



higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA



SUBJECT: SANITATION AND SAFETY

LEVEL: N4

MODULE 4: CLEANING & DISINFECTING

Cleaning and disinfection

After completing this topic, you will be able to:

- describe the term detergent, disinfectant, disinfecting, sanitation and sterilizer
- describe the objectives of cleaning and name the principles of cleaning
- describe when a surface is clean
- describes the three microbial tests for clean surfaces
- describe the cleaning routine for removal of visible and invisible contaminants
- name the characteristics and uses of boiling water, warm water, steam and an autoclave in the cleaning process
- discuss disinfectants
- briefly describe the cleaning procedures according to hygiene standards

CONTENT

1. cleaning and disinfection
2. objectives of cleaning
3. when a surface is clean
4. microbiological tests for clean surfaces
5. cleaning routine
6. use of water for cleaning
7. disinfectants
8. general cleaning

Cleaning and disinfection

Cleaning is the removal of food soil using appropriate detergent or suitable chemicals under recommended conditions

1. detergent

Is a chemical agent used in the food service industry to remove grease, dirt and debris.

- Detergent clean soiled items items by involving chemical and physical actions
- These certain functions are emphasised more than others while cleaning a particular type of surface

2. disinfectant

Is a chemical agent which is used to destroy diseases causing bacteria, microorganisms or pathogens excluding spores and some viruses

- Must reduce the level of pathogenic bacteria by 99.9% during time frame of 5-10 minutes
- Has higher kill capacity for pathogenic bacteria compared to a sanitizer

Level of disinfection

- High level
- Medium level
- Low level

3. sanitation

To sanitize means to reduce the number of microorganisms to a safe level

General types of sanitization

- **Thermal** – involves the use of hot water or steam for a specified temperature to eliminate bacteria and pathogen
- **Chemical** – involve the use of an approved chemical sanitizer at a specified concentration and contact time

The correct order for cleaning/sanitizing of food product contact surface

- Rinse
- Clean
- Rinse
- Sanitize
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2. Objectives of cleaning

The following principles should be adhered to when cleaning in a food service facility

- make sure to use a suitable detergent to prevent any damage to the affected area
- thoroughly dry surfaces after cleaning
- hygienically clean surface immediately after use
- use separate chopping boards for meat, fish, poultry and vegetables
- be aware of all safety hazards e.g slipping on wet floors
- wash your hands after handling high risk foods

cleaning equipment

- reusable cloths and sponges should be disinfected after each use
- wash and disinfect scrubbing brushes regularly to prevent germs
- mop and bucket should be clean
- use two buckets for cleaning. One for detergent water and one for cleaning

waste disposal

- foot operated bins are better for hygiene
- always wash your hands after handling waste materials
- make sure refuse bags are knotted tightly before discarding
- discard refuse daily to avoid attracting insects

3. when a surface is clean

A surface can be seen clean when

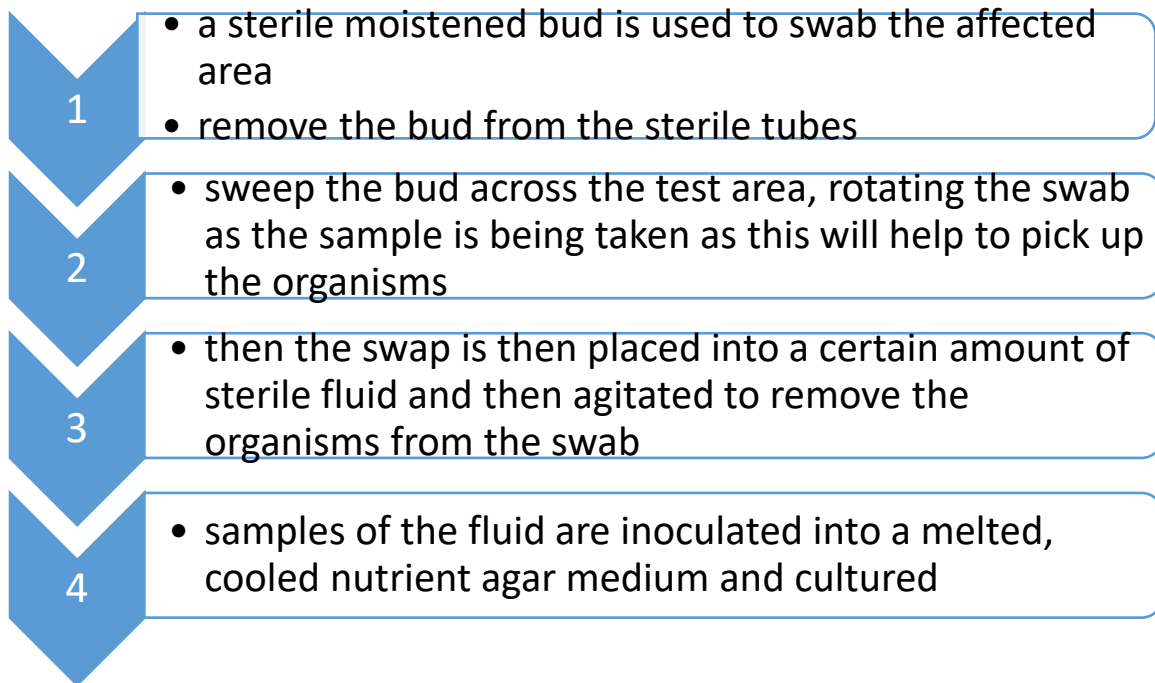
- it appears clean under sufficient lighting, it feels clean no greasy residues are present
- the results of the test carried out should show that the amount and type of bacteria present would not cause serious contamination of food

4. microbiological tests for clean surfaces

samples are collected according to a sampling plan

- swabbing over a specific area
- rinse sample
- direct recovery onto growth medium

1. how swabbing works



2. how rinse technique works

surfaces are rinsed with a sterile rinsing solution specific for the testing of microorganisms. Organisms which are present on the surface are then removed as the solution rinses over it

3. how contact plate method works

Raised agar contact plates are prepared and then impressed directly onto the test area. Organisms adhered to the agar are then cultured and developed into colonies

5. cleaning routine

Factors to keep in mind when setting up a cleaning routine

- time
- temperature
- mechanical action
- chemical action
- procedure

6. use of water for cleaning

In the food service industry, all cleaning procedures make use of water. The quality of the water used will eventually affect the cleanliness.

1. boiling water

By cleaning items with boiling water, it will kill off any bacteria present, leaving it sanitized. This requires items such as piping bags, nozzles, and small utensils to be exposed to boiling water to kill bacteria.

2. hot/warm water

- Water at 60 C-65 C is to be used in the general cleaning of most areas in the food service unit
- Detergent reacts well with water at this temperature, making it an effective way to clean a variety of soiled areas

3. steam cleaning

A steam cleaner use vapour steam to clean, sanitize and remove most stain and build up.

4. auto claving

It is used to sterilize objects by means of high-pressure steam.

5. rinsing surface

After cleaning any surface or item of equipment it is required to thoroughly rinse the area with clean potable water to eliminate all traces of detergent used during the cleaning process.

7. Disinfectants

1. effectiveness of disinfectants

The following are some of the criteria for effective chemical disinfection

- The pathogenic build up
- Nature of the material which is disinfected
- The concentration of the disinfectant used
- The contact time

2. guideline for use of disinfectants

- Select the right product
- Control dilutions
- Use correct method

3. ideal qualities of disinfectants

- To offer microbiological sterilization without being harmful to user
- It should be cost effective
- It should not damage the area or surface to which it is applied
- The method of application should be users friendly and require little skill

8. General cleaning

Certain cleaning procedure will be scheduled:

- Pre-shift cleaning
- Post shift cleaning
- Daily cleaning
- Weekly cleaning
- Periodically

The following following areas in the food service are to be cleaned according to organizational procedure

Work surface

Smooth surface such as stainless steel, glass and plastic should be cleaned by removing all visible food particles, washing in warm detergent water and rinsing with hot water

Storage area

Include dry ingredient store, cold room, and refrigerator should be cleaned daily by removing all ingredients or food items, storing temporarily in suitable place, wiping down all shelves, walls and surface

Walls

Should be cleaned with hot soapy water and rinsed before allowing to air dry

Windows

- Are to be cleaned on regular basis
- Clean windows using a suitable detergent or a mixture of water and vinegar
- Polish windows with crumpled newspaper
- Wash windows from top to down to prevent drips

Floor surface

- Floors should be cleaned daily or more often as required
- Floors should first be swept to remove all loose surface dirt
- Mop area with hot water and suitable detergent
- Use a hard-bristled scrubbing brush if stubborn marks persist
- Rinse with clean water and allow to dry

Weekly cleaning

- First remove and discard all refuse according to organizational procedure
- Wash inside and outside as well as the lid of the bin with hot water and a strong detergent
- Rinse the entire bin with clean water and dry with disposable paper towel
- Sanitize the bin once completely dry