalent value for two years of AO cleaning. The cost to continue cleaning with traditional chemicals was half that of using AO. Given the limited scope of piloted surfaces, it was deemed not economically feasible to use AO when compared to the cost of regular floor cleaning chemicals.

In another CCGHC Safer Chemicals Best Practice Case Study (*Aqueous Ozone Cleaning System Assessment at Vancouver Coastal Health*), it was determined that by also substituting other more costly cleaning chemicals with AO, the financial scenario becomes much more positive for using the AO system. Other general purpose cleaning chemicals to include in this analysis are toilet bowl cleaner, multi-surface general purpose cleaners, glass and steel cleaners, and carpet cleaners.



*Project partner Tersano provided two wall-mounted Lotus Pro<sup>®</sup> aqueous ozone dispensing units for testing by St. Martha's staff.*

### Next Steps

Based on the additional information on using AO at hospitals, staff at St Martha's Regional Hospital is in the process of further evaluating the use of AO at their facility.

### Credits

We would like to thank the following collaborators for their commitment to this project:

St. Martha's Regional Hospital, Antigonish, NS  
Monica MacDonald  
Helen Stroud  
Greg Wier  
Housekeeping staff  
Dr. Michael Brennan

Tersano Inc. [www.tersano.com](http://www.tersano.com)

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Climate Change Canada

Environnement et  
Changement climatique Canada





## KEEPING CHEMICALS OUT OF YAVAPAI

"We started using stabilized aqueous ozone (SAO) on carpets, hard floors, and upholstery," explains Thompson, "and quickly realized that it worked better than the harsh chemicals we had been using." Though Thompson found early success switching from traditional cleaning chemicals to SAO - the journey wasn't easy.

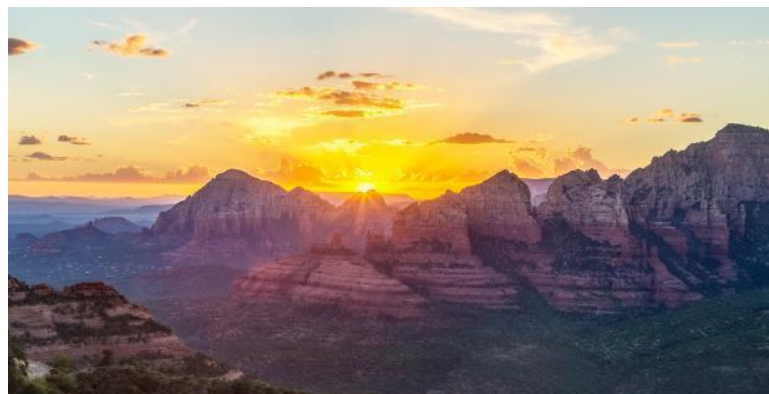
A custodial supervisor in one of the most picturesque, environmental geographies in North America, Thompson oversees 52 employees in 40 different locations and is responsible for cleaning and sanitizing over 600,000 square feet of building space in Yavapai County Facilities and Parks and Rec Department. "Obviously, in a place like Yavapai, you simply have to be highly sustainable and environmentally conscious. There's no way we can justify pouring chemicals into our beautiful lands."

A few years ago, Thompson searched for an alternative to cleaning chemicals and came across SAO. "We did a test and removed all the cleaning products from a building - with the custodians kicking and screaming the entire way," laughs Thompson. "Right away, we noticed great results on carpets. The fabric looked newer, brighter, and was

softer. In fact, the more we used the SAO, the better the carpets got. We realized the old chemical residues were being rinsed from the fabric, restoring its appearance."

### QUICK FACTS

- Yavapai County covers over 8,000 square miles in Arizona
- The name Yavapai means "People of the Sun"
- Popular new age destination, Sedona, Arizona is in Yavapai County



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Thompson also realized another benefit: longer times between cleanings. “People don’t realize that chemical residues attract dirt and so when you use chemicals you have to clean more often.”

Despite the early success, Thompson says he met resistance every step of the way, though. “After a thirty-day trial, we started switching all our buildings to stabilized aqueous ozone. I have employees who’ve been with us for over 20 years and they believe if it doesn’t make your eyes water, your breathing difficult, or your skin burn, it’s not working. They were not excited.” Over time though, they all became believers.

Today, the county uses stabilized aqueous ozone to clean glass, carpets, stainless steel, chrome, porcelain, tile, linoleum, and virtually any hard surface. Says Thompson, “We have switched approximately 80% of our buildings from old chemicals to new stabilized aqueous ozone - and we’re moving towards 100% in the near future. We are sold - not because of some sales gimmick, but because it works.”

*“After one week of using stabilized aqueous ozone, our custodians had a test building looking amazing. It’s made our jobs easier and has given us better results than we ever had in the past. We would never go back to harsh, greasy, odorous cleaning chemicals.”*

Jeremy Thompson, Custodial Supervisor  
Yavapai County Facilities and  
Parks and Rec Department, Arizona

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# TRUE BLUE. CLEAN GREEN.

*“ Since we switched to aqueous ozone, I’ve gotten better. When I go home and my kids hug me, they say I don’t smell like chemicals anymore. I call this a miracle. ”*

Marin Yaseem, Custodian University of Michigan South  
Quadrangle Residence Hall

## Quick Facts

- 43,000 students on campus
- 580 buildings to clean
- Football stadium is largest in North America



“At the beginning, when I heard that our chemicals were being exchanged for aqueous ozone, I wondered just how could water clean like chemicals,” says Yaseem. “I really didn’t like it when I first heard about it.” The university’s facility maintenance team tested stabilized aqueous ozone as a safe and sustainable alternative to traditional chemicals to clean the residence halls’ bathrooms, common areas, study rooms and dining halls.

Yaseem soon learned that aqueous ozone isn’t just water; it is cold tap water, first stabilized through the removal of harsh minerals, then infused with ozone to become a safe, high-performing cleaner and sanitizer for use on virtually any hard surface. Schools, hospitals, food service operations and more use SAO instead of chemicals for its simplicity, safety, and sustainability.

In fact, the innovative cleaning solution turned out to be so efficient and effective that the University of Michigan residence hall’s custodial team was awarded the President’s Staff Innovation Award for its work in switching from traditional chemicals to aqueous ozone.

“This aqueous ozone project is worthy of team recognition because it sits at the nexus of cost savings, environmental and health consciousness, productivity, and the leadership role that the University of Michigan plays in higher education,” says Loren Pullman, associate vice-president of student affairs. Pullman nominated the custodial group for the annual award.

University President, Mary Sue Coleman, personally chose the custodial team for the award and notes: “This award celebrates the diverse culture of innovation and entrepreneurship on campus and recognizes those whose creativity leads to better solutions to our challenges.”

Yaseem recalls, “When I came home, my daughter would say to me about the chemicals I used, ‘Mommy, if these things make you sick, why don’t you stop working?’ But I love my job and so I stayed and tried the aqueous ozone. It works!”

Indeed, stabilized aqueous ozone helps the University of Michigan achieve campus sustainability goals, is healthier for students and staff, and saves \$50,000 per year in operating costs by not having to purchase, manage, store, and dispose of traditional chemicals.

That’s True Bue. And Green Clean.





## Carpet Cleaning Results Report

**Prepared by:**

Wayne Whitzell, LEED® AP, BEP, GBO  
EVP of Corporate Services - DFS Green  
20 Rollins Road  
Millbrae, CA 94030

**Submitted To:**

[REDACTED]

**Submitted: September 16, 2019**







CleanTech Services for the  
Commercial Flooring Industry

## Project Overview

DFS Green conducted a carpet cleaning and restoration process on all the selected conference rooms in [REDACTED]. This process included ATP testing and analysis of the areas pre and post cleaning. All services have been provided by trained and certified DFS Green staff. Carpet cleaning was accomplished with Tersano Stabilized Aqueous Ozonated Water.

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### Project Description

DFS Green was engaged to perform carpet cleaning and hygienic testing in selected conference rooms on campus. The intent of the testing is to identify the levels of general cleanliness of the carpeted areas. To define “cleanliness” we used the industry standard method of ATP measurement using a calibrated hygiene meter (luminometer). ATP is a molecule found in and around living cells, and as such it gives a direct measure of biological concentration and health. ATP is quantified by measuring the light produced through its reaction with the naturally occurring firefly enzyme luciferase using a luminometer. The amount of light produced is directly proportional to the amount of ATP present in the sample.

Areas where food is served or in medical facilities should be <30 ATP on the meter when tested. Carpet can typically be set with a higher threshold because the carpet is not being used for hygienic food service or medical activity. However, higher levels in carpet can be responsible for odors and other related bacterial growth which can negatively affect indoor air quality (IAQ). It is recommended that each facility sets tolerances for individual areas and surfaces to determine cleaning frequency. A food service counter will require several cleanings/disinfecting passes per day, whereas carpet may only need weekly, monthly, or quarterly, etc. depending upon its function. A good general gauge for ATP levels can be viewed in the chart on the following page. These ranges are not customized for each facility, but simply a quick way to look at the testing levels to get a sense of how much bacteria may be there.

Cleaning was done using chemical free Tersano Stabilized Aqueous Ozonated Water (SAO).



| <b>ATP Levels of Clean (RLU)</b>   |          |
|--|----------|
| <b>Ultra-Clean</b><br>Sterile surfaces and food prep areas   | 0-10     |
| <b>Very Clean</b><br>Critical touch points   | 11-30    |
| <b>Good Clean</b><br>Floor req'mt, and typical microfiber towel performance  | 31-80    |
| <b>Somewhat Dirty</b><br>Caution: Surface should be cleaned and has some risk of contamination from disease-causing bacteria (typical mopping practices perform in this range) | 81-200   |
| <b>Dirty</b><br>Warning: Surface needs cleaning and has medium risk of contamination from disease-causing bacteria   | 201-500  |
| <b>Very Dirty</b><br>Danger: Surface needs cleaning and has medium to high risk of contamination from disease-causing bacteria   | 501-1000 |
| <b>Filthy</b><br>Danger: Surface needs cleaning and has high risk of contamination from disease-causing bacteria   | > 1000   |

We arrived at the facility at [REDACTED] to perform the cleaning and restoration process and soil/ATP testing.

Our process included the following:

1. Collect sample ATP readings pre cleaning
2. Pre-vacuum the selected carpeted areas with a CRI certified vacuum to remove dry soils
3. Pre-spray with a soil-lifting cleaning agent to loosen/separate soils from the carpet fiber
4. Agitate the carpet with a CRI certified/manufacturer approved dual-cylindrical brush machine
5. Wet extract the carpet with a clean extraction rinse to recover suspended soils and bio-matter
6. Disinfect the newly cleaned carpeted areas
7. Collect sample ATP readings post cleaning

The sample photos in the following pages show portions of this process and some of the results we were able to achieve. In addition, photos of the hygiene meter readouts are provided as evidence of the testing results in various areas.

Many of the conference rooms had general visible soiling such as in these two examples. The coffee stain on the right may require additional treatment.



Below are a few of the sample tests we performed with the hygiene meter. As you can see, we were getting results which indicated “Dirty” to “Very Dirty” on the ATP testing scale.







Next, we proceeded with pre-vacuuming followed by the pre-spray and agitation process. Below is a sample of the bio-matter we recovered with the dual-cylindrical brush machine. Bear in mind, that these are the additional soils recovered AFTER a detailed beater-bar style vacuuming was performed on the carpets. This recovered material in the photos below is a mixture of human hair, skin cells, food stuffs, soil particulate, loose carpet fiber, and other bio-matter. Time after time we see these kinds of results in facilities where there is no professional carpet maintenance program being used. This is what we see nearly every time a janitorial contractor is solely responsible for the carpets.











We then emptied the carpet extractor's recovery tank to observe the levels of soil we had recovered. The soils were thick and oily, indicating that proper carpet maintenance had not occurred in some time. Please view this link to a video clip of the waste water exiting the tank. It communicates the level of soiling more effectively than the photos below. Video link:

<https://www.youtube.com/watch?v=2AE0ze69Wek&feature=youtu.be>



Next, we cleaned and restored a sample section in the security office area. The carpets in this area were extremely soiled. This is most likely the result of some kind of detergent residue from previous cleanings attracting soils. In the test spot below, we spot cleaned the center of a large dark spot with a damp terry towel to see if we could improve the area. As you can see in the yellow area, our test indicated we could improve the entire area, so we proceeded with the test section.





**Before**



**After**



**Before**



**After**









There is still useful life in this carpet. As you can see the color has come back and pile has been lifted and rejuvenated.



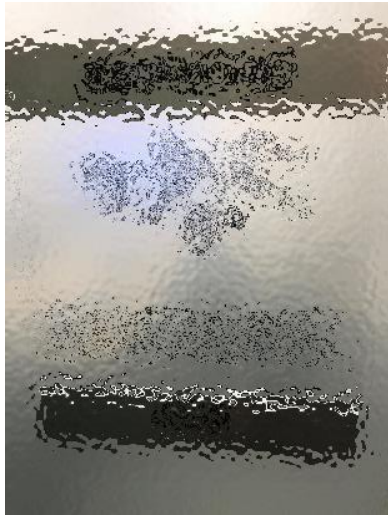
As you requested, we also tested the [REDACTED] conference room. All of the sample tests ranged from 13 to 94 in this room. These results indicate this room is not as soiled as the other rooms we sampled.



We then returned to the conference rooms we cleaned and performed post-cleaning tests in sample rooms. As you can see from the results, we were able to significantly lower the levels of ATP in the carpet with a proper restorative cleaning and disinfecting. The reading in the yellow outline is the testing result after the cleaning and restoration.









We noticed some areas such as the photo to the left, which had some adhesive on the carpet. There were a few areas which had this phenomenon.

Here is a before and after of the large coffee stain. This area may require some additional treatment.



## DFS Green Profile

The ranges of services our combined companies offer include the following:



- Carpet Cleaning with Tersano Stabilized Aqueous Ozonated Water
- Hard-Flooring Surface Cleaning and Restoration
- Workstation Panel Cleaning
- Chair and Sofa Cleaning using Tersano Stabilized Aqueous Ozonated Water
- V-Guard Workplace Disinfection
- Sentinel™ by FiberGuard™ Protection (protects upholstery on chairs, fabric panels, furniture)
- Water Damage Remediation
- Glass Cleaning
- LEED Consulting Services for Commercial Flooring Products
- Sales of Commercial Flooring Products
- Demolition and removal of existing flooring
- Installation of Flooring
- Repairs of Flooring
- Reclamation and Recycling of Flooring

DFS Green is a leading national provider of integrated flooring solutions to commercial end-users, facility and property managers, design firms, and general contractors.

DFS Green provides Consulting and Fulfillment services which assist our clients in specifying, installing, and maintaining eco-friendly flooring products in their commercial properties.

DFS Green is an active member of the U.S. Green Building Council and is committed to helping our clients specify, install, and maintain flooring that is environmentally responsible, can generate significant economic benefits, and enhances the performance of building operations. The benefits of these services and practices include an optimized return on investment for flooring capital expenditures, building resource efficiency, and improved occupant satisfaction.

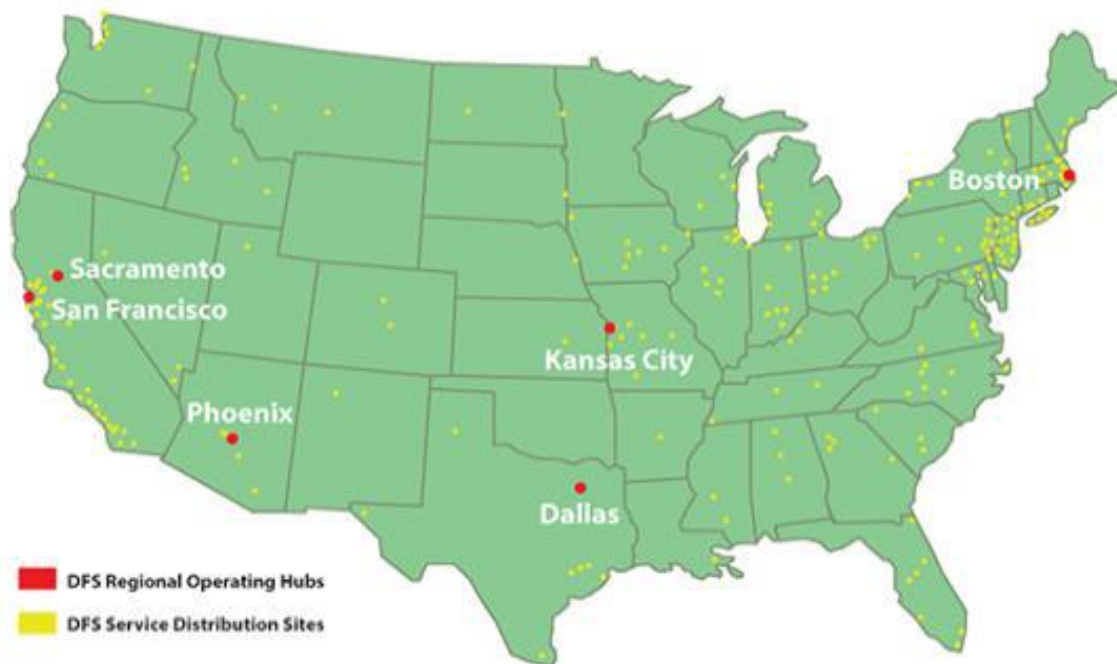


## National Coverage

Does your business have several locations? Are you a corporation with branches throughout the North America, or does your company have multiple regional offices?

Rather than task each location manager with hiring a local vendor to maintain your facilities' interiors, a call to DFS Green delivers a comprehensive solution.

Our network of more than 170 partners with presence in all major markets means we can maintain your organization's assets whether you have a single facility or multiple locations throughout North America.



## CASE STUDY

FLORIDA HOSPITAL SYSTEM  
Orland, FL

### TERSANO STABILIZED AQUEOUS OZONE CLEANING TECHNOLOGY

#### OVERVIEW

The Tersano Lotus PRO creates Stabilized Aqueous Ozone (SAO), a simple, safe, sustainable way to replace traditional chemical-based cleaners, sanitizers, and deodorizers. SAO is an environmentally-friendly solution approved and certified by many organizations including Green Seal, HACCP, OSHA, and more.

As an outcome of the Compass Support Service Multi-Sector Products Review, inclusive of Healthcare, Education and B & I, Crothall Healthcare conducted a months-long trial of SAO at its Florida Hospital Orlando location. The objective of the trial was to demonstrate a level of cleaning on par with or better than the hospital's current chemical solution—while also simplifying the process, increasing savings, and decreasing the impact the hospital's cleaning program has on its employees, patients, and guests.

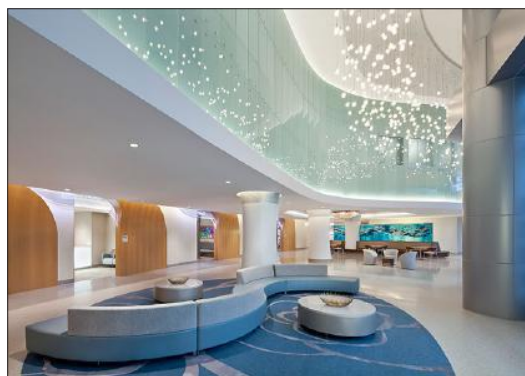
*Reduce the use of cleaning chemicals throughout Florida Hospital by replacing them with Stabilized Aqueous Ozone (SAO).*

*A simple, safe, sustainable way to create a cleaner, safer, healthier environment.*

#### THE CHALLENGE

Led by the Director of Operations and Environmental Services, Chris Bruno, Crothall Healthcare provides environmental services to the sprawling Orlando Florida Hospital campus. With four main buildings and over 1,300 patient beds, Bruno directs over 350 employees and has a strategic objective to bring operational efficiencies and cost savings to Florida Hospitals and, ultimately, Crothall.

In late 2014, Bruno was introduced to the Tersano Lotus dispenser at an industry trade show he was attending. "We are responsible for cleaning just about all spaces at the hospital," explains Bruno. "From the public spaces, to the restrooms and patient rooms –



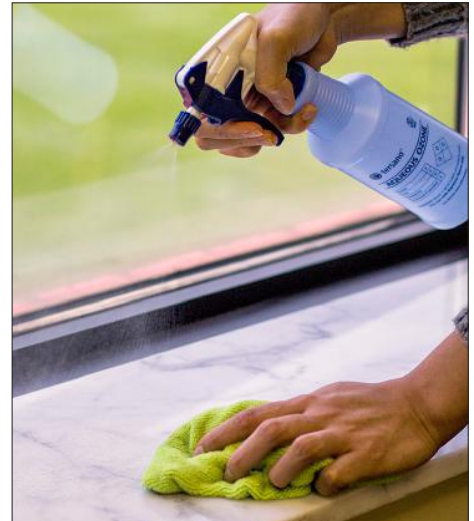
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even the invasive and acute care areas. We were using a lot of chemicals. So when the Tersano team introduced us to stabilized aqueous ozone as an alternative to traditional chemicals, we were interested in seeing how it could go."

Bruno and his team started the test and, while finding no resistance from the clinical side of the hospital, he did receive some caution from his house-keeping staff. He recalls, "We did have minor resistance from the staff just because of how new and different it is from the chemicals they were used to."

Bruno began by cleaning glass, stainless, mirrors and more of the general purpose spray-bottle cleaning areas. Over time, however, his team began using the stabilized aqueous ozone in their walk-behind scrubbers and carpet cleaners – and enjoyed positive results here as well. Notes Bruno, "It was amazing to see what it did on carpet. It's outstanding."



## THE SOLUTION

The Tersano lotus PRO system creates a non-toxic alternative to traditional cleaning chemicals called Stabilized Aqueous Ozone (SAO). SAO can be used effectively across many cleanable hard surfaces throughout a typical hospital. Along with replacing and outperforming traditional cleaners, SAO is simple, safe, and sustainable for everyday use.

### CHEMICALS REPLACED

- Stainless Steel Cleaner
- Whiteboard Cleaner
- Glass Cleaner
- General Purpose Cleaner
- Carpet Cleaner
- Floor Cleaner

## TRIAL OUTCOMES

- The Florida Hospital trial reduced the number of chemicals in use dramatically, leaving just a strong disinfectant as the only traditional chemical still in use. "We were able to replace four chemicals by switching to Tersano," states Bruno. "Today 90% of our cleaning at the hospital is done with Tersano. We use Tersano and a disinfectant. That's it."
- One big benefit from the switch was how it helps Florida Hospital maintain their Silver LEED rating for one of their newer buildings. "They are going for a greener campus and this definitely helps with that objective," says Bruno.
- Program and process simplicity has also been a benefit of using SAO: "We simply have fewer chemicals to manage," he says. "We even use it on our floors. In the past, we would just be able to clean them. Now we can clean and sanitize them simultaneously."
- Best of all, Bruno has not sacrificed any performance: "The cleaning is at-par or even better with Tersano."

## SUMMARY

Today, Bruno continues his efforts at reducing chemicals and finding benefits: "It's been almost three years and the response has been overwhelmingly positive. Tersano has helped us with our sustainability goals, our LEED certification, and our cleaning performance. All in all, that's pretty good."



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## Horizon House Continuing Care Retirement Community Seattle, Washington

### HORIZON HOUSE BECOMES A GREEN HOUSE

*“We haven’t purchased chemicals in almost two years. My Environmental Services cost center is under budget and Tersano is one of the reasons.”*

*David Reed, Unit Director of Environmental Services  
Horizon House CCRC*

“Our residents at Horizon are highly educated and very progressive,” explains Reed. “Because of that, they are really resistant to the smell of chemicals and asked us to find an alternative way to clean and sanitize.”

With 1.2 million square feet of cleanable space across the campus and 35 FTEs cleaning two shifts daily, Reed needed to find a green cleaner that performed well and was also cost-efficient.

His predecessor had tried an alternative cleaning product based on passing electricity through salt water to create a green cleaner—but the solution left a residue and the salt mixture corroded surfaces. “The other system was also pretty expensive to rent on a monthly basis and so we kept looking for a better solution,” he shares. “Eventually my colleague at Virginia Mason Hospital recommended I try the Tersano water.” Tersano dispensers create stabilized aqueous ozone (SAO) – a highly-effective, safe and sustainable cleaner and sanitizer.

After extensive research, Reed liked what he saw in the Tersano product, but knew he had to educate his staff and the wider residential community on the benefits of cleaning and sanitizing with SAO instead of traditional chemicals. “We didn’t just bring the Tersano units in and say ‘Here you go, now use these,’” he says. “We used the videos, testimonials, and other educational tools to help everyone understand what we were going to do.” Reed cautions: “If we hadn’t done the upfront education to create the community buy-in, we wouldn’t have the widespread acceptance we have today.”

Being water-based, the product couldn’t be greener. The big question, however, was whether it worked. Says Reed, **“We still use a carpet spotter to get at tough stains, but overall the Tersano water is very effective at cleaning almost all surfaces. We particularly appreciate its effectiveness on removing odors from urine in the carpets – which is critical in a continuing care community like ours.”**

And while Reed has to keep an eye on the bottom-line, he believes SAO is about more than saving money. “Of course, the

financial case is compelling. But switching from traditional cleaning chemicals is about safety as well – if not more so.” He shares a story: “About a month ago, we had a staff member get splashed in the eyes with the Tersano water. She’s fine, of course. But thank goodness it hadn’t been a chemical-based sanitizer or degreaser.”

Could Reed ever go back to chemical cleaners? “No, I don’t think so. There’s just no reason to. I use the three S’s to describe the benefits from switching: safety, sustainability and savings. The three together make Tersano water a slam-dunk.”

### QUICK FACTS

- A progressive, Continuing Care Retirement Community in Seattle
- Offers 7 levels of care from Independent Living to Memory-Care
- 700 residents live in 396 apartments and 106 supported rooms



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## MORRISON COMMUNITY LIVING

### CLEANING THE COMMUNITY, CHEMICAL-FREE

*“We’re saving good money every year using stabilized aqueous ozone instead of traditional chemicals to clean our community.”*

*Brad Aschenbrenner  
Facility Manager of Environmental Services*

#### Morrison Community Living at Sharon Towers

“Stabilized aqueous ozone is the only cleaning option where there is a zero on the safety warning label,” says Aschenbrenner, when asked why he chose the chemical-free product option. A zero represents no chemical danger to human beings. “Safety is one of our priorities and removing traditional cleaning chemicals for green and safe ones while maintaining the cleaning effectiveness is a great step in the right direction.”

Aschenbrenner oversees Environmental Services at a 345-room senior living community in North Carolina. The facility contains over 360,000 square feet of cleanable space including bathrooms, kitchens, common areas, and other living spaces. Ceramic, tile, and VCT finish are some of the surfaces found in the facility.

Four years ago, Aschenbrenner’s technical support specialist recommended he try stabilized aqueous ozone - a simple, safe, highly sustainable alternative to traditional cleaning chemicals. “We were the guinea pigs for the entire company,” he notes, laughing.

“We made the move and took away all the glass cleaner,” Aschenbrenner shares, describing the early days of going chemical-free. “A few of the staff had trouble making the switch. They were skeptical - especially when it came to areas like the floors.”

Quickly, though, his staff came to see the core difference: a safe, sustainable cleaning performance that is the same or better than traditional chemicals—at a much lower cost.

“We fill up the mop buckets and spray bottles and it works. **On floors it does just as good a job as our old chemical cleaners,”** he says. **“Because we clean carpets so much, it helps with the stickiness and residue we would have left over from traditional carpet cleaners.”**

For his facility, Aschenbrenner uses two dispensers and it works just great. Would he ever go back to traditional cleaning chemicals? “Not unless I’m forced to,” he says. “I just don’t see the benefit of cleaning chemicals any longer.”

#### QUICK FACTS

- Provides hospitality solutions to 350 senior living communities across 42 states
- 350 Dietitians, 250 Chefs, 5,000 food service personnel



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## lotus PRO<sup>®</sup> Testimonial Redland Hospital, QLD

Operational Services has been using the Tersano system for the past year. We have saved not only in dollars but also environmentally. Pictured is Erica Wheeler, one of the Operational Supervisors who at first was very sceptical about using an engineered water system for cleaning in a hospital. However she researched and used the product herself and is now most vocal in encouraging our staff to use this product for their everyday cleaning.

We also had a cleaner who suffered for years with allergies and sinus problems. She too found the product amazing, not just for her health but how well the product cleaned.

The instability of Ozone makes it a very powerful oxidant because when it decays back into O<sub>2</sub> it releases a single oxygen atom O<sub>1</sub> from each of the O<sub>3</sub> molecules.

As Oxygen cannot exist as O<sub>1</sub>, these loose oxygen atoms must instantly bond with any other molecule that will accept it. These other molecules can be in the form of bacteria or viruses (resulting in their destruction), or odours and dirt (resulting in their elimination). Healthy cells are left unaffected because of a protective enzyme coating.

After their work is done, the two loose oxygen atoms revert back to their original state O<sub>2</sub>, leaving nothing behind but water and oxygen.



### THE LOTUS PRO<sup>®</sup> HIGH CAPACITY MOUNT UNIT

- Requires minimal safety training – converts back into water and oxygen when done.
- Quickly kills odours, stains, viruses and bacteria including E. Coli, Salmonella, MRSA and hundreds of other common germs, and is 50% stronger than bleach and chlorine-based cleaners.
- Is 100% chemical free – no toxins, carcinogens or chemical residue. The product can be used on any surface from toilets bowls to bedspreads it can also clean all pesticides from fruit and vegetables.



## Tersano Stabilized Aqueous Ozonated Water applied to a very greasy kitchen floor



One spray of Tersano SAO Ozonated Water and the grease is gone! The Chef, Housekeeper and Chief Steward were amazed!

# Tersano Stabilized Ozonated Water

**Cleans better than chemicals but it's so safe, you can drink it!**



So safe you can wash your face with it!



While we don't recommend this, at one of our 5 Star Hotel customers, this employee actually made tea from Tersano to show how safe it is.



Since February 2015 we have purchased 13 stabilisers to use in the three Lotus-Pro machines we now have throughout the campus. This means we have saved 78,000 litres of ready to use cleaning chemicals from entering the environment and also tens of thousands of plastic containers.

We are excited to have successfully implemented the use of the Saturated Aqueous Ozone and now have many cleaners preferring to use this over any remaining chemicals we still use, as the benefits are great.

*We have witnessed it remove stains previously impossible to get rid of, we can use it in any and all scrubbing/shampooing machines without any concern. We have seen firsthand that it not only removes mould but also kills the spores. It's non-toxic, easy to use, and extremely cost effective, leaves no chemical residue and most importantly kills all known food and human pathogens.*

Manager – Operational Support Services, Redland Hospital QLD

## INSIDE THE LOTUS PRO® HIGH CAPACITY MOUNT UNIT

1. Cold tap water enters the Lotus PRO® Stabilization Module.
2. The Lotus PRO® Stabilization Module mixes with the cold tap water stream, expanding the useful time up to 24 hours.
3. Treated water leaves the Lotus PRO® Stabilization Module.
4. Water passes through the FloJet connector, which prevents back flow with air lock, then enters the Lotus PRO® High Capacity Unit.
5. Oxygen enters the dispenser through the replaceable filter cartridge.
6. 4,500 volts of electricity transforms  $O_2$  to  $O_3$ .
7. Ozone gas that is not saturated in the water is separated and safely dispensed as oxygen.
8. Stabilized Aqueous Ozone leaves the dispenser to fill mop buckets, trigger sprayers, auto scrubbers.



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