

Cleaning and sanitising in retail food businesses

Why do I need to clean and sanitise?

Effective cleaning and sanitising in your food business helps protect you and your customers against the spread of bacteria and other organisms that cause foodborne illness. It also helps to reduce the activity of pests in a food premises by eliminating food sources.

The Food Standards Code requires:

- a food premises, including all its equipment, to be maintained to an acceptable standard of cleanliness, [Std. 3.2.2-19] and
- food contact equipment, such as kitchen benches, knives, chopping boards, pots, and meat slicers etc., as well as eating and drinking utensils, to be in a clean and sanitary condition.

Difference between cleaning and sanitising

In the food industry, cleaning and sanitising is a two-step process. A surface needs to be thoroughly cleaned before it is sanitised:

1. Cleaning requires the use of warm to hot water, detergent and physical action to remove food debris and dissolve grease and dirt to ensure the surfaces are clean to touch and free of visible matter and odours.
2. Sanitising is the process of applying heat (usually very hot water) or chemicals or a combination of both heat and chemicals, to an already clean surface to reduce the number of bacteria and other organisms to a safe level.

During the cleaning stage detergents ensure food particles are broken down and prevented from depositing back onto the items being washed.

Effective cleaning is 90% of the overall sanitation effort as cleaning removes most of the bacteria present. The job of the sanitiser is to kill the remaining bacteria during the sanitising stage.

Cleaning and sanitising can be done mechanically using dishwashers or manually using wash up sinks and spray bottles.



Figure 1. Benchtop cleaning.

Cleaning and sanitising using dishwashers

All commercial dishwashers operate differently. High temperature dishwashers sanitise using heat (hot water) while low temperature dishwashers are complemented with chemical sanitisers. This is a very technical process and food businesses should use the program that the manufacturer has specified for sanitising. The manufacturer's instructions should always be followed.

To sanitise with a dishwasher:

1. make sure you have a suitable dishwasher that can clean and sanitise quickly and effectively. Domestic dishwashers are generally not suitable and are impractical for busy retail or hospitality food businesses due to the very long cycles required to compensate for the lower appliance temperatures
2. use the correct type of detergent or sanitiser as outlined in the manufacturer's instructions
3. use the hottest rinse cycle possible as per the manufacturer's instructions
4. look over equipment and utensils when removing them from the dishwasher to check they are clean
5. clean the dishwasher so there is no build-up of food residues
6. regularly maintain and service the dishwasher according to the manufacturer's specifications.



Figure 2. Commercial dishwasher.

Cleaning and sanitising using sinks or spray bottles

Clear and detailed instructions on how to correctly make up and use chemical sanitisers must be either on the label of the sanitiser or provided by the supplier in a product information sheet.

Always make up and use chemical sanitisers by strictly following the manufacturer's instructions.

There are many different types of sanitiser and each will vary greatly in how they should be used. If clear instructions are not provided with the product, such as dilution rates and contact time, seek advice from the supplier or manufacturer and source an alternative product if necessary.

Note: contact time means the amount of time a sanitiser must be in contact with an item, for it to work.

The six recommended steps for effective cleaning and sanitising using sinks are:

1. **Scrape** or wipe away food scraps
2. **Rinse** with water
3. **Wash** using warm to hot water and detergent to remove grease and dirt. Soak if needed.
4. **Rinse** off any loose dirt or detergent residue (sanitisers will not work well in the presence of food or detergent residues).

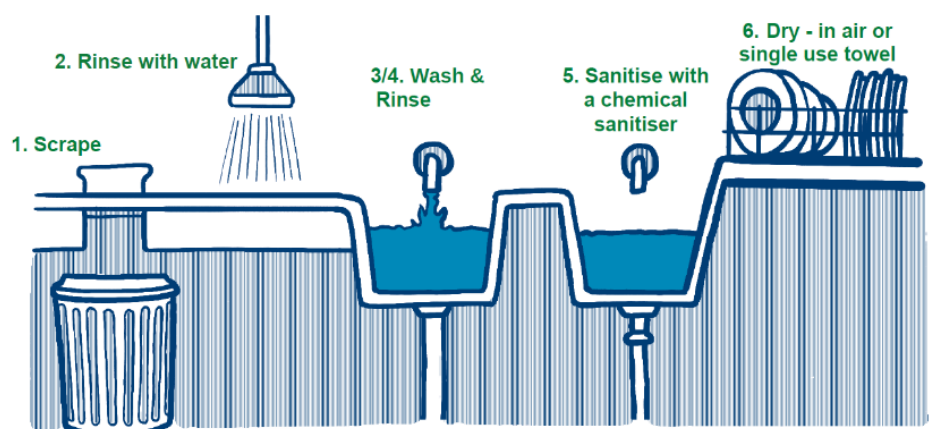


Figure 3. Cleaning and sanitising using a double bowl sink

5. **Sanitise** with a chemical sanitiser:

- Make up the sanitising solution as per manufacturer’s instructions
- Dip equipment into the sanitising solution following manufacturer’s instructions making sure you allow the appropriate contact time for the sanitiser to work
- For larger items that won’t fit in the sink use spray bottles to apply the sanitising solution to equipment
- Wash off the sanitiser if necessary, as per manufacturer’s instructions

6. **Air dry** or use single use towels.

Making up a sanitiser solution in a sink

To dilute your sanitiser of choice to the correct concentration in a sink, follow the steps below. This calculation only needs to be done once for each sanitiser.

1. Calculate the working volume of the sink by either:

- Filling a container of known quantity (for example, a 10 litre bucket) with water, pouring it into a sink the desired number of times and mark the sink at the right level.

Example: 6 times to make up 60 litres sink volume.

OR

- Calculating the capacity of a square or rectangular sink by measuring the length, width and depth of the sink (how high you fill the sink up to) in centimetres.

- Multiply these three measurements to get the volume in cubic centimetres.
- Divide your answer by 1000 to determine the number of litres the sink will hold.

Example: a rectangular sink 40 cm wide, 50 cm long and filled to a height of 30 cm.



Figure 4. Measuring the sink to calculate volume.

Example:

$$40 \times 50 \times 30 = 60,000\text{cm}^3$$

$$60,000 / 1000 = 60 \text{ litres}$$

SINK VOLUME = 60L

2. Calculate how much sanitiser to add to your sink
 - a. Check the dilution rate on the sanitiser label or in the product information sheet for the required purpose, for example, for use as a no rinse sanitiser.
 - b. The dilution rate is the amount of sanitiser to water.
Example: 1:250 means 1 part of sanitiser to 250 parts of water or 1 ml sanitiser to 250 ml water.
3. Divide the volume of the sink (as calculated in step 1) by the sanitiser dilution rate. Mix the sanitiser to the water in the sink.

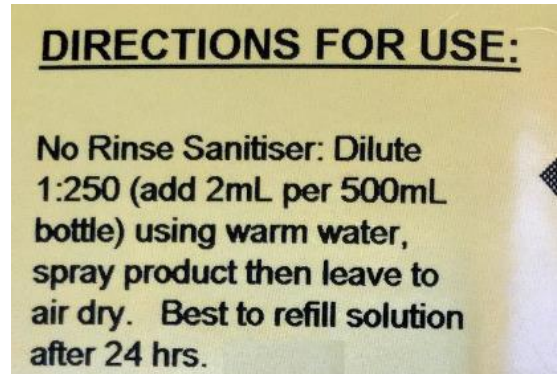


Figure 5. Example sanitiser directions for use.

Note: if you change sanitisers or vary the volume of water in the sink the calculation will not be correct and your sanitising step may be ineffective. In this case you will need to recalculate the correct dilution as above.

Diluting a sanitiser to the correct concentration is critical in preventing the spread of harmful bacteria that cause foodborne illness.

Businesses using store-bought bleach as a sanitiser should refer to the dilution instructions outlined in [Chemical sanitisers: advice for food businesses](#) (PDF, 231KB).

How much water?	How much bleach?					
	Household (4% chlorine)		Strong domestic (6% chlorine)		Commercial (10% chlorine)	
Concentration required (ppm)	50ppm	100ppm	50ppm	100ppm	50ppm	100ppm
Water temp	Warm	Cold	Warm	Cold	Warm	Cold
1 litre	1.25ml	2.5ml	0.85ml	1.7ml	0.5ml	1ml

Table 1. Bleach dilution instructions

To calculate the amount of bleach required for other sized containers, simply multiply the appropriate bleach amount above by the number of litres in any given container. For example:

How much 4% chlorine bleach do I need to add to a 500ml bottle of cold water?

- If 1 litre of cold water requires 2.5 ml of bleach (at 4% chlorine)
- 500ml = 0.5L
- Therefore 2.5ml x 0.5 = 1.25ml

OR

How much 4% chlorine bleach do I need to add to a 7-litre bucket of cold water?

- If 1 litre of cold water requires 2.5 ml of bleach (at 4% chlorine)
- Therefore 2.5ml x 7 = 17.5ml

More information

- Visit [foodauthority.nsw.gov.au](https://www.foodauthority.nsw.gov.au)
 - Factsheet: [Chemical sanitisers: advice for food businesses](#) (PDF, 231KB)
 - Factsheet: [Campylobacter – advice for food businesses](#) (PDF, 218 KB)
- Email food.contact@dpiird.nsw.gov.au
- Phone 1300 552 406

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