

# Cleaning and Disinfection

## What is cleaning and disinfection?

Regardless of industry, sector or walk of life the processes of cleaning and disinfection are a vital method for minimising the risks from illness by ensuring that surfaces are free from contaminants such as bacteria or viruses.

### Key Terms

<b>Cleaning</b>	The process of removing dirt, soil and other objectionable matter from a surface.
<b>Detergent</b>	A chemical, often made from soap, which enables the removal of dirt, soil and other objectionable matter from a surface. They can include degreasers and abrasives.
<b>Disinfection</b>	The process of reducing micro-organisms on a surface to a level which is unlikely to cause infection.
<b>Sterilisation</b>	The process of eradicating all micro-organisms on a surface.
<b>Sanitiser</b>	A chemical which contains the properties of a detergent and a disinfectant and can be used as a one-step process.
<b>Bactericidal / Anti-bacterial</b>	A process or chemical capable of killing bacteria.
<b>Viricidal</b>	A process or chemical capable of inactivating viruses.

## What are the typical stages of cleaning and disinfection?

Whilst cleaning and disinfection may vary from scenario to scenario, the common elements are:

1. Remove gross debris.
2. Apply a detergent along with physical energy to disrupt the soil/substrate surface layer.
3. Rinse or wipe to remove displaced debris.
4. Apply a disinfectant to reduce the remaining bacteria / virus population to safe levels.

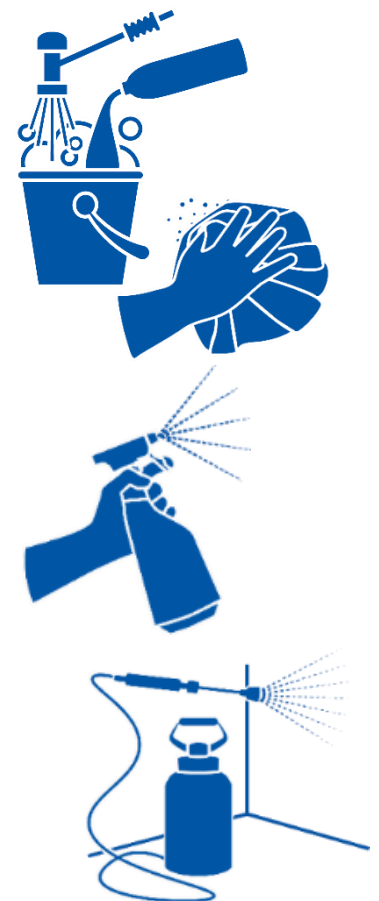
## How do I go about cleaning?

Cleaning may be a manual or automated process. It would typically involve the use of a detergent.

When manually cleaning the simplest form is with a cloth/brush and a bucket or with a disposable wipe which is then discarded after use. In both instances, the physical energy required to effectively clean is provided by the cleaner themselves.

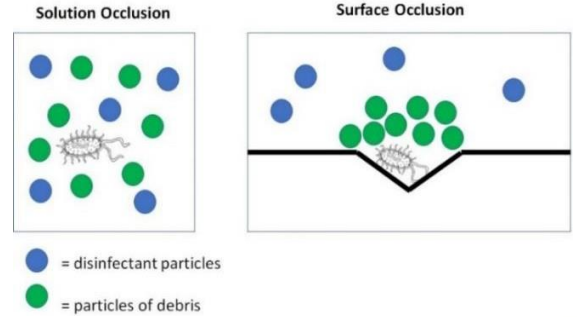
In automated processes, for example a dishwasher, the physical energy is provided by the impact energy from the directed water jets – you’ll often find the temperature may be higher too combined with a more aggressive detergent than would normally be employed if manual cleaning was taking place.

Users of any chemicals must always ensure that they become familiar with any recommended Personal Protective Equipment (PPE) to be used as some products may be damaging to skin or eyes.

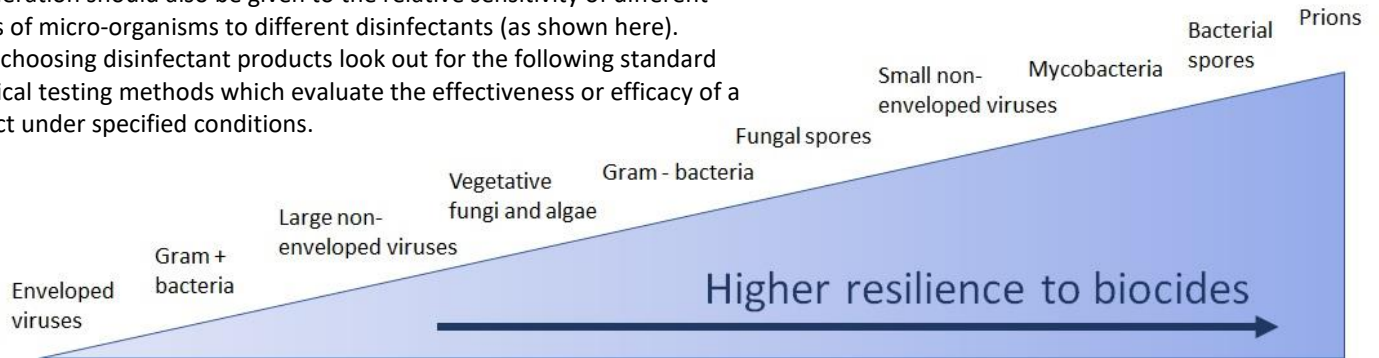


**How do I disinfect?**

To ensure a clean workplace, you must follow cleaning with disinfection. Disinfectants can be applied in a number of ways: soaking, spraying or fogging. In each case then surface under treatment **must** be effectively cleaned first to prevent bacterial populations from being shielded from the disinfectant solution (a process called occlusion). As a simple rule – if the disinfectant, of whatever type, cannot reach the bacteria it cannot kill it or achieve effective decontamination.



Consideration should also be given to the relative sensitivity of different classes of micro-organisms to different disinfectants (as shown here). When choosing disinfectant products look out for the following standard analytical testing methods which evaluate the effectiveness or efficacy of a product under specified conditions.



BS EN 1276	The basic level of bactericidal testing for chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas. The minimum that a product claiming to be a disinfectant should possess.
BS EN 13697	The next level up for bactericidal testing for chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas. This test involves bacteria being dried onto a surface before treatment.
BS EN 14476	The standard applicable for chemical disinfectants making virucidal claims, i.e. able to inactivate viruses.

As a point of note, users should bear in mind that disinfectant products are, by their very nature, toxic to living organisms and care must be exercised to prevent direct contact with food.

**What about simply fogging?**

Fogging of disinfectants has been undertaken for many years in food processing environments and has become popular of late with the ongoing SARS-CoV-2 pandemic. Whilst fogging is a great method for de-contaminating an air space it has little penetrative capability or ability to settle on downward facing or vertical surfaces. In simple terms, if a machine or door is closed then the fog, and hence its ability to disinfect, is severely hampered.

Fogging should only be used in conjunction with the basics of first cleaning & then disinfection before fogging. It is not a straight replacement for those processes. Think of it like a pyramid.



**Summary**

Cleaning and disinfection are the cornerstone of providing a safe, healthy working environment - whatever the industry sector. The food industry has been at the fore-front of this process for many years and is happy to share our expertise and experience.

**References**

“Guide to Cleaning & Disinfection Regimes with Regard to novel Coronavirus”, The Society Of Food Hygiene & Technology (SOFHT) [www.sofht.co.uk](http://www.sofht.co.uk)

Chapter 21 Cleaning and Sanitation in “Food and Drink - Good Manufacturing Practice: A Guide to its Responsible Management” (7th edition), 2018, Institute of Food Science & Technology (IFST) <https://www.ifst.org/our-resources/publications/food-and-drink-good-manufacturing-practice>

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