



CLEANING AND SANITIZING

Although these terms are often used interchangeably, cleaning and sanitizing are two different processes. When developing and implementing an effective sanitation program, it is important to cover the basics and understand the difference between the two and what factors affect each.

Cleaning: Cleaning refers to the physical removal of soil from a surface by the use of a detergent and water. Cleaning does not kill or inactivate microorganisms but rather reduces the number of microorganisms from a surface by physically removing them. It is important to clean before sanitizing as food residues reduce the effectiveness of sanitizers.

Sanitizing: Sanitizing involves the use of chemical agents to reduce the number of microorganisms on a surface to an acceptable level but does not destroy or eliminate all microorganisms. Depending on the concentration of the sanitizer used, rinsing may or may not be required. Three of the most common types of sanitizers include chlorine compounds, iodine compounds, and quaternary ammonium compounds (QUATS).

FACTORS THAT AFFECT CLEANING AND SANITIZING:

TYPE OF CLEANING AND SANITIZING CHEMICAL

- Different types of cleaning and sanitizing chemicals are effective against different materials.

- Alkaline cleaners are most effective against organic materials such as fats and oil, proteins and carbohydrates.
- Acidic cleaners are most effective against inorganic materials such as scale from hard water (e.g. calcium, magnesium, salts) and other mineral films.
- As alkaline cleaners are most commonly used, a good practice is to perform an acidic clean once per week to shock the bacteria and prevent them from becoming resistant to alkaline cleaners.
- Different sanitizers have different antimicrobial properties and are effective against different microbial forms (i.e. bacteria, viruses, moulds or spores).

TYPE AND AMOUNT OF MICROORGANISMS ON SURFACES

- Some microbial forms are more resistant to cleaning and sanitizing than others. For example, bacteria spores are more resistant than bacteria vegetative cells.
- The initial microbial load on a surface may affect sanitizer effectiveness.
 - Biofilms are difficult to remove and require robust cleaning methods. If biofilms are suspected, contact the sanitation provider and follow their recommendations.



FACT SHEET

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EQUIPMENT DESIGN AND MATERIAL

- Equipment that is smooth, impervious and free from cracks and crevices will be easier to clean than equipment that is rough, porous and has hard to reach areas.

CHEMICAL CONCENTRATION

- Different sanitizer concentrations are used for different surfaces (e.g. food contact vs. non-food contact surfaces).
- **Tip:** Keep a chemical inventory to ensure chemicals are being mixed properly.

CONTACT TIME

- Contact time refers to the amount of time a chemical is in contact with the surface. This varies with different chemicals and concentrations.

AGITATION (PHYSICAL FORCE)

- Sometimes physical force using tools will be required to clean heavily soiled surfaces. These types of tools include brushes and sponges. Ensure that these tools are labelled to differentiate between food contact vs non-food contact; used for cleaning only; stored properly; kept well maintained; and replaced as necessary.

WATER TEMPERATURE

- Some detergents and sanitizers require a specific water temperature to be most effective.

WATER QUALITY AND HARDNESS

- Water used for cleaning and sanitizing must be potable and free of minerals.
- Minerals will reduce the effectiveness of detergents and sanitizers as they will bind to them.
- Rinse water should be free of the cleaning chemicals.

EMPLOYEE TRAINING

- Employees need to be properly trained on the sanitation program in order for it to be effective.
- Training can include safe chemical handling (e.g. WHMIS, location of SDS binder); safe use, storage, and disposal of chemicals; SSOPs; the proper use, cleaning, and storage of cleaning tools; and records.

Note: Always follow the manufacturer's instruction regarding concentration and mixing instructions, contact time, water temperature and flow rate, storage, disposal and PPE requirements!

CLEANING AND SANITIZING CHEMICALS SHOULD:

- Be non-corrosive, non-toxic, non-irritating and have no or little odour
- Not affect the product
- Be easy to use and readily available
- Be food-grade and approved for use
 - **Health Canada** – Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products Database (Note: This database is no longer maintained or updated, and it is the responsibility of users to verify the accuracy of the information with manufacturers)
 - **Health Canada** – Drug Product Database

HOW TO MEASURE CLEANING AND SANITIZING EFFECTIVENESS:

- Pre- and post-operational inspections: A visual inspection performed after cleaning and before production to ensure equipment and areas are adequately cleaned and sanitized and will not be a risk of contamination to the product.
- Swabbing and Testing
 - ATP, Microbial, Allergen

For more information on how to conduct pre-operational inspections, check out Perennia's fact sheet on our [website](#).

FOR MORE INFORMATION

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