

Oakland University

# Cleaning and Disinfecting Plan

Revised 9/11/20

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## Cleaning and Disinfecting

Reducing the risk of exposure to COVID-19 by cleaning and disinfection is an important part of reopening public spaces. All community members have been called upon to slow the spread of the virus through social distancing and prevention hygiene, such as frequently washing your hands and wearing face coverings. Everyone also has a role in making sure our community is as safe as possible to reopen and remain open.

The virus that causes COVID-19 can be killed if you use the right products. EPA has compiled a list of disinfectant products that can be used against COVID-19, including ready-to-use sprays, concentrates, and wipes. EHS has prepared a list of disinfectant products commonly used on campus and cross referenced those products to verify those that are included on EPA List N. For more information visit the EHS web section at [www.oakland.edu/ehs](http://www.oakland.edu/ehs), [OU Disinfectants In Use](#).

## Definitions

**Community facilities** such as schools, daycare centers, and businesses comprise most non-healthcare settings that are visited by the general public outside of a household.

- This includes facilities at Oakland University

**Cleaning** refers to the removal of dirt and impurities, including germs, from surfaces.

- Cleaning alone does not kill germs.
- But, by removing the germs, it decreases their number and therefore any risk of spreading infection.

**Disinfecting** works by using chemicals, for example EPA-registered disinfectants, to kill germs on surfaces.

- This process does not necessarily clean dirty surfaces or remove germs.
- But, killing germs remaining on a surface after cleaning further reduces any risk of spreading infection.

## Basic Principles of Cleaning and Disinfection

1. Normal routine cleaning with soap and water will decrease how much of the virus is on surfaces and objects, which reduces the risk of exposure.
2. Disinfection using EPA-approved disinfectants against COVID-19 can also help reduce the risk. **Frequent disinfection of surfaces and objects touched by multiple people is important.**
3. When EPA-approved disinfectants are not available, alternative disinfectants can be used (for example, 1/3 cup of bleach added to 1 gallon of water, or 70% alcohol solutions). Do not mix bleach or other cleaning and disinfection products together – this can cause fumes that may be very dangerous to breathe.

The University is following federal, state and local guidelines. The situation is fluid. Specific recommendations regarding cleaning and disinfection best practices are subject to change.

## Reminders about Coronaviruses and Reducing the Risk of Exposure

- Coronaviruses on surfaces and objects naturally die within hours to days. Warmer temperatures and exposure to sunlight will reduce the time the virus survives on surfaces and objects.
- Normal routine cleaning with soap and water removes germs and dirt from surfaces. It lowers the risk of spreading COVID-19 infection.
- Disinfectants kill germs on surfaces. By killing germs on a surface after cleaning, you can further lower the risk of spreading infection. EPA-approved disinfectants are an important part of reducing the risk of exposure to COVID-19.
- Store and use disinfectants in a responsible and appropriate manner according to the label. Review the infographic, [EPA's Six Steps for Safe and Effective Disinfectant Use](#). Do not mix bleach or other cleaning and disinfection products together – this can cause fumes that may be very dangerous to breathe in.
- Do not overuse or stockpile disinfectants or other supplies. This can result in shortages of appropriate products for other to use in critical situations.
- Always wear gloves appropriate for the chemicals being used when you are cleaning and disinfecting. Additional personal protective equipment (PPE) may be needed based on setting and product. For more information, see CDC's website on Cleaning and Disinfection for Community Facilities (<https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html>)
- Practice social distancing of at least 6' of separation, wear facial coverings, and follow proper prevention hygiene, such as washing your hands frequently and using alcohol-based (at least 60% alcohol) hand sanitizer when soap and water are not available.

Additional Safety Considerations for Staff, classifying worker exposure to risk to SARS CoV-2, ([COVID-19 Preparedness and Response Plan](#), P. 8-9)

- Custodial Staff
- General Office Staff

## What Needs To Be Cleaned

Most surfaces and objects will just need normal routine cleaning. Frequently touched surfaces and objects like light switches and doorknobs will need to be **cleaned** and then **disinfected** to further reduce the risk of germs on surfaces and objects.

Consider moving or removing items to reduce frequent handling or contact.. Examples of items that can be removed include:

- Shared pens/pencils
- Magazines
- Dishwashing cloths/sponges (break areas)
- Coffee Makers/appliances
- Kitchen utensils/dishes
- Salt/Pepper Shakers/Condiments

Examples of frequently touched surfaces and objects that will need routine disinfection following reopening are:

- Tables
- Doorknobs
- Light switches
- Countertops
- Handles
- Desks
- Phones
- Keyboards
- Toilets
- Faucets and sinks
- Gas pump handles
- Touch screens, and
- ATM machines

Surfaces and objects NOT frequently touched

- Should be cleaned and do NOT require additional disinfection.

Soft and porous materials are generally not as easy to disinfect as hard and non-porous surfaces. Soft and porous materials that are not frequently touched should only be cleaned or laundered per [OU Guidelines for Laundry](#), and following the directions on the item's label, using the warmest appropriate water setting.

Outdoor areas:

- Generally require normal, routine cleaning and do not require disinfection.
- Spraying disinfectant on sidewalks and in parks is not an efficient use of disinfectant supplies and has not been proven to reduce the risk of COVID-19.
- The targeted use of disinfectants can be done effectively, efficiently and safely on outdoor hard surfaces and objects frequently touched by multiple people.
- Proper operation, maintenance, and disinfection of pools, hot tubs or spas and water playgrounds should kill the virus that causes COVID-19.
- There are concerns with outdoor areas that may be maintained less frequently, including playgrounds.

Note, if the classroom, office, laboratory, residence hall room or apartment has been unoccupied for 7 days or more, it will only need normal routine cleaning to reopen or occupy. This is because the virus that causes COVID-19 has not been shown to survive on surfaces longer than this time.

## Campus Plan for Daily Cleaning and Disinfecting

Surfaces frequently touched by multiple people, such as door handles, desks, phones, light switches, and faucets should be cleaned and disinfected at least daily.

More frequent cleaning and disinfection may be required based on level of use. Cleaning and disinfection practices of community spaces will be addressed by the appropriate campus cleaning staff. Essential non-community areas will be addressed by the appropriate staff, faculty or students as designated in operational plans.

Cleaning products and paper towels will be available for departmental use and as per operational plans.

## Enhanced Cleaning

The Facility Services Custodial Staff are using an antimicrobial coating product as part of enhanced cleaning and sanitation procedures. MicrobeCare is a long-lasting protective coating that forms a molecular bond with all surfaces. This coating destroys microbes so they are unable to reproduce on a variety of surfaces. MicrobeCare is safe for skin, clothes and the environment. All restroom sinks, toilets, urinals, dispensers, doors, floors, trash containers, counters tops, water fountains/bottle filling stations, elevator buttons, soft/hard furniture, handrails, door handles, classroom desks/chairs/tables, keyboards in computer labs and other high touch points have been treated. More information about MicrobeCare is available in Appendix A.

- Facility Management Custodial Staff will be following the ***Cleaning Schedule*** referenced in **Appendix A**.
- The Oakland Center will be following the ***ENHANCED CLEANING AND DISINFECTION PRACTICES FOR COVID-19 PREVENTION*** referenced in **Appendix A**.

Essential non-community areas that may require additional cleaning and disinfection as designated in operational plans include:

### Personal Work Areas:

- Facility Services Custodial Staff do not clean desk tops containing personal items for individual use (i.e. telephones, staplers, etc.). Staff should disinfect these areas using the disinfectant spray provided by the custodial staff.
- Disinfect office space surfaces and touch points frequently using a disinfectant spray (surfaces, door handles, equipment, tools, light switches, chair arms, etc.) Properly dispose of cleaning towels and wash hands.
- Disinfectant sprays and paper towels will be available in office suites to use as needed, these items can be requested via the work control system. Refills can also be requested via the work control system (248-370-2381) or on-line at <https://www.oakland.edu/facilities/work-order-requests/>. Please be sure to put the word "COVID" at the beginning of the work description.

### General Purpose Classroom Technologies

- Some of the technologies in the General Purpose Classrooms are sensitive to certain types of cleaning chemicals. We ask users of the space to not clean any of the devices that are in or on top of the instructor's desk.
- The Classroom Support Service Center will be cleaning the instructor desk and all the surfaces that get touched such as keyboards, mice, annotation pens, and touch screens at a minimum of once a day.

### Departmental Computer Labs, Tool Shops and Maker Studios

- Additional cleaning of frequently touched items will be coordinated and managed by the responsible departments and is documented in [re-opening plans](#).
- Emphasize student handwashing in these areas, including washing prior to entry and washing after leaving. Handwashing signs for posting in these areas can be requisitioned ([www.oakland.edu/ehs](http://www.oakland.edu/ehs))

Additional guidelines for custodial, building maintenance and other staff are available as follows:

- [Environmental Cleaning and Disinfection Recommendations](#) (Training)
- COVID-19 Cleaning Protocol for Isolation Facilities (Housing)
- [COVID-19 Cleaning Notification](#)
- [COVID-19 Laundry Guidelines](#)
- [COVID-19 Maintenance and Repair Services for Isolation/Quarantine Areas](#)

Additional personal protective equipment requirements are indicated as follows:

- Staff applying Clorox 360 product, via electro-static sprayer must wear a respirator with N95 protection or greater.
- Staff applying MicrobeCare antimicrobial coating, via electro-static sprayer must wear a respirator with N95 protection or greater.

Note: use of a respirator requires training, medical evaluation and fit-testing per the Oakland University Respiratory Protection Program.

## Maintain safe behavioral practices

We have all had to make significant behavioral changes to reduce the spread of COVID-19. To reopen, we will need to continue these practices:

- Completing the daily health screening every day
- Staying home when sick
- Social distancing (specifically, staying 6 feet away from others when you must go into a shared space)
- Wearing a face covering in an indoor space and outdoors when you can't maintain 6 feet of social distance from those outside your family
- Frequently washing hands or use alcohol-based (at least 60% alcohol) hand sanitizer when soap and water are not available
- Avoid touching eyes, nose, and mouth
- Cleaning and disinfecting frequently touched objects and surfaces

## Consider practices that reduce the potential for exposure

It is essential to change the ways we use public spaces to work, live, and play. We should continue thinking about our safety and the safety of others.

To reduce your exposure to or the risk of spreading COVID-19 after reopening:

- Consider whether you need to touch certain surfaces or materials.
- Consider wiping public surfaces with a disinfectant before and after you touch them.
- Consider reducing the use of porous materials used for seating.
- Consider leaving some doors open to reduce touching by multiple people.
- Consider removing objects in common areas, like coffee creamer.

## Conclusion

Reopening the University requires education, cooperation and participation of all community members. The University is adopting layers of prevention which include recommended best practices from the CDC and local public health departments, and maintaining safe daily habits in our community. These habits include frequent hand washing, monitoring of COVID-19 symptoms, safe social distancing and both routine and enhanced cleaning and disinfection methods.

This plan will be updated as additional guidance and University circumstances warrant.



## Appendix A: University Cleaning Protocols

## **Oakland University**

### **Cleaning Schedule**

#### **RESTROOMS**

##### **Daily**

- Clean & disinfect sinks, toilets, urinals, dispensers, doors, floors, counters, light switches. Increase cleaning and disinfecting when possible.
- Replenish supplies as needed

##### **Weekly**

- Clean and disinfect trash container

##### **Monthly**

- Deep clean floors, clean vents/registers

#### **LOCKER ROOMS**

##### **Daily**

- Clean and disinfect shower stalls, doors
- Clean and disinfect floors, trash containers, counters

##### **Weekly**

- Clean and disinfect trash container

##### **Monthly**

- Deep clean floors, clean vents/registers

#### **ELEVATORS/COMMON AREAS/ENTRANCES/STAIRWELLS**

##### **Daily**

- Disinfect elevator buttons, , door handles, handrails and common area tables

##### **Weekly**

- Clean and disinfect trash container
- Clean and disinfect floors and stairways or vacuum carpet
- Disinfect common area furniture

Source: Healthy Cleaning Schedule v3 cj – 9-2-2020. Facilities Management <https://oakland.edu/facilities/>

**SUITES/OFFICES**

**Daily**

- Clean and disinfect high touch points, counter tops
- Empty trash

**Weekly**

- Clean and disinfect trash container
- Vacuum carpet

Source: Healthy Cleaning Schedule v3 cj – 9-2-2020. Facilities Management <https://oakland.edu/facilities/>

OAKLAND CENTER  
ENHANCED CLEANING AND DISINFECTION PRACTICES  
FOR COVID-19 PREVENTION

August, 2020

In an effort to prevent community spread of COVID-19 (Coronavirus), the Oakland Center will implement the following enhanced cleaning and disinfection practices. These practices are in alignment with federal, state and local recommendations.

1. SAFETY & PERSONAL PROTECTIVE EQUIPMENT (PPE) GUIDELINES

A. Personal Protective Equipment (PPE)

- Staff will be trained when to use PPE, what PPE is necessary, how to properly put on, use and take off PPE, and how to properly dispose of PPE.
- Wear disposable gloves when cleaning and disinfecting. Gloves should be discarded after each use. Clean hands immediately after gloves are removed.
- Gloves should be compatible with the disinfectant products being used to avoid any chemical reactions resulting in potential harm to staff.
- Wear eye protection when there is a potential for splash or splatter to the face.
- Work uniforms can be worn during cleaning and disinfecting. All clothing should be laundered afterwards. Gowns or aprons are only recommended to protect clothing, if the employee deems it necessary.
- Staff should immediately report breaches in PPE such as a tear in gloves or any other potential exposures to their supervisor.

B. Hand Washing

- Cleaning staff and others should clean hands often, including immediately after removing gloves by washing hands with soap and warm water for 20 seconds.
- If soap and warm water are not available, an alcohol-based hand sanitizer that contains at least 60% alcohol may be used.
- Follow normal preventative actions while at work and home, including cleaning hands and avoiding touching eyes, nose or mouth with unwashed hands. Additional times to clean hands include:
  - After blowing one's nose, coughing or sneezing
  - After using the restroom
  - Before eating or preparing food
  - After contact with animals or pets

2. ENHANCED CLEANING PRACTICES

A. High Touch Point Cleaning

- Increased frequency of cleaning and disinfecting of high touch areas within the Oakland

Center. This includes the following:

- AV Connectors - Charging Stations - Counter Tops - Chair Handles & Backs - Desktops - Door Glass - Door Handles, Crash Bars & Edges - Elevator Buttons & Doors - Keyboards & Mice - Light Switches - Microwaves - Microphones - Meeting Room Tables - Paper Towel Dispensers - Phones - Podiums - Sink Faucets & Handles - Stair Railings - Table Tops - Touch Panels - Toilet Paper Dispensers - Time Clocks - Trash Receptacles - Vending Machines - Water Fountains/Bottle Fill Stations - Filing Cabinet Pulls

- MicrobeCare Antimicrobial agent will be wiped on all high touch point areas within the Oakland Center on a regular basis, especially door handles, light switches and filing cabinets.

#### B. Cleaning and Disinfection of Surfaces

##### *Hard (Non-Porous) Surfaces*

- Clean surfaces and objects that are visibly dirty first. They should be cleaned using a detergent or soap and water prior to disinfection.
- Use an EPA-registered or OU approved disinfectant for use against the virus that causes novel coronavirus.
- Follow the manufacturer's instructions for safe and effective use of all cleaning and disinfection products for concentration, application method, and contact time, required ventilation, and use of PPE.

##### *Soft (Porous) Surfaces*

- For soft (porous) surfaces such as carpet, rugs, and drapes, remove visible contamination if present and clean with appropriate cleaners indicated for use on these surfaces.
- After cleaning, if items can be laundered, launder items in accordance with manufacturer's instructions using the warmest appropriate water setting for the items and dry completely.
- If laundering is not possible, use products that are EPA-registered or OU approved and that are suitable for porous surfaces.

##### *Electronics*

- For electronics such as tablets, touch screens, keyboards, remote controls, and ATM machines, remove visible contamination if present.
- Follow manufacturer's instructions for all cleaning and disinfection products.
- Consider use of wipeable covers for electronics.
- If no manufacturer's guidance is available, consider the use of alcohol-based wipes or sprays containing at least 70% alcohol to disinfect touch screens. Dry surfaces thoroughly to avoid pooling of liquids.

### C. Cleaning and Disinfection of Meeting Rooms

- Groups requiring access to their meeting room must first check-in with the OC Administration office (8a-5p) or OC Welcome Desk (after 5p Monday-Friday, all day Saturday & Sunday) to have their rooms unlocked. Groups may check-in 20 minutes prior to their meeting beginning.
- All rooms will be thoroughly cleaned and sanitized before arrival, this includes all tables (6' or 8' rectangle or 6' round), food service tables (if required), chairs, trash receptacles, doors, light switches and AV equipment.
- The Oakland Center will continue to use hospital strength disinfectant spray when cleaning and wiping down surfaces and during nightly sanitized spraying.
- All rooms will be professionally disinfected and sanitized every week using a Clorox Total 360 Electrostatic Sprayer, depending on room usage.
- All rooms will have the MicrobeCare Antimicrobial agent sprayed on all surfaces within the space prior to the start of the semester. A follow-up spray will take place prior to the winter semester depending on room usage.
- The highest risk of a meeting room is overcrowding, which is unlikely with the physical distancing protocols in place.

### D. Cleaning and Disinfection of Restrooms

- The Oakland Center will increase the disinfecting and sanitizing of all restrooms (men's, women's, and gender-neutral) on a daily basis. During this time, some restrooms may be closed or only open for event purposes as to concentrate cleaning efforts on more publicly used restrooms.
- All restrooms will be thoroughly cleaned and sanitized every 2-3 hours throughout the day, this includes toilets, urinals, sinks, fixtures, partitions, paper and soap dispensers, trash and sanitary napkin receptacles, mirrors, doors, floors and light switches.
- The Oakland Center will continue to use hospital strength disinfectant spray when cleaning and wiping down surfaces and during nightly sanitized spraying.
- All restrooms will be professionally disinfected and sanitized weekly using a Clorox Total 360 Electrostatic Sprayer.
- MicrobeCare Antimicrobial agent will be sprayed in all restrooms prior to the beginning of each semester.

### E. Cleaning and Disinfection of Lounge Spaces

- The Oakland Center will adjust and remove any furniture or tables in any lounge space to accommodate the new 6' physical distancing norms. Furniture remaining in these spaces should not be moved to accommodate larger gatherings at this time.
- All lounge furniture will be thoroughly cleaned and sanitized 1-2 times per day. Furniture will

be cleaned following the hard (non-porous) and soft (porous) guidelines listed in this document.

- The Oakland Center will continue to use hospital strength disinfectant spray when cleaning and wiping down surfaces and during nightly sanitized spraying.
- All lounge spaces will be professionally disinfected and sanitized weekly using a Clorox Total 360 Electrostatic Sprayer.
- MicrobeCare Antimicrobial agent will be sprayed in all lounge spaces prior to the beginning of each semester.

### F. Cleaning and Disinfection of Office Spaces

- The Oakland Center will provide disinfecting supplies per the university's directive of requiring employees to wipe down their work stations at least twice daily.
- All office spaces will be professionally disinfected and sanitized every week using a Clorox Total 360 Electrostatic Sprayer. You will be notified of when your office will be disinfected and this will be your set day for the semester.
- The Oakland Center will continue to use hospital strength disinfectant spray when cleaning and wiping down surfaces and during nightly sanitized spraying.
- A time will be specified at the beginning of the semester to have all offices sprayed with the MicrobeCare Antimicrobial agent.
- All Building Service Technicians will wear appropriate PPE when in office areas, whether performing daily duties (trash/recycle collection, vacuuming, general cleaning) and weekly disinfection cleaning/spraying.

### 3. ENHANCED CLEANING AND DISINFECTION AFTER NOTIFICATION OF A

SUSPECTED/CONFIRMED CASE OF COVID-19 After notification of a person with confirmed COVID-19 has been in the Oakland Center, the following cleaning and disinfecting practices will be followed:

- The building/rooms/areas where a COVID-19 positive person has spent time will be assessed on a case-by-case basis. The cleaning scope will be implemented based on the risk of potential contamination as determined by the Environmental Health & Safety Department.
- Close off areas of the building used by the sick individual. It may be necessary to shut down the entire building depending on the areas affected.
- Open outside doors and windows to increase air circulation in the area(s). If this is not possible, coordinate with Central Heat Plant to open fresh air dampers in these areas.
- If possible, wait 24 hours after the individual was present in an area(s) prior to beginning cleaning and disinfection. If 24 hours is not feasible, wait as long as possible.
- Wear the required PPE during cleaning and disinfecting. This includes disposable gloves, gowns, goggles or face shields, and face masks. Make certain all staff are fully trained on how to put on,

take off, and properly dispose of PPE to prevent cross contamination.

- Clean and disinfect all areas used by the individual who is sick, such as offices, restrooms, common areas, shared electronic equipment like tablets, touch screens, keyboards, remote controls, light switches, door handles, etc., focusing especially on frequently touched surfaces.
- If an outside contractor is used for cleaning and disinfection, a list of all cleaning and disinfecting agents and their respective safety data sheets (SDSs) must be provided before work is to commence.
- Determine areas that require restricted access during and immediately following enhanced cleaning. Once area(s) have been appropriately disinfected, it can be opened for use.
- Workers without close contact with the individual who is sick can return to work immediately after disinfection.

#### 4. CLEANING PRODUCTS

The following is a list of EPA-approved cleaners and disinfectants being used in the Oakland Center to prevent the spread of coronavirus.

- Spic and Span Disinfecting All-Purpose Spray and Glass Cleaner, EPA # 3573-96
- Comet Disinfecting/Sanitizing Bathroom Cleaner, EPA # 3573-54
- Clorox Healthcare Fuzion Cleaner/Disinfectant, EPA # 67619-30
- Clorox Total 360 Disinfectant Cleaner, EPA # 67619-38
- Clorox Total 360 Anywhere Hard Surface Sanitizing Spray, EPA # 67619-14
- Clorox 4 in One Disinfectant & Sanitizer Aerosol Spray, EPA # 67619-29
- Performax Disinfectant Cleaner, EPA # 1839-220-106
- MicrobeCare Antimicrobial Agent, EPA # *This list will be updated as new products are added to our cleaning regimen*



Insert Residence Halls Cleaning Protocols (Routine/Healthy) Here

*Adapted from: Enhanced Cleaning For University Facilities*

### **MicrobeCare**

The Facility Services Custodial Staff are using an antimicrobial coating product as part of enhanced cleaning and sanitation procedures. MicrobeCare is a long-lasting protective coating that forms a molecular bond with all surfaces. The coating destroys microbes so they are unable to reproduce on a variety of surfaces. MicrobeCare is safe for skin, clothes and the environment. All restroom sinks, toilets, urinals, dispensers, doors, floors, trash containers, counter tops, water fountains/bottle filling stations, elevator buttons, soft/hard furniture, handrails, door handles, classroom desks/chairs/tables, keyboards in computer labs and other high touch points have been treated.

The product can be applied as a fine mist/fog via electro-static sprayer, or a manual spray and wipe as needs dictate.

Video Link:

<https://www.youtube.com/watch?v=CFzBAxaqYg8&t=29s>

Product Information:

Microbe Care - <http://www.microbecare.com/>

Microbe Care – Product Literature (attachment)

Microbe Care Product Literature



**MICROBECARE *R<sub>x</sub>tU***

Antimicrobial & Antibacterial Protection

A unique molecularly bonded  
antimicrobial technology  
with hospital grade disinfectant

**>99.999%**

Germicidal • Viricidal • Bactericidal • Fungicidal • Tuberculocidal

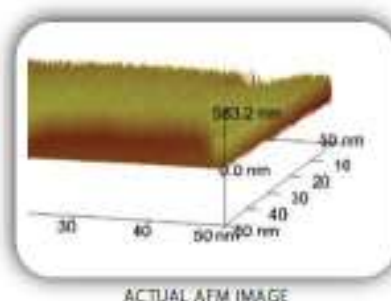
MicrobeCare™ is a unique antimicrobial bonding technology that is odorless, colorless, non-leaching, long-lasting and is effective against bacteria, viruses, fungi, algae and yeast. MicrobeCare™ uses a molecular bond to hold the antimicrobial to its applied surfaces, thus retaining its full antimicrobial strength where it is applied.



- A** A covalent bond permanently affixes MicrobeCare to the surface
- B** Cross linking between adjacent molecules forms a matrix of swords
- C** 18 link carbon chain pierces microbes as they are pulled towards the nitrogen atom
- D** The positively charged nitrogen atom attracts microbes to the surface and ultimately electrocutes the microorganisms through a positive-negative ion exchange

### Barrier of Protection

The cross link swords create an impenetrable barrier that is permanently bonded to any surface.



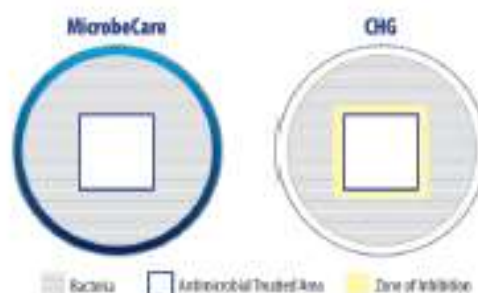
ACTUAL AFM IMAGE

### Time To Kill

MicrobeCare has a mechanical mode of action, killing microorganisms as they land on a treated surface. Other antimicrobials work by poisoning the cell which often takes up to 24 hours.

### Non-Leaching

Most antimicrobials are leaching technologies which offer an "zone of inhibition" often marketed as a positive. However, leaching allows the antimicrobial to migrate into the environment where it was not applied. As the antimicrobial leaches further from the application site, it exists in a weakened state which will eventually allow for the cohabitation of microorganisms and the antimicrobial.



## Effectiveness

MicrobeCare is effective against gram-positive and gram-negative bacteria, viruses, fungi, algae, and yeast. This includes microorganisms such as MRSA, HIV, E. coli, and many others. Contact us for a complete list of microorganisms MicrobeCare has been tested against.

## MicrobeCare Advantages

|   | MicrobeCare™   | Silver  | Triclosan   |
|---|--|---|---|
| Chemical nature                                   | Bonded Polymer   | Releases ionic free radicals that react with cell DNA to disrupt critical life processes. | Releases toxic tri-chlorinated phenol (TCP) for consumption or cellular absorption, causing lethal mutations. |
| Mode of antimicrobial action                      | Cell "Wall" Destruction  | DNA, Enzymes - POISON   | Cell absorbed toxic tri-chlorinated phenol  |
| Durability  | Covalently Bonded and durable for the engineered life of the substrate | Leaches / Releases and can weaken as a result & affected by bleaching to treated fabric.  | Leaches / migrates and can weaken as a result   |
| Effectiveness & speed to action                   | Quick Kill- Broad Spectrum < 20 min                                    | Spectrum and Time to Kill - limited and slow to impact reduction takes 24 hrs.            | Mostly antibacterial, but some limited antifungal capability slower kill                                      |
| Safety  | No Risks   | Risks to Humans and Environment   | Risks to Humans and Environment   |
| Cost  | Cost / Effective   | Expensive   | Medium Cost   |
| Verification                                      | Easy Test (Mill & Stone)   | Complicated Test - in lab   | In lab - ZOI test, proves leaching  |
| Regulatory compliance                             | Globally Compliant   | Varies by global region and limited   | Varies by global region and limited   |
| Range of antimicrobial activity and effective on: | Bacteria, Gram +, Gram -, Fungi yeast and Algae                        | Limited- Bacteria, not fungi (not yeast)  | Limited - Bacteria & Fungal.  |

## FAQ's

### How does MicrobeCare™ work?

The patented protection of MicrobeCare™ provides immediate and reactive protection against microbes. When microbes contact a product protected with built-in MicrobeCare™ technology, our product destroys the cell wall of the microbes, disrupting the growth process and making it unable to reproduce, effectively destroying the organism.

### Do MicrobeCare™ treated products need to be cleaned?

MicrobeCare™ is not a replacement for routine cleaning; it will, however, make cleanings far more efficient, and hundreds if not thousands of times more effective.

### How safe are MicrobeCare™ treated products?

Consumer safety is our top concern. All our products are guaranteed non-toxic, and have obtained United States EPA and FDA approval. Risk assessments by independent scientific bodies constantly reconfirm the safety of our antimicrobial additives.

### How long does MicrobeCare™ protection last?

MicrobeCare™ forms a covalent bond with the surface to which it is applied. This permanent bond will not wear or wash off. MicrobeCare™ protection is guaranteed to function throughout the average lifetime of your product, and often will extend said lifetime by eliminating bacteria known to corrode or degrade polymer surface material.

### Can disinfectants be used on MicrobeCare™ treated surfaces?

Yes, most disinfectants have been approved for use on surfaces treated with MicrobeCare™. Contact us for a complete list of tested disinfectants.

### Will regular cleaning of a MicrobeCare™ treated surface reduce its effectiveness?

MicrobeCare™ can preserve its >4 log reduction even after 1200 cleaning cycles with hospital-grade disinfectant. For further details or a copy of this study, please contact us.

## About Us

Parasol Medical is a premier developer of specialty medical devices designed to serve the needs of the growing and ever changing healthcare industry.

Our direct relationships with clinical end users allows us to develop and quickly implement suggestions and changes to product designs that make the lives of healthcare workers easier and improve patient outcomes.

At the forefront of new and emerging technologies Parasol Medical is rapidly expanding its footprint throughout the Healthcare market to include patient safety, advanced wound care products, compression therapy and infection control technologies. Parasol Medical complies to Good Manufacturing Practices cGMP and maintains an ISO 13485 quality system.



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FDA Registered Manufacturer  
FDA Listed Products  
ETL Listed UL Approved  
EMC Tested