



SANITIZATION • DISINFECTION • STERILIZATION:  
**THE INS, THE OUTS,  
THE DOS & THE DON'TS**

# SANITIZATION • DISINFECTION • STERILIZATION: KNOW THE DIFFERENCE

## 1 KNOW THE DIFFERENCE:

Cleaning and disinfecting are part of a broad approach to preventing infectious diseases in schools, businesses and any facilities. Cleaning **removes** germs, dirt, and impurities from surfaces or objects, while disinfecting **kills** germs on surfaces or objects.

Sanitizing **lowers** the number of germs on surfaces or objects to a safe level, as judged by public health standards or requirements. This process works by either cleaning or disinfecting surfaces or objects to lower the risk of spreading infection.

## 2 CLEAN AND DISINFECT SURFACES & OBJECTS THAT ARE OFTEN TOUCHED:

Most standard procedures for any public or private facility includes daily sanitizing surfaces and objects that are touched often, such as desks, countertops, doorknobs, computer keyboards, hands-on learning items, faucet handles, phones, and more.

Immediately clean surfaces and objects that are visibly soiled. If surfaces or objects are soiled with body fluids or blood, use gloves and other standard precautions to avoid coming into contact with the fluid. Remove the spill, and then clean and disinfect the surface.

## 3 SIMPLY PUT: ROUTINE CLEANING AND DISINFECTING

It is important to match your cleaning and disinfecting activities to the types of germs you want to remove or kill. Most studies have shown that certain viruses can live and potentially infect a person for up to 48 hours after being deposited on a surface.

## 4 CLEAN AND DISINFECT CORRECTLY:

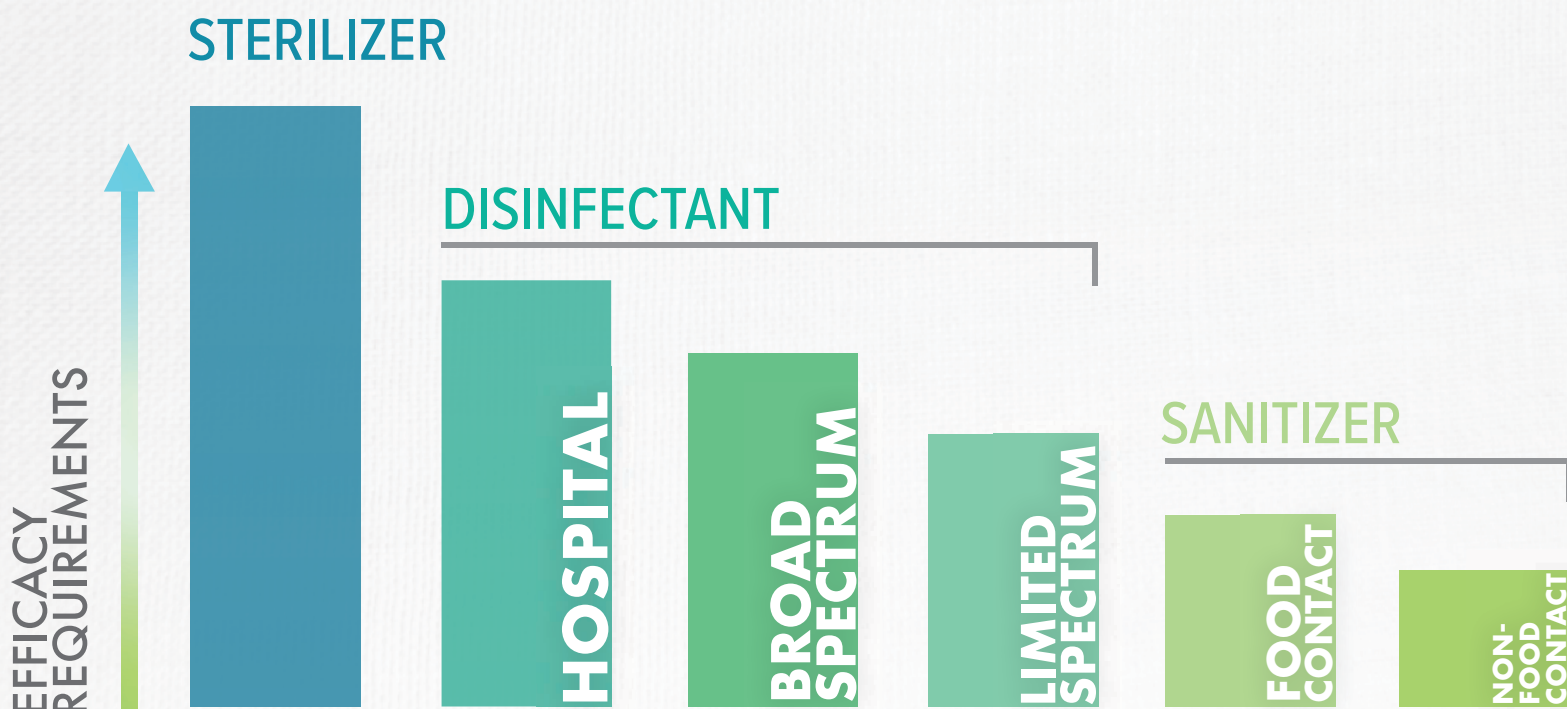
Always follow label directions on cleaning products and disinfectants. Wash surfaces with a general household cleaner to remove germs. Rinse with water, and follow with an **EPA-registered** disinfectant to kill germs. Read the label to make sure it states that EPA has approved the product for effectiveness against certain viruses.

## 5 USE PRODUCTS SAFELY:

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.

**Do not 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.

## EPA CLASSIFICATIONS



## Sterilizer

A sterilizer kill all bacteria and spores on environmental surfaces. Quaternaries are not sterilants since they are not effective against spores.

## Disinfectant

A disinfectant kills all bacteria on environmental surfaces.

## Sanitizer

A sanitizer reduces bacteria on environmental surfaces to a level that is considered safe by public health organizations.

### Broad Spectrum

The EPA's definition of a "broad spectrum" disinfectant is one that has public health claims for all three of the major classes of organisms.

- **Bacteria** – effective against gram-negative and gram-positive bacteria.
- **Fungi** – effective against at least one pathogenic fungi (usually *Trichophyton mentagrophytes*).
- **Viruses** – effective against pathogenic viruses (at least one enveloped).

### Limited Spectrum

Must be supported by efficacy testing against either *Salmonella cholerasuis* or *Staphylococcus aureus*.

### Hospital

Must be supported by AOAC Use Dilution or AOAC Germicidal Spray efficacy testing against *Staphylococcus aureus*, *Salmonella cholerasuis* and *Pseudomonas aeruginosa*.

## WHY SHOULD I CARE ABOUT CONTACT TIME?

The shorter the contact time, the shorter the time needed to perform the disinfectant process. The maximum contact time for a disinfectant is 10 minutes.

\*Refer to product label for specific dwell & contact times.

# SANITIZATION • DISINFECTION • STERILIZATION: THE GLOSSARY

**Algaecide** means any substance, or mixture of substances, intended to kill the number of algae in water.

**Algistat** means any substance, or mixture of substances, intended to inhibit the increase of algal populations.

**Antibacterial** means any substance, or mixture of substances, intended to destroy, eliminate, reduce, mitigate or control the growth or development of bacteria in the inanimate environment.

**Antibiotic** is a substance derived from mold or bacteria that inhibits the growth of other microorganisms (such as bacteria or fungi). Antibiotics are used to treat infectious diseases.

**Antifoulant** means any substance, or mixture of substances, intended to prevent the biological fouling of underwater structures.

## **Antimicrobial**

An agent that destroys or inhibits the growth or reproduction of bacteria, fungi, protozoa or viruses that are pathogenic.

**Antimicrobial Pesticide** means a pesticide [substance or mixture of substances] that is intended to disinfect, sanitize, reduce, or mitigate growth or development of microbiological organisms; or protect inanimate objects, industrial processes or systems, surfaces, water, or other chemical substances from contamination, fouling, or deterioration caused by bacteria, viruses, fungi, protozoa, algae, or slime.

**Antiseptic** means a drug product applied topically to the skin to help prevent infection or to help prevent cross contamination (FDA Tentative Final Monograph for Healthcare Drug Products, 1994). Antiseptic products are applied on or in the living body of man or other animals. Antiseptic products are not identified as pesticides and are regulated by the Food and Drug Administration.

**Aseptic** means free of microbial contamination consistent with FDA 21 CFR 178 for commercial sterilants for aseptic food packaging.

## **Bacteria**

One of several different types of microorganisms or germs that multiply by division of a single cell into two bacterial cells.

**Bacteriostat** means a substance, or mixture of substances, intended to inhibit the growth of bacteria in the presence of moisture.

**Biocide or Germicide**

A substance that has the ability to kill microorganisms. When a killing action is implied, the suffix –cide (e.g. biocide, bactericide, virucide, etc.) is used, while –static (e.g. bacteriostatic, virostatic, etc.) is added when an organism's growth is merely inhibited or it is prevented from multiplying.

**Biofilm** means a dynamic, self-organized accumulation of microorganisms and environmental by-products immobilized on a substrate and embedded in an organic polymer mix (ASTM E35.15 Draft). This organic polymer mix is also known by the term "glycocalyx".

**Deodorizer** means a substance, or mixture of substances, that are of two basic types: (1) Those that intended to prevent, reduce, or delay the formation of odors by acting upon microorganisms which produce them, and (2) those that intended to mask, chemically destroy, or neutralize odors. Products that claim deodorization by antimicrobial means are subject to registration as pesticides.

**Detergent** serves to disperse and remove soil and organic material from surfaces allowing a disinfectant to reach and destroy microbes within and beneath dirt. These products also reduce surface tension and increase the penetrability of water, thereby allowing more organic matter to be removed from surfaces. Quaternary ammonium compound disinfectants have detergent properties.

**Disinfectant** means a substance, or mixture of substances, intended to destroy or irreversibly inactivate bacteria, fungi, or viruses on surfaces or inanimate objects.

**Fungicide** means a substance, or mixture of substances, intended to destroy fungi (including yeasts) and/or fungal spores.

**Fungistat** means a substance, or mixture of substances, intended to inhibit the growth of fungi in the inanimate environment.

**Microbiocide** means any substance, or mixture of substances, intended to reduce the number of living microorganisms (e.g., virucide-virus, mycobactericide-mycobacteria, algaecide-algae; bactericide-bacteria; fungicide-fungi; slimicide-slime-forming microorganisms). (See also "biocide.")

**Microbiostat** means a substance, or mixture of substances, intended to control or temporarily prevent the growth of microorganisms (e.g., bacteriostat, fungistat, algistat).  
**One-Step Sanitizer/Disinfectant** means a substance or mixture of substances intended to be effective in the presence of light to moderate soil without a pre-clean step in the use directions.

**Preservative** means a substance, or mixture of substances, intended to inhibit the growth of microorganisms capable of causing biological deterioration of a substance(s)/material(s).

**Quaternary Ammonium Compounds**

Substances derived from the ammonium cation,  $\text{NH}_4^+$ , with one or more hydrogen atoms being replaced by organic groups, and for most purposes prepared as a salt.

**Sanitizer** means a substance, or mixture of substances, intended to reduce the number of microorganisms on inanimate surfaces, in water or air.

**Sporicide** means a substance, or mixture of substances, intended to irreversibly inactivate bacterial spores in the inanimate environment.

**Sterilant** means a substance, or mixture of substances, intended to destroy or eliminate all forms of microbial life in the inanimate environment, including all forms of vegetative bacteria, bacterial spores, fungi, fungal spores, and viruses.

### **Sterilization**

The process, either physical (i.e. extreme heat) or chemical (i.e. ethylene oxide), that destroys all microorganisms including spores.

**Tuberculocide** means a substance, or mixture of substances that destroys or irreversibly inactivates tubercle bacilli (e.g. *Mycobacterium*) in the inanimate environment.

**Two-Step Sanitizer/Disinfectant** means a substance or mixture of substances that has not been tested in the presence of soil. The sanitizer/disinfectant use directions must state the need to preclean surfaces prior to sanitizing/disinfecting.

**Virucide** means a substance, or mixture of substances that destroys or irreversibly inactivates viruses in the inanimate environment.

