

## Cleaning and Disinfection for Food Businesses

### Why is Cleaning and Disinfection Important for Food Businesses?

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Cleaning and disinfection is an important part of the Food Safety system for all food businesses, whether they are caterers, retail premises, manufacturing sites or logistics operations. Faulty or inadequate cleaning procedures have been identified as contributing to food poisoning outbreaks.

The important reasons for keeping kitchens and other food premises clean and disinfected are:-

- To remove disease causing organisms (pathogens), helping to prevent food poisoning.
- To help prevent infestation of pests such as mice, rats, flies, cockroaches and birds. Cleaning and disinfection will remove food debris on which pests can live, as well as removing pathogens which pests could have brought onto the premises.
- To reduce the risk of cross contamination by pathogens, for example from the indirect transfer of food poisoning bacteria from raw foods or meats to ready to eat foods.
- To reduce the risk of food contamination from allergens such as nuts and seeds.
- To reduce the risk of physical contaminants getting into the food to be eaten. Examples could be dirt, hairs or remnants from packaging materials.
- To reduce the risk of accidents, such as tripping on spillages and food waste/debris.
- To create a pleasant working environment.
- To comply with the food hygiene laws.

Not carrying out cleaning and disinfection correctly can result in illness or even death of people eating contaminated food, and prosecution of food business operators deemed responsible.

### What is the difference between Cleaning and Disinfection?

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**Cleaning** is defined as the removal of soil, food residue, dirt, grease or other objectionable matter. This requires physical energy, heat and / or chemicals (detergents). Cleaning removes dirt but is not intended to kill all pathogens.

**Disinfection** is the reduction, by means of chemical agents and/or physical methods, of the number of micro-organisms in the environment to a level that does not compromise food safety or suitability. In a food business this is usually done by the use of chemicals (such as

disinfectants and sanitisers intended for use in food areas) or by heat (hot water above 82°C or steam).

Those in charge of the food business therefore need to decide what needs to be cleaned and disinfected and how this should be done.

## What do we use to Clean and Disinfect?

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You will normally buy chemicals for some of your cleaning and disinfection tasks, but it's important to know which are the right ones to use and how to use them.

**Detergents** are chemicals that are used to remove grease, dirt and food debris, such as soaps and washing-up liquid. They help us to clean by helping to dissolve and remove the contamination and hold it in solution. However, these are not designed to kill pathogens.

**Disinfectants** are chemicals that reduce the number of pathogens (germs) to safe levels. Disinfectants are not designed to clean surfaces, so in order to work properly surfaces need to be cleaned and free from grease, dirt and food before the disinfectant is used. If the surface is not cleaned properly before this disinfection stage, then the pathogens can be trapped in and under the debris and survive the disinfection stage.

**Sanitisers** are two-in-one products that act as both a detergent and a disinfectant. They are available as liquids, sprays and in some "wipe" applications. Some are only suitable if surfaces require light cleaning and are not heavily contaminated with dirt and debris.

Those in charge of purchasing the cleaning and disinfection chemicals for the food business need to make sure that they purchase the right products for each job. The manufacturer's instructions on the product also need to be followed. These will advise on how the products should be used and dilution rates to get the right concentration to work effectively. Many disinfectants and sanitisers require a certain amount of "contact time" on a surface in order to work effectively and this will also be advised on the instructions. The providers of the products also give advice about how to use the product safely – the potential hazards from the product, what equipment the person using the product needs to wear and what to do if something goes wrong (eg first aid).

Those who carry out the cleaning need to have the right equipment to do the work – both to protect themselves and to do the job properly. Particular care needs to be taken with cleaning cloths, which can spread contamination around the food areas as bacteria can survive and grow on these cloths. These cloths need to be either disinfected after use or disposable cloths used for each task. Some food businesses and manufacturers use completely separate sets of cleaning equipment for different parts of their activities. The equipment may be colour coded to keep it segregated.

All cleaning and disinfection chemicals and equipment should be stored safely, well away from food preparation areas. This is to prevent accidents with the chemicals and prevent contamination of the food being prepared. It is particularly dangerous to decant chemicals into other containers as these could be mistaken for foodstuffs. It is also potentially dangerous to mix chemicals together as gases can be given off from the mixtures.

Heat can be used in disinfection, especially hot water (over 82°C) and steam. These temperatures are much hotter than the solutions used in cleaning with chemicals by hand. The right temperatures can be reached using electric dishwashers or special “sterilisation units”. Food manufacturers may also use steam cleaning jets, especially in the cleaning of equipment which is difficult to clean by other methods.

## What do we need to Clean and Disinfect?

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All equipment and surfaces in a food business need to be kept clean and some (such as those that are in direct contact with food) also require additional disinfection. The frequency of these activities needs to be determined and becomes a part of the food business’s cleaning schedule. When food is being prepared, it is best to continually keep the work area clean and tidy. This “clean as you go” culture should be a part of normal staff activities. Some surfaces, equipment and utensils may need to be cleaned several times a day or after specific activities, for example cleaning and disinfection of temperature probes after each use. Particular care needs to be taken to clean and disinfect equipment if raw food is prepared, followed by preparation of ready-to-eat foods.

Some parts of the food area need less frequent cleaning, such as cleaning of floors, walls and ventilators. Periodic cleaning of these prevents the build-up of dirt and grease becoming a problem.

Not all surfaces and equipment need to be disinfected. The focus should be on disinfecting surfaces and equipment which come into contact with either food or the hands. This is to prevent the cross contamination of pathogens onto food or from people’s hands. This will include the disinfection of work surfaces such as chopping boards, knives, the food contact areas of slicers and other electrical food processing equipment, door handles, fridge handles, light switches, taps and washbasins.

Food businesses can make things easier for themselves by choosing surfaces and equipment which is easy to clean - for example using stainless steel work surfaces and food-grade plastics. Cleaning is also easier if the work area is kept clear and tidy by having adequate storage areas and disposing of waste and packaging as soon as possible. Cleaning is also easier if surfaces and equipment are kept in good repair – it’s hard to keep a surface clean if there are cracks and crevices in it.

## How to clean and disinfect

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Before cleaning and disinfecting there will normally need to be some preparation – putting on protective clothing and equipment, assembling the cleaning materials, preparing the surfaces by clearing and getting rid of obvious contamination. Food equipment may need to be dismantled to allow access to all the parts which require attention. The surfaces and equipment is then cleaned and disinfected as advised on the cleaning schedule. A summary of the stages for cleaning are:-

- Remove gross contamination from surfaces by sweeping or wiping off loose debris.
- Use detergent or other cleaning chemical solution to loosen grease and soiling.
- Rinse to remove debris
- Dry items

Consideration should be given to how items will be dried – either by letting them dry in the air, draining or having a separate drying stage. It's important to remember to consider this stage as pathogens can survive in droplets of water and wet surfaces can cause accidents.

If a disinfection stage is required, then this can follow the rinsing stage. If a chemical disinfectant is used then it should be left in place for the recommended contact time.

## Cleaning and Disinfection within a Food Safety Plan

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Cleaning and disinfection is such a core part of the activities of a food business that these procedures are considered as pre-requisites to the organisation's HACCP plans. A food business should have a cleaning schedule which provides full details including:-

- what is to be cleaned
- the materials to be used
- the frequency
- the cleaning method to be used
- the standard expected
- safety precautions
- who is responsible for the cleaning
- the monitoring and recording of the cleaning operation, including its validation of efficacy

It is best practice for food business to keep a record of their cleaning activities. Larger food businesses and food manufacturers may also have a verification system for ensuring adequate cleaning has taken place such as a visual inspection procedure or swabs may be taken from surfaces to test they have been disinfected properly. Staff require training so that they not only understand how to do their cleaning work safely, but they also understand the importance of these activities in supporting food safety. It is the food business manager's responsibility to ensure that cleaning and disinfection chemicals and equipment is available and staff are aware of how to use these and how to store them safely after using them.

## What can go wrong with Cleaning and Disinfection?

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Things can go wrong during cleaning and disinfection which could mean that food becomes unsafe to eat or staff are harmed. These possibilities should be considered when developing cleaning schedules and procedures. Examples are:-

- Physical contamination of food from cleaning equipment (eg brushes, cloths)

- Microbiological contamination of food (for example from contaminated cleaning cloths spreading pathogens around the kitchen)
- Lack of thought about the order of cleaning or failing to use different cleaning equipment for different tasks. For example, using the same cleaning equipment to clean in a high risk area, such as where raw meat has been prepared, following by cleaning where ready to eat foods are prepared. This has the potential to transfer pathogens onto the ready to eat foods.
- Chemical contamination of food from cleaning and disinfection products, for example from inadequate rinsing, using chemicals at too high a concentration or storing chemicals in a potentially dangerous way such as transferring them into another bottle.
- Staff not wearing the correct personal protective equipment when cleaning and disinfecting.
- The disinfection stage being ineffective. Problems could result from incorrect dilution of chemicals, inadequate contact time, the surface not being cleaned before the disinfection stage or not using a suitable disinfectant for the job.
- Accidents from slipping on wet floors.
- Inadequate cleaning and disinfection of equipment due to staff not being trained in how to carry out the work. "Cleaning in place" systems, where cleaning solutions may be pumped through food processing equipment, requires careful design to ensure that there are no pockets which the chemicals do not reach.

### To Learn More.....

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Those who want to learn more about food safety, including the importance of cleaning and disinfection, can take training for one of RSPH's food safety and hygiene qualifications. For more information go to <https://www.rsph.org.uk/qualifications/learners/find-a-qualification.html>

Further Guidance on the use of Biocides in Cleaning and Disinfection, issued by the Food & Biocides Industry Group, is available from [www.chilledfood.org/FBIG](http://www.chilledfood.org/FBIG).