

PRODUCT SAFETY & CARE - Q&A

The use of disinfectants, cleaners & antimicrobials

What is the best way to kill viruses such as COVID-19 on Arc-Com products?

To achieve the highest level of protection against bacteria, fungi, microbes and viruses (including COVID-19), Arc-Com recommends the use of the appropriate disinfecting agents in conjunction with our compatible products.

For a list of EPA recommended disinfectants for use against COVID-19 and their compatibility with our products please [click here](#).

All of the disinfectant products on this list meet the EPA's criteria for use against SARS-CoV2, the virus that causes COVID-19. No testing has been done with these disinfectants on COVID 19 specifically but, based on the way these cleaners behave with SARS-CoV2, the EPA is recommending them.

The disinfectant cleaners are predominantly intended for use on hard surfaces only. Arc-Com makes no claims about the kill rate on soft surfaces.

What are the different chemical agents available for product care?

Cleaners, Sanitizers, Disinfectants, Virucides and Sterilants

What are the differences between them?

Cleaning a surface simply removes visible debris, dirt and dust.

Cleaning alone will always contribute favorably to the health of indoor occupants because allergens and microorganisms are being removed from the surfaces of the indoor environment. The biggest problem, however, is the risk of cross-contamination. The mopping solution and the cleaning tools could be spreading disease in the absence of a germicide.

Sanitizing a surface makes that surface sanitary or free of visible dirt contaminants that could affect health. Sanitizing is meant to reduce, not kill, the occurrence and growth of bacteria, viruses and fungi.

Since sanitizing does not make anti-viral claims, sanitizing offers no confidence of killing the flu or other viruses commonly found on surfaces. When you sanitize, you are killing/reducing the number of bacteria present by 99.9 percent but doing nothing about viruses and fungus. Sanitizing is better than cleaning alone, but the reduction of pathogen populations on environmental surfaces is exponentially better when you disinfect.

Disinfecting a surface will "kill" the microscopic organisms as claimed on the label of a particular product-typically effective against Fungi, Bacteria and Viruses.

The difference between disinfecting and sanitizing simply put into real numbers is, if we start with 1 million organisms on a surface, then a disinfectant must kill 100 percent of them; zero left. A sanitizer only reduces the number of organisms down to 1,000 and does nothing about virus and fungus.

Virucides destroy or irreversibly inactivate viruses in the inanimate environment (meaning before they enter a host).

Sterilants are used to destroy or eliminate all forms of microbial life including fungi, bacteria, viruses and all forms of bacterial spores.

Many sterilants (such as pure chlorine or chlorine dioxide) are powerful oxidizing agents- they are not the types of chemistries that would be compatible with any porous surfaces or fabrics. Sterilants are typically used for surgical instruments, IVs catheters etc. We would not recommend the use of sterilants on our products.

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If disinfectants are commonly used to destroy bacteria, fungi, microbes and viruses what is the best type?

There are many different types of disinfectant cleaners. They each have different chemical components and combinations of chemistry depending on the brand. The product use label will outline the pathogens the disinfectant is effective against.

Some common categories of disinfecting agents include:

- QUATERNARY AMMONIUM (QUATS)
- HYDROGEN PEROXIDE
- PEROXY AND PEROXO ACIDS
- PHENOLIC
- CHLORINE DIOXIDE
- ALCOHOL
- BLEACH

Every product Arc-Com offers must be tested individually against each cleaner. The materials and chemistry present in our products and the chemistry and concentration of the disinfecting agents can react very differently. This is why you may see a vinyl that passes with Virex, for example but then a polyurethane that may fail with that same cleaner.

The ability to search by specific cleaner is available on our website. If a cleaner is not present you can inquire about having it tested, by contacting pposillipo@arc-com.

What test methods are used to determine a products compatibility with cleaners and disinfectants?

The Association of Contract Textiles (ACT) has published a recommended test guideline for both coated products as well as textiles and knits.

These test methods apply to materials used on upholstered furniture and subject to cleaning, sanitizing and/or disinfection. The tests do not represent a "real world" scenario; there is no way to control the use (or misuse) of cleaners, sanitizers and disinfectants when applied in an actual field setting.

These tests are intended to be used as a starting point for assessing potential effects of liquid cleaners and/or disinfectants when properly diluted in accordance with the manufacturer's instructions. This evaluation of a materials relative resistance to or compatibility with cleaners, sanitizers and/or disinfectant chemistries is not an approval or recommendation of said cleaners and/or disinfectants.

This is not an ASTM accredited test; it is a test method that was created by ACT and adopted into BIFMA's furniture guidelines.

For a detailed description of the test methods or if you wish to have a specific product tested against a specific cleaner please contact pposillipo@arc-com.

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What should be considered when choosing a cleaner or disinfectant?

Label directions on cleaning products and disinfectants must always be followed.

There may be a separate procedure for using the product as a cleaner or as a disinfectant. Disinfection usually requires the product to remain on the surface for a certain period of time (e.g., letting it stand for 3 to 5 minutes). You have to really pay close attention to the directions for using disinfecting wipes. It may be necessary to use more than one wipe to keep the surface wet for the stated length of contact time.

Pay close attention to hazard warnings and directions on product labels. Cleaning products and disinfectants often call for the use of gloves or eye protection. For example, gloves should always be worn to protect your hands when working with bleach solutions.

You cannot mix cleaners and disinfectants unless the labels indicate it is safe to do so. Combining certain products (such as chlorine bleach and ammonia cleaners) can result in serious injury or death.

Are the antimicrobial additives that Arc-Com is using effective in killing the Coronaviruses or viruses in general?

NO - the antimicrobial additives that we currently have access to are NOT completely effective against viruses.

As it relates to our seating products -the antimicrobial additives are there to protect the product against the growth of mold and mildew and to prevent the growth and colonization of certain types of bacteria. Because of EPA regulations, textile companies cannot make any kind of health claims as it relates to their products as there have been no proven clinical studies that support a reduction of human infection rates due to anti-microbial additives in textile or coated products.

What is the difference between Bacteria vs. Virus?

Bacteria are single-celled microorganisms that exist in abundance in both living hosts and in all areas of the planet (e.g., soil, water). By their nature, they can be either "good" (beneficial) or "bad" (harmful) for the health of plants, humans, and other animals that come into contact with them.

A virus is acellular (has no cell structure) and requires a living host to survive; it causes illness in its host, which causes an immune response. Bacteria are alive, while scientists are not yet sure if viruses are living or nonliving; in general, they are considered to be nonliving.

Infections caused by harmful bacteria can almost always be cured with antibiotics. While some viruses can be vaccinated against, most, such as HIV and the viruses which cause the common cold, are incurable. Although often their symptoms can be treated, the living host must have a strong enough immune system to survive the infection.

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What do the Antimicrobials that we offer in our products do?

The antimicrobial agents we offer in our seating products are effective against most common bacteria, yeasts, molds and fungi that cause stains and odors and product degradation.

- These antimicrobial additives are not meant to protect users from disease causing microorganisms.
- Arc-Com does not make any claims about the antimicrobial in our products preventing people from getting sick or infected.

What is an antimicrobial?

An antimicrobial is any substance which kills or inhibits the growth of microorganisms by suppressing microorganism reproduction. Microorganisms are unicellular or cell-cluster organisms. Typically the antimicrobial agent will penetrate the cell wall of the microorganism and disrupt the cell, making the microorganism unable to grow and to reproduce.

What is the difference between an anti-bacterial, an anti-fungal and an antimicrobial?

- Antibacterial agent – any chemical which kills bacteria (bactericide) or interferes with the multiplication and growth of bacteria (bacteriostat).
- Antifungal agent – any chemical which kills (fungicide) or inhibits the growth of fungi.
- Antimicrobial agent – any chemical which kills or inhibits the growth of microorganisms including bacteria, mold, mildew and fungi.
- The additives that Arc-Com uses are antimicrobial which cover the broader spectrum.

When antimicrobials are used what is Arc-Com is using?

Arc-Com uses metal ion based (silver) and chemistry based (Microban, Aegis, Ultrafresh) based antimicrobial additives depending on the product.

- All Crypton and Incase products use silver ion based antimicrobial technology.
- Chemistries can be added to products during formulation or as an aftertreatment.
- Arc-Com can provide a Material Safety Data Sheet for all antimicrobials used.

Are the antimicrobial additives that Arc-Com is using safe?

Risk assessments by independent scientists, scientific bodies and governmental agencies (including EPA & FDA) have consistently reconfirmed the safety of the antimicrobial additives we use at the levels approved for use in consumer, commercial and healthcare products. The size and specific biological systems of microorganisms make them susceptible to antimicrobial agents at levels of exposure that are not harmful to humans. Antimicrobial additives are built into the products themselves, therefore, using products with the anti-microbial additives does not result in consumer exposures or transmission directly into the environment in the way that products like disinfectants or liquid antibacterial soaps can during use.

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Why is there an ongoing industry debate over the effectiveness of antimicrobial additives? Why have institutions like Kaiser Permanente and the Healthy Hospitals Initiative called for the elimination of antimicrobial additives?

THE HEALTHY HOSPITAL INITIATIVE RATIONALE IS AS FOLLOWS:

With rare exceptions, very few data support the use of antimicrobials in furniture as a means of helping reduce healthcare-associated infections (HAIs). Some anti-microbials pose risks to human health and the environment and may contribute to anti-microbial resistance. Moreover, the presence of antimicrobials in furniture may lead to a false sense of security and result in less stringent infection control practices. The goal is structured to allow for use of antimicrobials where research shows that they contribute to reduced incidence of HAIs. This is an emerging and active area of research, and this goal may change as additional data are available.

Arc-Com has started to remove Flame Retardant additives and antimicrobial additives in most of our products. Please refer to our website for an up to date list of the chemistries present in our products.

What is antimicrobial efficacy?

The efficacy of antimicrobial product is judged from the value of antimicrobial activity. The value of antimicrobial activity is obtained by utilizing standard test methods. During these tests a controlled inoculum of the challenge organism is placed in suspension with the sample to be tested and then the number of survivors is determined at different time points.

Some commonly used anti-microbial test methods:

ASTME 2149 (measures bacterial reduction within 1 hour & 4 hour)

AATCC 100 (measures bacterial reduction within 24 hours)

AATCC 147 (measures bacterial reduction within 24 hours)

The timeframes on these tests is important. The ASTME 2149 measures antimicrobial reduction after an hour whereas the AATCC100 & 147 measure after 24 hours. The Kill rate at 99% within an hour is very different than 24 hours because you have all that time and patient exposure in between. In the microbial world, the percentage points or log reduction is also really important. A product that claims a 99% reduction within 4 hours vs a 99.99% reduction with 4 hours is vastly different. The .99 percentage points are the difference between hundreds of thousands of microbes. Understanding the test method is important as the time involved and the log reduction make a tremendous difference in the level of protection provided.