

Advice on cleaning and sanitising food premises following a flood emergency

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Contents

Floods	1
Food and packaging	2
Building and equipment integrity	2
Cleaning and sanitising premises, equipment, and utensils	2
Environmental cleaning and sanitising	2
Utensil cleaning and sanitising:	3
Dilution rates for bleach and commercial sanitisers	3
Bleach (sodium hypochlorite)	3
Commercial sanitisers/disinfectants	4
Chlorine dilutions calculator	4
Important safety notes for use of sanitising solutions	5

Floods

Floods can cause extensive structural damage that may compromise safety of the food handling environment. Floodwater can also be contaminated with sewage, agricultural and industrial waste, and other contaminants that can cause illness. There is a danger that any food, surfaces, and cooking utensils that have come into contact with floodwater may be contaminated.

Food businesses need to consider the impacts of flooding on their premises and products and ensure that any risks are managed before they recommence operation.

The appearance and smell of food and food packaging is not a good indicator of safety. If in doubt, throw it out!

When disposing of food, ensure discarded food is appropriately secured and cannot be collected by passers-by/consumers.

Food and packaging

The organisms present in floodwater may invade food, including packaged foods, therefore certain food and packaging will need to be discarded, this includes:

- any food or packaging exposed to flood waters within the premises including food stored in sealed cans or bottles, packaged goods, and unsealed containers
- all foods in refrigerators or freezers that have come into contact with flood waters as the seals are not watertight
- all packaging that has come into contact with the flood water or is punctured, torn, swollen, rusted or otherwise damaged
- all items that have been affected by vermin, insects, or any other pests.

Note:

- Salvaging canned food for resale is not recommended for food businesses because surface contamination on the can, or soaked into the label could be transferred to food or food surfaces during handling.
- Typically, electricity will go out during a flood. If the refrigerator or freezer has not been exposed to flood waters, food may still need to be discarded if the temperature has not been maintained.

Building and equipment integrity

Food storage areas need to be protected from outside elements such as rain, water, dust, pests, animals, and any other condition that may adversely affect the safety of the product.

It is advisable for food business proprietors to have flood damage assessed by an appropriately qualified person and obtain a report (electrical, structural), considering areas that include:

- Cavities behind walls, kick boards and other structural voids that have been inundated by the flood must be drained and cleaned.
- The integrity of laminated surfaces must be checked. Water permeation of the timber may cause buckling or separation.
- Wall cavities of cool/freezer rooms must also be checked for water inundation.
- The integrity of equipment such as fridges, ovens must be checked to determine whether it is suitable for the safe storage or production of food.
- Foundations, walls, doors, and windows may be damaged and need repair.
- Water damaged ventilation systems that cannot be thoroughly cleaned and sanitised should be removed and replaced.

Cleaning and sanitising premises, equipment, and utensils

Cleaning and sanitising should be done as separate processes.

A surface needs to be thoroughly cleaned with detergent, and visibly clean and free of extraneous matter before it is sanitised. Sanitisers generally do not work well in the presence of residues.

Environmental cleaning and sanitising

The cleaning of surfaces (in food handling areas and food contact surfaces) should be undertaken as follows:

- **wash:** use hot water and detergent to removal all debris, grease and residues

- **rinse:** rinse off detergent
- **sanitise:** follow the instructions for sanitising below
- **rinse:** wash off the sanitiser, if using bleach or a chemical sanitiser, refer to manufacturer's instructions as required
- **dry:** allow to air dry or use single use towels.

A professional cleaning service or restoration company may be the best option depending on the scale of the flood damage.

Note:

- Refrigerated display and storage cases and other refrigerator equipment used to store food should be cleared of all contaminated products prior to cleaning and sanitising.
- The clean-up needs to include all work surfaces, benches, shelving, doors, sinks, floors for example, or any other areas that are possibly contaminated.
- Special attention should be given to drainage, ventilation vents, corners, cracks and crevices, door handles and door gaskets.
- All sinks should be thoroughly cleaned and sanitised before resuming use.
- Clean cupboards and worktops with hot soapy water then rinse with a chlorine bleach solution.
- All kitchen and food handling areas need to be sanitised with a solution of 1000 parts per million (ppm) of available chlorine with a contact time of 10 minutes (see chlorine dilutions below).
- Ensure, where possible, that cleaning equipment such as cloths, mops and brushes are disposable and discarded immediately after use. If this cannot be done, cleaning equipment will need to be disinfected with 1000ppm of available chlorine.

Utensil cleaning and sanitising:

Carefully check dishes, pots, pans, cutlery and kitchen equipment that might have been in contact with floodwater.

Throw away damaged or cracked items, items made from porous material such as wood, plastic or rubber including wooden chopping boards as they cannot be adequately sanitised.

Wash utensils and surfaces in hot, soapy, drinking-quality water. Take apart and clean the non-electrical pieces of any kitchen equipment that can be safely taken apart and then rinse in clean, hot water.

Commercial dishwashers are capable of sanitising eating and cooking utensils as part of their normal cycle. Alternatively, sanitise silverware, metal utensils, pots, pans and kitchen equipment in pieces by boiling in water for 10 minutes.

Dilution rates for bleach and commercial sanitisers

Bleach (sodium hypochlorite)

Chlorine-based (sodium hypochlorite) sanitisers/disinfectants (for example, plain, unscented household bleach) should be used. The following table will assist in making up the required concentration needed for disinfection.

Dilutions using liquid bleach (with 4% available chlorine as written on the label)

Bleach 4% available chlorine	Add the following amounts of bleach to the water to give the required concentration:		
Volume of water to which chlorine is added	100ppm	200ppm	1000ppm
1 litre	2.6ml	5.3ml	26.3ml
5 litres	12.5ml	25ml	125ml
10 litres	25ml	50ml	250ml

Commercial sanitisers/disinfectants

Commercial sanitisers/disinfectants are available from a range of commercial chemical suppliers and retailers. It is important that the active ingredient in the sanitiser you use is chlorine (or sodium hypochlorite). This sanitiser should be an approved food grade sanitiser and must be used in accordance with the manufacturer's instructions. The following table should assist with making up the required concentration needed for disinfection:

Dilutions using a commercial grade sanitiser (with 12.5% available chlorine as written on the label)

Commercial grade sanitiser 12.5% available chlorine	Add the following amounts of sanitiser to the water to give the required concentration:		
Volume of water to which chlorine is added	100ppm	200ppm	1000ppm
<i>1 litre</i>	0.8ml	1.7ml	8.4ml
<i>5 litres</i>	4.2ml	8.4ml	42ml
<i>10 litres</i>	8.4ml	16.8ml	84ml

Note: This table is to be used as a guide only. For questions about how to dilute specific products please refer to the relevant Material Safety Data Sheet (MSDS) for the specific product being used or contact the supplier or manufacturer of the chemical.

Chlorine dilutions calculator

For other concentrations of chlorine-based sanitisers not listed in the tables above, please use the [following link](https://www.health.vic.gov.au/infectious-diseases/chlorine-dilutions-calculator) to calculate the dilution of your disinfectant: <<https://www.health.vic.gov.au/infectious-diseases/chlorine-dilutions-calculator>>.

Note:

- Ensure that all environmental surfaces have been cleaned with hot water and detergent (so they are free of all residues) before the sanitiser is applied.
- Sufficient time is required to kill bacteria/viruses – at least 10 minutes contact time.
- Chlorine solutions must be made up prior to use as the chlorine deteriorates over time.
- Chlorine solutions should be used mainly on hard, non-porous surfaces.
- Check the expiration dates of your bleach or chemical sanitiser to ensure the active ingredients are still effective.
- Ensure cleaning staff know how to correctly use your bleach solution or chemical sanitiser.

Important safety notes for use of sanitising solutions

- Use gloves and wear protective eye wear when preparing chlorine solutions.
- When using bleach, it is safer to add chlorine to water – do not add water to chlorine.
- Do not heat water up to make chlorine solutions – cold water is safer.
- Do not mix sanitiser with any other chemical.
- Mix solution in a well-ventilated room.
- Follow safety, storage and handling instructions on all bleach and chemical containers.
- Use chlorine carefully as it is corrosive to metals, damages fabrics/textiles and may irritate the skin, nose and lungs.
- Ensure that all chemicals are labelled and stored separately to prevent the likelihood of food being contaminated.

To receive this document in another format, phone 1300364 352, using the National Relay Service 13 36 77 if required, or email the [Food Safety Unit](mailto:foodsafety@health.vic.gov.au) <foodsafety@health.vic.gov.au>.

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