

**MICROSURE ALL PURPOSE CLEANER AND  
DISINFECTANT & 8-HOUR DEFENSE HAND SANITIZER:  
ANTIMICROBIAL SOLUTIONS**

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**Abstract**

As society evolves and populations increase there are evident risks related to infection by bacteria, viruses and other life-threatening diseases. Recently, civilization has found itself at war against Coronavirus Disease 2019 (COVID-19). The Coronaviruses are critical human and animal pathogens that have created a new pandemic. Some of the signs and symptoms expressed by those infected include fatigue, fever, shortness of breath secondary to community-acquired upper respiratory tract infections and even death. Currently, there are no approved vaccines or treatment options available and as each day passes, more and more people are being infected throughout the world. *Microsure 8-Hour Defense Hand Sanitizer and All Purpose Cleaner and Disinfectant*. antimicrobial solutions were both specifically developed to help eliminate these risks and aid in eradicating infectious processes that are not only present today but will also provide support in preventing future susceptibility to other harmful microorganisms to come.

**Introduction**

This brief annotated bibliography with supplemental data will prove the effectiveness of *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* relative to preventing, controlling and eliminating bacteria, viruses and fungi. The data provided will highlight why Microsure products are vital for creating and maintaining a safe and healthy way of living. The statistics provided will demonstrate their superiority over other products currently being used in attempting to control the spread of disease and infection.

*Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* have proven to be effective not only against Corona-virus but hundreds of other destructive microorganisms as well. It is imperative that individuals and entities take action to control the spread of infection by protecting themselves, their loved ones, their homes and workplaces. *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* were developed to complete this mission of controlling and eliminating the spread of disease and infection.

The facts and summaries presented are those which have been proven and documented by scientists, researchers and physicians. All studies and publications used for this paper were performed at FDA/CDC approved laboratories and at distinguished scientific research-based universities or laboratories. Please note that due to confidentiality laws certain citations related to research experiments have been edited in order to provide the most information possible without breaking any confidentiality disclosure agreements.

## **Mechanism of Action**

Both *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* have been developed using a secret formula and work via the same mechanism of action; 'Mechanical Kill'. The process of a 'mechanical kill' differs from the outdated and popular 'Chemical Kill' mechanism. Instead of using toxic chemicals to fight off bacteria, viruses, fungi, etc. this new and innovative mechanism for combating biohazards implements the use of nano-technology and creation of 'crystalline structures' to aid in the attachment and cellular membrane penetration of unwanted microorganisms. Thus, killing the harmful cell and rendering it harmless. Also, once surfaces and objects are coated with the solutions, the nano-technology creates a long term and often permanent barrier that does not allow for further entry of unwanted microbes.

## **Certifications**

*Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* have been approved, registered or certified by the following:

- FDA
- EPA
- UK
- IRELAND

## **Research Based Evidence:**

### **CENTER FOR DISEASE CONTROL (CDC)**

Citation: CDC released guidance titled, "*Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Hemorrhagic Fever in U.S. Hospitals.*" August 1, 2014.

Annotation: a CDC affiliated laboratory concluded that after testing the provided solutions as antimicrobial agents, the anti-microbial compound labeled as 2915-1916141125 had an efficacy of >99.99% percent on application to live virus. Application of compound labeled 2915-1916141125 had a continued efficacy at preventing the virus species from surviving on treated surface. Additionally, compounds 2915-1916141125 and 2915-1916141-1612211960 showed efficacy against norovirus, rotavirus, adenovirus, and poliovirus which were listed in the latest EPA document as surrogate species for success against Ebolavirus during that time period.

Summary: At the time of this lab testing, the Ebola virus epidemic was of major concern. CDC lab testing concluded that the components found within the Microsure solution successfully eliminated the sample viruses on all surfaces where it was applied and was granted approval to be used as a U.S. Environmental Protection Agency (EPA)- registered hospital disinfectant with a label claim for a non-enveloped virus (e.g., norovirus, rotavirus, adenovirus, poliovirus) to disinfect environmental surfaces in rooms of patients with suspected or confirmed Ebola virus infection.

This testing proved two major points:

1. The solution was able to eradicate its target viruses including the Ebola Virus which was considered the most widespread outbreak of Ebola to date, creating an epidemic from 2013-2016.
2. The solution prevented future viral adherence. Thus, proving that the solution not only eliminated the harmful organism and controlled the risk of further infection, but it also demonstrated the prevention of developing susceptibility in uninfected/healthy test samples.

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Citation: Bio Safety Laboratory testing: *Using Microbioshield Protectant as a Surface Cleaner and antimicrobial agent*, testing completed at FDA/CDC approved Laboratory. Results published on October 27, 2014.

Annotation: A research experiment conducted in a FDA/CDC approved laboratory completed extensive testing of *Microsure All Purpose Cleaner and Disinfectant* against common infectious and easily contractable viruses, bacteria, molds, fungi and algae. one set of each sample organism was pre-treated with *Microsure All Purpose Cleaner and Disinfectant* while another set of the exact same organisms were pre-treated with an everyday commonly used disinfectants. Sub-cultures were cultured at 100% and 1:10 dilution. Incubation times were measured at 30 minutes and at 24 hours. Colonization growth was charted as evident or non-existent over these two time periods.

Summary: FDA/CDC lab results from this study once again proved that the solution prevented colonization and growth of all infectious microorganisms. The following key points highlight the related findings.

1. Every single sample of tested bacteria for this study that was pre-treated with *Microsure All Purpose Cleaner and Disinfectant* showed absolutely no growth of infectious colonies at the initial 30 minute incubation time or the 24 hour incubation time. In contrast, all samples that were pre-treated with the everyday commonly used disinfectant showed growth of infectious colonies both at 30 minutes and 24 hours.
2. The results seen with the use of *Microsure All Purpose Cleaner and Disinfectant* provides validity to the initial CDC testing results from August 1, 2014 where there was >99.9% efficacy noted.
3. The opposing disinfectant did its best to fight against the tested agents however it was not able to completely eradicate the growth or colonization of those microorganisms in the same manner that *Microsure All Purpose Cleaner and Disinfectant* did.
4. The fact that at 30 minutes of incubation time the samples which were pre-treated with *Microsure All Purpose Cleaner and Disinfectant* showed no growth or colonization tells us that the solution begins to take effect immediately and continues to provide protection thereafter, a characteristic that was not evident with the everyday common disinfectant.
5. These findings can be explained by Microsure's mechanism of action which utilizes the practice of 'mechanical killing' as opposed to the 'chemical kill' mechanism used by the everyday common disinfectant.

During this research experiment the following destructive microorganisms were all unsuccessful in attacking the controlled samples that were pretreated with *Microsure All Purpose Disinfectant*. Therefore, proving that the solution works on both gram positive and gram negative bacteria, both enveloped and non enveloped DNA and RNA viruses, fungi and even algae.

## **Controlled Bacteria**

- *Acinetobacter calcoaceticus*
- *Aeromonas hydrophilia*
- *Bacillus cereus*
- *Bacillus subtilis*
- *Bacillus typhimurium*
- *Brucella abortus*
- *Brucella canis*
- *Brucella suis*
- *Burkholderia cepacia*
- *Citrobacter diversus*
- *Citrobacter freundii*
- *Clostridium difficile* (non-spore form)
- *Clostridium perfringens*
- *Corynebacterium bovis*
- *Corynebacterium diphtheriae*
- *Enterobacter aerogenes*
- *Enterobacter agglomerans* (I, II)
- *Enterobacter cloacae*
- *Enterococcus*
- *Enterococcus faecalis*
- *Escherichia coli*
- *Haemophilus influenzae*
- *Haemophilus suis*
- *Klebs-Löffler bacillus*
- *Klebsiella oxytoca*
- *Klebsiella pneumoniae*
- *Klebsiella terrigena*
- *Lactobacillus acidophilus*

- *Lactobacillus casei*
- *Legionella pneumophila*
- *Leuconostoc lactis*
- *Listeria monocytogenes*
- *Micrococcus species*
- *Micrococcus lutea*
- *Morganella morganii*
- *MRSA, CA-MRSA*
- *Mycobacterium smegmatis*
- *Mycobacterium tuberculosis*
- *Propionibacterium acnes*
- *Proteus mirabilis*
- *Proteus vulgaris*
- *Pseudomonas aeruginosa*
- *Pseudomonas cepacia*
- *Pseudomonas fluorescens*
- *Salmonella choleraesuis*
- *Salmonella enterica*
- *Salmonella typhi*
- *Salmonella typhimurium*
- *Serratia liquefaciens*
- *Serratia marcescens*
- *Stachybotrys chartarum*
- *Staphylococcus aureus*
- *Staphylococcus epidermidis*
- *Streptococcus faecalis*
- *Streptococcus mutans*
- *Streptococcus pneumoniae*
- *Streptococcus pyrogenes*
- *Vancomycin-resistant enterococci*
- *Xanthomonas campestris*

## **Controlled Algae**

- *Anabaena cylindrica*
- *Chlorella vulgaris*
- *Chlorophyta* (green)
- *Chrysophyta* (brown)
- *Cyanophyta* (blue-green)
- *Gonium species*
- *Oscillatoria borneti*
- *Pleurococcus*
- *Protococcus*
- *Scenedesmus quadricauda*
- *Selenastrum gracile*
- *Volvox species*

## **Controlled Viruses**

- *Adenovirus Type II*
- *Adenovirus Type IV*
- *Bovine Adenovirus Type I*
- *Bovine Adenovirus Type IV*
- *Feline pneumonitis*
- *H1N1*
- *H3N2*
- *Herpes Simplex Type I*
- *Herpes Simplex Type II*
- *HIV B*
- *HIV-1 (AIDS)*
- *Influenza A (Japan)*
- *Influenza A2 (Aichi)*
- *Influenza A2 (Hong Kong)*
- *Influenza B*
- *Parinfluenza (Sendai)*
- *Poliovirus*
- *Reovirus Type I*
- **\*SARS\***
  - *Note that the above virus listed as SARS was also tested and found to be unsuccessful at infecting the controlled pre-treated Microbioshield samples. The reason this test result is so significant is because not only is this another virus that caused an epidemic in 2002 but is also a member of the Coronavirus family, as is the highly infectious (COVID-19) that we are struggling to combat today.*
- *Simian Virus 40*
- *Vaccinia*

## **Controlled Fungi**

- *Alternaria alternata*
- *Aspergillus flavus*
- *Aspergillus fumigatus*
- *Aspergillus niger*
- *Aspergillus terreus*
- *Aspergillus versicolor*
- *Aureobasidium pullulans*
- *Bipolaris australiensis*
- *Candida albicans*
- *Candida parapsilosis*
- *Cephalascus fragans*
- *Chaetomium globosum*
- *Cladosporium herbarum*
- *Clonostachys rosea*
- *Cryptococcus humicola*
- *Cryptococcus laurentii*
- *Dreschlera australiensis*
- *Epidermophyton floccosum*
- *Fusarium nigrum*
- *Fusarium solani*
- *Geotrichum candidum*
- *Gliocladium roseum*
- *Gliomastix cerealis*
- *lternaris species*
- *Mariannaea elegans*
- *Microsporum audouinii*
- *Monilia grisea*
- *Mucor sp.*
- *Oospora lactis*
- *Penicillium albicans*
- *Penicillium chrysogenum*
- *Penicillium citrinum*
- *Penicillium elegans*
- *Penicillium funiculosum*
- *Penicillium humicola*
- *Penicillium notatum*
- *Penicillium variabile*
- *Pullularia pullulans*
- *Rhizopus nigricans*
- *Ricoderm species*
- *Stachybotrys atra*
- *Saccharomyces cerevisiae*
- *Trichoderma flavus*
- *Trichosporon mucoides*
- *Trichophyton interdigitale*
- *Trichophyton Mentagrophytes*

### **VantagePoint Laboratory Partners**

*\*Please note that VantagePoint Laboratory Partners has since merged with WestPac Labs Inc.*

**Citation:** 1. G.A. Pankey, L.D. Sabath. *Clinical Relevance of Bacteriostatic versus Bactericidal Mechanisms of Action in the Treatment of Gram --- Positive Bacterial Infections*. Oxford Journals--- Medicine & Health Clinical Infectious Diseases Volume 38, Issue 6. Pp. 864---870.

**Annotation:** VantagePoint Laboratory Partners performed a quality control experiment using *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* to determine if using the solution as a surface cleaner or hand sanitizer would prevent bacterial growth when mechanical pressure was added and to test for resistance to antibiotics. These results are in comparison to the prior Test mentioned in the previous study involving surface resistance with similar methodology, excluding the added mechanical pressure. The cultures were grown on MacConkey plates, colony counts, and optical density (OD) was taken of each culture.

**Summary:** E. coli, K. Pneumonia and S. Aureus were the major pathogens tested in this particular study and as expected, there were no signs of bacterial growth or colonization at any of the observed incubation times. In reference to the results seen when mechanical pressure was added, once again there were no signs of bacterial growth or resistance seen. Further proving that both the *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* solutions effectively prevented any growth or invasion of the sampled bacteria. All of which are very common bacteria that affect individuals throughout the world on a daily basis and can be community acquired or hospital acquired infections leading to detrimental outcomes if not properly treated. The study made the following conclusions.

1. The Anti-Microbial Treatment creates a surface modification that causes cell membrane disruption and death to various bacteria upon contact to the target cell membrane.
2. If the target cell is suspended in another medium and does not contact the treated surface, the cell will remain unaffected.
3. Physical pressure applied through common activities (hand contact, contact with clothing, common handling of materials) will create sufficient pressures to allow the Anti-microbial treatment to be effective.
4. After 24 hours, both the *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* solutions were affective against Staphylococcus Aureus, Klebsiella Pneumonia, and Escherichia Coli.

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### **University of Liverpool Studies**

**Citation:** 1. Chemical disinfectants and antiseptics- Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas- Test method and requirements: BS EN 1276: 2009

Annotation: The reference provided above is related to a series of three separate research experiments that were conducted by researchers at The University of Liverpool during the months of August and September in 2016. Each experiment focused on the bactericidal effectiveness of the *8-Hour Defense Hand Sanitizer* in reference to *Staphylococcus Aureus*, *Enterococcus Hirae*, and *Campylobacter Jejuni* when faced with simulations of clean and dirty conditions. Each study used the same methods, including a 5- minute contact time of the Anti-microbial hand sanitizing solution. By using dilution-neutralization, the numbers of surviving bacteria in each sample was determined and the reduction was calculated accordingly.

Summary:

**Results seen with *Staphylococcus Aureus*-**

-The test product caused 4 Log10 reduction against *Staphylococcus aureus ATCC-6538P*, when used in concentration of 1% after 5 minutes of contact at  $20 \pm 1^{\circ}\text{C}$ , (under both dirty and clean conditions), in compliance with EN1276: 2009.

- The test product caused a 3 Log10 reduction against *Staphylococcus aureus ATCC-6538P*, when used in concentrations of 80% and 10% after 5 minutes of contact at  $20 \pm 1^{\circ}\text{C}$  (under both dirty and clean conditions), in compliance with EN1276: 2009.

**Results Seen with *Enterococcus Hirae*-**

- The test product caused 4 Log10 reduction against *Enterococcus hirae ATCC-1054*, when used in concentration of 1% after 5 minutes of contact at  $20 \pm 1^{\circ}\text{C}$ , (under both dirty and clean conditions), in compliance with EN1276: 2009.

- The test product caused a 3 Log10 reduction against *Enterococcus hirae ATCC-1054*, when used in concentrations of 80% and 10% after 5 minutes of contact at  $20 \pm 1^{\circ}\text{C}$  (under both dirty and clean conditions), in compliance with EN1276: 2009.

**Results seen with *Campylobacter Jejuni*-**

- The test product caused a reduction  $>5\text{Log}_{10}$  against *Campylobacter jejuni ATCC-49349*, when used in concentrations of 10% after 5 minutes of contact at  $20 \pm 1^{\circ}\text{C}$ , in the presence of 0.3% bovine albumin (under dirty conditions), in compliance with EN1276: 2009 and following manufacturer suggestions.

Based on the results found in each of the three separate studies performed by researchers at The University of Liverpool, all three outcomes proved that the *8-Hour Defense Hand Sanitizer* is indeed bactericidal when used to combat against the sample test organisms, meaning that the antimicrobial hand solution successfully killed the mentioned harmful bacteria on initial contact no matter the condition, rendering the bacteria as harmless. *A critical point to note is that upon delivery of all test results from The University of Liverpool, Both Microsure All Purpose Disinfectant and 8-Hour Defense Hand Sanitizer were found to be 'chemically inert and HARMLESS TO HUMANS.'*

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***Environmental Protection Agency (EPA) Testing Results***

Citations:

1. Acute Eye Irritation Study in Rabbits with Colloidal Silicon Dioxide 2% Lot #: MM070102016-200. Aug. 5 2016
2. Acute Dermal Irritation Study in Rabbits with Colloidal Silicon Dioxide 2% Lot #: MM070102016-200. Aug. 19, 2016.
3. Acute Oral Toxicity Study in Rats with Colloidal Silicon Dioxide 2% Lot#: MM070102016-200. Aug. 12, 2016.
4. Skin Sensitization Study in Guinea Pigs with Colloidal Silicon Dioxide 2% Lot#: MM070102016-200. Sept.6, 2016

Annotation: In accordance with U.S. Environmental Protection Agency (EPA) Health Effects Test Guidelines, OPPTS 870.2500 and OECD Guidelines for the Testing of Chemicals, we were able to determine what effects if any were witnessed when our solutions encountered skin, eyes, and the mouth.

*\*Please note that the EPA categorizes its toxicity levels from Category I to Category IV, with Category IV indicating the lowest possible level of harm present according to their criteria.*

Summary:

The following animal tests were performed, and a simplified general summary of each test and the outcomes observed are provided below.

**-ACUTE EYE IRRITATION STUDY**

- The solution was administered into one eye of each of the test subjects. The eyes were observed and scored at 1, 24, 48 and 72 hours.

**RESULTS:**

There was little to none eye irritation reactions present in all of the test subjects. Those with minimal irritation was showed complete resolution after the first hour of observation.

\*Classified as EPA Toxicity **Category IV.**

**-ACUTE DERMAL IRRITATION STUDY**

- The solution was applied to identical smooth dermal sites on the test subjects. Indications of any skin reactions were recorded at 4.5, 24, 48 and 72 hours after test substance application.

**RESULTS:**

There were no skin irritation reactions present in any of the test subjects.

\* Classified as EPA Toxicity **Category IV.**

**-ACUTE ORAL TOXICITY STUDY**

- Per EPA protocol, the solution was administered orally to the test subjects.

**RESULTS:**

The acute oral LD50 was determined to be greater than 5000 mg/kg body weight. Meaning that the solution met the requirements for an EPA Toxicity **Category IV.**

**-SKIN SENSITIZATION STUDY**

- A total of 20 test subjects and different control groups, applications of our solution were placed on the left shoulder and chambers were quickly applied over the application site in order to isolate the area. Additional applications were placed following the same procedure, at weekly intervals. The test subjects were scored for irritation at 24 and 48 hours after initiation of the primary challenge application.

**RESULTS:**

The incidence and severity of these responses were not significantly greater than those produced by the naive control group indicating that sensitization had not been induced.

In summary, it is evident that based on the strict and precise experiments and testing performed related to skin irritation, skin sensitivity and health safety both *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* proved to be completely safe when used accordingly. Neither product showed any serious concern for skin irritation and there was no evidence that showed any skin sensitization being produced.



## **CONCLUSION**

After years of research, scientific experiments, data analysis and product testing there is one fact that continues to hold evidence based truth about *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer*; They effectively kill, control and aid in the future prevention of infection by bacteria, viruses, fungi and other harmful organisms. It is also vital to mention that when tested for human contact and safety, each product was found to be harmless to the human body. Each of the studies mentioned throughout the body of this literature support the claims made related to ‘mechanical killing’ being superior to ‘chemical killing’. Study after study the solutions composed of the secret formula using nano-technology and the formation of ‘crystalline structures’ proves to completely eliminate the pathogens that they encounter.

The studies completed in FDA and CDC laboratories demonstrated a clear understanding of how much more effective *Microsure All Purpose Cleaner and Disinfectant* is when compared to the ordinary everyday disinfectants used by most individuals to combat harmful pathogens. The outcomes seen show a major disadvantage when using the everyday hand sanitizers and disinfectants in contrast to *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer*. Posing the question of why the vast majority of people continue to use products that are not providing the complete antimicrobial protection that they deserve.

The EPA guideline testing that was performed showed no evidence of any skin irritation or skin sensitivity. Each product was found to be in lowest possible category of harm according to those standards.

Based on the evidence provided and results exhibited throughout each study, the properties found within *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* were effective against 2 of the largest Pandemics seen in the past 20 years which included the Ebola virus outbreak of 2013 and SARS virus outbreak of 2002. As stated earlier, (COVID-19) virus has begun to make its mark around the world, infecting and killing thousands of individuals and has progressed from being an epidemic into a declared pandemic by The World Health Organization (WHO) as of March 11, 2020. These numbers continue to increase and the need for protection against contracting and or spreading (COVID-19) is crucial for our very existence. The ingredients found within *Microsure All Purpose Cleaner and Disinfectant & 8-Hour Defense Hand Sanitizer* have been proven to work effectively against the Coronavirus family and with a CDC approved efficacy of >99.9% there is no logical reason for not using these applications immediately.