

BIO PROTECTION

microSURE[™] CRYSTAL CLEAN LAUNDRY ADDITIVE

- BLEACH FREE
- ALCOHOL FREE
- FRAGRANCE FREE
- EFFECTIVE PROTECTION



PROTECT YOUR LAUNDRY

WITH
LASTING
BIO-PROTECTION



EFFECTIVE FOR UP TO
COMMERCIAL
75 WASHES



microSURE[™]

EMEA - USA - APAC



microSURE™ Crystal Clean Laundry Additive

FREQUENTLY ASKED QUESTIONS

○ **What Is microSURE™ Crystal Clean and how does it work?**

microSURE™ Crystal Clean is a laundry additive that utilizes the proprietary microSURE™ technology. This technology was developed by a Board Certified Neurosurgeon in the United States of America and was created to combat the spread of harmful microorganisms that commonly cause infection. Instead of relying solely on a 'chemical kill' mechanism of action, the microSURE™ technology utilizes a 'mechanical kill' process by forming direct bonds and creating a newly modified protective barrier upon application. Unlike typical laundry products, microSURE™ Crystal Clean Laundry Additive continues to work far beyond initial application and has the ability to withstand numerous wash cycles before retreatment is necessary.

○ **What scientific data exists about textile contamination?**

There are numerous studies demonstrating that textiles in the hospital environment become easily contaminated with bacteria, mold and mildew from the hospital environment.^{2,3} Recent studies have shown that commercial laundry processes using industrial detergents and high disinfecting temperatures do not completely eliminate the presence of bacteria such as *Clostridium difficile*. Another study showed that hospital privacy curtains are a breeding ground for MRSA and other superbugs, allowing them to transmit bacteria onto patients and/or other surfaces with up to 92% contamination after a period of only 7 days.⁴

² Shek, K, et al. Rate of contamination of hospital privacy curtains in a burns/plastics ward: A longitudinal study. *Am J. Infect. Control.* 2018. 1019-21.

³ Kok, Jen. Surfaces and fomites as a source of healthcare-associated infections. *Microbiology of Australia.* 2014.

⁴ Ohl, Michael, et al. Hospital privacy curtains are frequently and rapidly contaminated with potentially pathogenic bacteria. *Am J. Infect. Control.* 2012. Vol. 40. (10) 904-906.



- **What role do textiles play in the spread of infection?**

Healthcare textiles such as bed linens, gowns, and curtains can become contaminated with pathogens in five ways:

- 1) Microbial shedding from patients and personnel within the healthcare facility
- 2) Contact of textiles with humans and other contaminated surfaces during storage and handling
- 3) Contact of textiles with humans and other surfaces within the laundry facility and during transportation.
- 4) Improper reprocessing of textiles. The patient represents a primary epicenter of microbial spread with the textiles being the barrier between the patient and the rest of the hospital environment.
- 5) Healthcare workers can also carry and shed pathogenic microbes onto clothing and other surfaces. It has been reported that up to 60% of hospital staff uniforms are colonized and 55% of samples from clean bed linens were contaminated even before contact with patients.¹ Once textiles become contaminated, microorganisms like Staphylococci and Enterococci can survive for extended periods of time on materials like soft surfaces.

¹[https://www.journalofhospitalinfection.com/article/S0195-6701\(15\)00142-5/abstract](https://www.journalofhospitalinfection.com/article/S0195-6701(15)00142-5/abstract)). Hospital linens that have been contaminated with mold have been reported to be the cause of several outbreaks resulting in death (source: <http://www.cnn.com/2017/01/28/health/moldy-hospital-bed-linen-deaths/>).



- **What type of antimicrobial effect does the microSURE™ technology use?**

In addition to being bactericidal (meaning it kills bacteria), microSURE™ technology demonstrates a high efficacy in the inactivation of viruses, and it has been proven to also kill fungus, mold, and even algae. Not only does microSURE™ kill or inactivate these pathogens on contact but unlike your traditional antimicrobial technologies or solutions, microSURE™ continues to work against harmful pathogens long after initial contact.

- **What's the difference between microSURE™ and other laundry solutions that are antimicrobial?**

There are several factors which help to distinguish the microSURE™ technology from other antimicrobial laundry solutions but of the many notable characteristics, the four most important are that of safety, log reductions, residual efficacy, and product/material compatibility.

- When the microSURE™ technology was developed, it was developed with 2 key concepts in mind: **safety and effectiveness**. The technology relies on inert ingredients that are often referred to as ingredients which are 'GRAS; Generally regarded as safe'. Acute Toxicity studies have been performed to assess how hazardous the technology is and the microSURE™ technology falls in a 'Category 4', which is the safest and lowest level of toxic harm that can be achieved, according to the testing outcomes.
- **Log reductions** are vital when it comes to eradicating and/or reducing the rates of microbial contamination. The microSURE™ technology has been tested against almost all classes of pathogens and throughout all testing, the vast majority of these test results demonstrate log reductions between 5 and 7 (in both clean and dirty conditions and in both controlled and uncontrolled environments). Additionally. Unlike your traditional laundry solutions that contain chemicals, the microSURE™ technology, when dry, continues to hold these log reductions.



- **Residual efficacy** simply means that the technology has the ability to remain effective onto a treated item far beyond initial application. Most solutions or technologies will only be effective for a few minutes and in some instances, hours after application, microSURE™ on the other hand is technology that was developed to remain effective for weeks to months after treatment. Studies have showed that even with stressors like abrasion or continuous washes, the technology continues to hold its effectiveness.
- **Product/ Material Compatibility** is extremely important when it comes to laundry additives. It is crucial that the additive being used, is not one that is known for causing discoloration, negatively impacting the other solutions being used, or destroying the material being treated. The microSURE™ technology has safely been used as an adjunct with countless products and because of its physical make-up and molecular composition, this technology has never been known for having any negative impacts on other products or washable materials.

○ **What impact can microSURE™ Crystal Clean have when applied to textiles?**

It's widely accepted that textiles are fomites capable of harboring microorganisms for extended periods of time. This occurrence results in two potential outcomes that microSURE™ Crystal Clean has a direct impact on:

- i) Spread of microorganisms from this source to other surfaces. In the hospital setting, these microorganisms, when pathogenic or infectious in nature, can potentially cause Healthcare Associated Infections (HAIs). microSURE™ Crystal Clean can aid in controlling environmental sources of microbial contamination. There is a clear understanding that treated hospital linens carry a greatly reduced microbial load (including lower loads of Staphylococcus aureus and MRSA) before during and after patient use.
- ii) microSURE™ Crystal clean greatly reduces the amount of stain- and odor-causing bacteria, mold and mildew on the fabrics, protecting them and further extends the life of use.



- **Does microSURE™ Crystal Clean damage the washing equipment?**

No, it is very unlikely that any damage would be seen from using microSURE™ Crystal Clean in washing machines.

- **Does microSURE™ Crystal Clean treatment change the way fabrics looks, feels, smells, etc.?**

There will not be any direct physical change that would be seen by the naked eye in terms of how the fabric looks after treatment. Furthermore, it is very unlikely to experience any noticeable changes in the way the fabric feels or smells once it has been microSURE™ treated.

microSURE™ Crystal Clean will greatly improve the cleanliness of the fabric and reduce any odor attributed to microorganisms.

- **How can Microsure Crystal Clean treatment of textiles be verified?**

The microSURE™ technology has gone through over a decade of R&D and over this period, testing and trials for this technology have been completed throughout the United States as well as internationally. All testing is completed using accredited laboratories, facilitators and protocols. Rigorous testing for textile studies using ASTM standards and ATCC samples have been completed and documented.

- **How do treated fabrics benefit laundry employees?**

Companies cannot function without employees and are unable to function adequately enough with employees that are constantly falling ill due to exposure to various harmful pathogens. By treating fabrics, companies are able to decrease and in some instances completely eliminate the risk of such exposures. Employees need to know that they are being protected and that their health and wellbeing is not being overlooked by their employer.



- **Why are hospitals adopting microSURE™ Crystal Clean?**

There is more and more evidence that the hospital environment contributes to the development and spread of Healthcare Associated Infections (HAIs). As part of a diligent infection control program, experts recommend that a hospital seek to reduce or eliminate exposure to pathogens to the greatest extent practical. One practical, inexpensive way to aid in this effort is to use microSURE™ Crystal Clean laundry additive as a passive horizontal intervention that can augment all other Infection Control bundles.

- **Is there a risk of allergic reactions to Microsure Crystal Clean?**

Allergic reactions may occur in any setting however the likelihood of an individual experiencing an allergic reaction from the microSURE™ technology is extremely low. In fact, the technology used in microSURE™ Crystal Clean is the same technology that is used in another product which helps aid in the treatment and resolution of dermal effects caused by allergic reactions.

- **What outcomes studies support the use of microSURE™ Crystal Clean in an Infection Control program?**

There have been several facilities such as large nursing homes, hospitals, inpatient and outpatient surgical centers, gyms etc. who have analysed and compared the presence of microbial load, pre and post use of microSURE™, and in all instances there has been a continuous reduction in microbial presence with the continuous use of microSURE™. Some of these facilities reported significantly decreased infection rates and were eager to mention the ease of use and product compatibility of the solution.



- **How can I justify the cost of microSURE™ Crystal Clean to my organization?**

Infection control programs that include microSURE™ Crystal Clean along with standard practices such as adequate hand hygiene and hard surface cleaning have demonstrated to have reduced HAI rates in clinical settings producing a positive return on investment. microSURE™ Crystal Clean Laundry Additive is implemented in the laundering process on current linen inventory. No new textiles need to be purchased. The use of microSURE™ in the laundering process will greatly reduce the incidence of mildew and mould, thus increasing linen longevity, and in turn lead to lower linen replacement inventory costs. microSURE™ Crystal Clean does not require any new protocols or procedural changes unlike other technologies (e.g. copper hard surfaces, ultraviolet light machines, etc.). When compared to other infection prevention technologies microSURE™ Crystal Clean is a very cost-effective option.



microSURE™ Crystal Clean LAUNDRY ADDITIVE

Standard Operating Procedures

For commercial loads consisting of 50 kgs of weighted flat linen/ workwear goods, the following standard operating procedures should be followed:

Dosage: - For the initial wash of never before treated microSURE™ of flat linen/ workwear: add a total of 500 Milliliters to the fabric softener compartment of the washing machine or directly to your rinse cycle wash and continue with your normal laundry routine.

- Flat linen/ work wear should be retreated every 50 wash cycles.
- Reapplication in between the 50 washes can be performed using 250 Milliliters.
- Do not mix microSURE™ Laundry Additive with any laundry detergents in the main wash compartment.
- microSURE™ Laundry Additive is to be used in the rinse cycle exclusively.
- microSURE™ Laundry Additive can be used on most washable fabrics. This product is not intended for use on silk or any materials that cannot be washed in washing machines.