CLEANING IN FOOD PREMISES – DETAILED INFORMATION

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CONTAMINATION HAZARDS

Contamination hazards arising from inadequately cleaned food premises are as follows:

- **bacteria and viruses** – if the cleaning is insufficient or improperly carried out or, indeed, from the cleaning equipment itself (e.g. cross-contamination arising from dirty/contaminated cleaning cloths)
- **physical objects** – from poorly maintained cleaning equipment (brushes, cloths etc.) or from food debris or residues that have not been properly removed by cleaning
- **chemical substances** – from the incorrect or inappropriate use of cleaning chemicals

CLEANING IS GOOD BUSINESS

A food premises that is effectively and adequately cleaned makes sound business sense because it:

- attracts customers by providing a favourable image
- deters pests by removing waste or materials that could provide shelter and food
- helps the prompt discovery of any pest infestation
- reduces the risk of food spoilage and thereby reduces food waste
- reduces the risk of contamination of food by pathogenic (harmful) bacteria and therefore reduces the risk of food poisoning originating at your premises
- prevents the physical contamination of food by foreign matter such as food debris, pests etc.
- ensures that the working environment is pleasant and safe to work in, thereby improving staff morale and employee retention (particularly difficult at times in the food trade)
- improves safety and reduces the risk of fines or civil claims due to accidents at work
- reduces the risk of fire and related financial losses
- reduces the risk of fines for not complying with food hygiene law
- ensures cost-effective use of cleaning materials and personnel, if cleaning is efficiently planned and effectively carried out. The average cost of cleaning breaks down as follows:

ITEM	% of Total Cost
Labour	66%
Equipment	14%
Chemicals	8%
Water	8%
Heating	4%

To make the best of the cleaning resources under your control, you should:

- employ the most appropriate method for each cleaning task
- use purpose-designed chemicals and equipment
- ensure that cleaning staff are given suitable training and instruction and are properly supervised

N.B. Most - if not all - of the above benefits can directly affect the profitability of your business – so 'clean up' (…before your competitors do!).

DEFINITIONS

It is essential that those responsible for organising and carrying out cleaning understand the terms used - failure to do so can, and has, resulted in serious food poisoning outbreaks.

Cleaning – the removal of dirt, food residues, grease and other objectionable matter (known in cleaning terminology as 'soil').

Colour coding – a means to clearly identify which equipment should be used for specific tasks, thereby reducing the risk of cross-contamination.
For example, different coloured equipment could be used as follows:

red for 'high risk' areas such as raw meat preparation and storage areas
green for 'low risk' areas such as vegetable preparation/ storage areas
blue for sanitary areas (WC, changing rooms etc)

Detergent – a chemical or mixture of chemicals, which helps to remove grease, dirt and food particles from surfaces (in preparation for disinfection). They do not specifically remove or kill germs or food poisoning bacteria. You should never mix detergents with disinfectants as this can stop the disinfectant from working properly.

Disinfection – the reduction of microorganisms to a safe level i.e. reduction to a level that is harmful neither to health nor to the quality of perishable goods. Disinfection can be carried out by:

- heat (as steam or hot water)
- chemicals (commonly known as 'disinfectants')
- a combination of these two

Disinfection is therefore different from cleaning – it implies the specific destruction of germs that cleaning and the use of detergents alone will not achieve.

Disinfectant - a chemical agent capable of disinfection.

Sanitiser – in most parts of the world, a sanitiser means the same as a disinfectant. However, in the UK sanitisers are also cleaning products manufactured to combine the functions of a detergent and a disinfectant in a single product i.e. they clean and disinfect in one go.

Sterilisation – a process that destroys all harmful germs. This process is rarely achievable, or necessary, in normal food service operations and should not be confused with disinfection.

MANAGING AND SUPERVISING CLEANING

The hygiene standards of any food business are critical. Indeed, it is a legal requirement for proprietors of food businesses to keep their premises and all food equipment and utensils clean. To this end, cleaning:

- should be carried out systematically to a set programme, preferably documented in a cleaning schedule
- should be closely supervised by management, apart from the immediate clearance of spillages
- should not be carried out in the presence of uncovered food
- should also include steps that need to be taken to ensure that the cleaning utensils, materials and appliances themselves are kept clean, in proper containers, and stored securely away from food
- should include special provision for the cleaning of lavatories and toilet facilities i.e.
    - not to be done by persons engaged in the handling of food
    - to include the proper and regular cleaning of hand-contact surfaces i.e. WC flush handles, cubicle door handles (particularly the one on the inside that's touched immediately after 'going'!), taps etc.

Effective management and supervision of cleaning includes the following:

- identifying the cleaning chemicals and equipment required [see links below], setting appropriate standards, and establishing the correct cleaning procedures
- making sure that all employees know about, understand and comply with these standards and procedures
- training and instructing employees in the safe and efficient use of cleaning chemicals, equipment etc.
- ensuring adequate supplies of all cleaning materials are always available
- monitoring standards and record-keeping [see links below]
- motivating employees to maintain hygiene standards by a variety of means (e.g. refresher training/instruction, displaying publicity material, direct supervisory contact, taking any necessary disciplinary action)
- taking any corrective action (i.e. re-cleaning) that may be necessary

BUT WHAT EXACTLY IS CLEANING?

Cleaning can be seen as a 3-part process:

1. Preparation

- Select appropriate equipment and chemicals; ensure proper and safe working procedures (including availability and use of personal protective equipment – PPE) are understood.
- Prepare surrounding area (e.g. remove or cover food)

2. Cleaning

Pre-clean – remove loose and easily removed soil by sweeping, wiping or pre-rinsing (a disposable paper towel may be used). Any tools for this to be dedicated for cleaning and be marked/colour-coded accordingly. Debris collected to be put in bags or bins and removed from the area. N.B. This is a step that can often be neglected or incorrectly carried out.

Washing – although surfaces may already look fairly clean, it is necessary to remove the final 'unseen' layer of soiling which can allow germs to survive and grow and can reduce the effect of any disinfectant applied subsequently. This is done using hot water, a detergent and suitable hand tools e.g. brushes, clothes, or pads to aid the process.

First rinse – remove loose soil and residues of detergent using clean hot water. Care should be taken to minimise the amount of splash, which may re-contaminate previously cleaned surfaces.

Where it is necessary to reduce the levels of micro-organisms (germs) for reasons of food safety and quality, the following steps are required:

Disinfection – only carry out on a visually clean surface that is free of excess rinse water. It entails the destruction of germs to an acceptable/safe level using heat or a suitable chemical disinfectant and observing the recommended contact time (which allows the disinfectant to work properly).

Second (final) Rinse – remove all traces of disinfectant using clean hot water. Depending on the chemical formulation used, this step may not always be required – always follow the manufacturer's instructions.

Drying – remove the residual water left from any second rinse, the reason being that germs find it much more difficult to survive and grow on dry surfaces. It is best if the surface can be allowed to dry naturally by evaporation. If this is not possible, disposable cloths or paper towels should be used.

3. Finishing Off

- Remove and store cleaned items to prevent re-contamination
- Remove, clean/disinfect, dry and safely store cleaning equipment
- As necessary, repair and maintain - or replace - defective equipment, followed by safe storage.

AVOIDING CROSS-CONTAMINATION DUE TO IMPROPER CLEANING

When managing cleaning in a food premises it is essential to remember that cleaning implements themselves may actually provide a source of cross-contamination. This is because bacteria, which are able to grow on wet cleaning implements, can be transferred from cloths, brushes or buckets etc. onto surfaces that they are supposed to clean.
Ways of preventing such cross-contamination include:

- Clean **from** a clean area **towards** a dirty area
- Clean from the top down
- Use disposable materials for cleaning whenever possible
- Make up a fresh batch of cleaning agent or disinfectant for each job
- Change water frequently, as soon as it begins to look dirty
- Restrict cleaning implements to one section or work area of the premises if possible. Colour coded implements are a good idea.
- Dispose of cleaning agents and disinfectants as soon as you have finished with them
- Clean, disinfect **and dry** cleaning equipment after use
- Wash your hands after touching cleaning equipment
- Never use the same cleaning implements for food rooms and sanitary accommodation.

More detailed advice on developing an effective cleaning programme is available from the Council (see links below). It proposes a four stage approach, as follows:

1. Review cleaning needs
2. Review and select cleaning equipment
3. Select appropriate cleaning chemicals
4. Prepare a cleaning schedule

ASSESSING THE CLEANLINESS OF SURFACES

To minimise the risk of contamination of food products it is essential that food premises and food-related equipment are thoroughly and effectively cleaned. In order for food preparation areas to be deemed to be clean, the level of micro-organisms (germs) must be low and food residues removed. Food residues remaining on a surface after ineffective cleaning provides a source of nutrients for the growth of micro-organisms and can even protect such germs from the action of disinfectants. Such an outcome, if undetected, may affect food quality and safety. The following methods can be used in food premises to assess surface hygiene:

Visual Checks

The first way to assess surface hygiene is by visual inspection i.e. regular visual checks by food workers, supervisors etc. Although this method enables you to detect gross soiling (significant residues) such visual checks may not reveal smaller amounts of food residues and will certainly not reveal contamination by bacteria, which can only be seen with the aid of a microscope.

Non-Microbiological Checks

1. ATP Bioluminescence

The ATP bioluminescence technique makes use of the fact that all living cells contain a substance called adenosine triphosphate (ATP). ATP is a substance that is present in all animal and vegetable matter, including most food and food debris/residues, bacteria, fungi and other micro-organisms. Levels of ATP can therefore be used to indicate the amount of such matter on surfaces and give a measure of their cleanliness and the effectiveness of cleaning procedures. In essence, therefore, an ATP monitor assesses the hygiene status of the surfaces being tested.

The ATP bioluminescence technique involves taking a sample of the ATP present on the surface by swabbing. The swab is then exposed to an extractant that releases the ATP from all microbial cells present on the swab. The ATP is then detected by a chemical reaction that produces light, the amount of light given out being directly proportional to the amount of ATP present in the swab sample taken. The ATP monitor accurately measures the amount of light produced and gives a reading in Relative Light Units (RLUs). Scientific studies have shown a high correlation (in the region of 70%) between the pass or fail results obtained by bioluminescence techniques and those obtained by more traditional microbiological methods. However, although there are a number of advantages in using the ATP monitor to assess cleanliness, **it must be stated that the method is only used as an indicator rather than a guarantor of hygiene**, due to variations in surface finishes, food business type and characteristics of particular foods.

2. Protein Residue.

This method of assessing cleanliness involves swabbing a surface and assessing any resultant changes in colour in the sample tube as an indicator of the presence of (primarily protein) food product residues.

Microbiological Methods

Microbiological sampling entails using a variety of methods to sample the surface (using swabs, slides, contact plates etc.) and using specialised microbiological methods to culture (i.e. 'grow') and identify any germs that are present. It is generally carried out by specialists.

LOCAL HELP WITH ASSESSMENT OF SURFACE HYGIENE

Nuneaton and Bedworth Borough Council has available for use an ATP Bioluminescence Monitor. The monitor may be used during a routine visit to a food premises, with results, interpretation and advice being supplied in writing.

Visits can also be arranged by prior appointment outside of the routine inspection programme, for which a small charge to cover the cost of the visit is levied. If you wish to make an appointment for an 'ATP monitor' visit, please contact the Food Team directly.