

SALADS

Food Safety Guidelines for Food Businesses



Introduction and scope

Salads are mixtures of minimally processed ready-to-eat vegetables with or without dressings. Common ingredients include fruits, poultry, meat, seafood, eggs, pasta, herbs, nuts or cooked vegetables. Salads are usually served cold, and are considered high-risk foods as some of the ingredients are raw or undercooked. Pathogenic bacteria like *Listeria monocytogenes* and *Salmonella spp.* may also be present in some common ingredients such as eggs, salad dressings and fresh vegetables. Moreover, their preparation requires a lot of handling, which increases the risk of contamination with bacteria such as *Staphylococcus aureus* from human skin and other microorganisms with antimicrobial resistance (i.e. “superbugs”) if personal and environmental hygiene is not maintained. To ensure the safety of salads, food handlers should be alert to possible food safety problems and take appropriate measures in the production process.

This set of guidelines is intended for food business operators (FBOs) who prepare and sell salads at premises. It aims to help the food trade to implement food safety measures in their operations in order to produce and supply safe and wholesome salads.

While this is not a legal document and its use is voluntary, it reviews some essential parameters related to Good Hygiene Practices (GHPs) and recommends best practices that any FBO should consider in providing safe foods to consumers.





Common food safety problems the related to salads



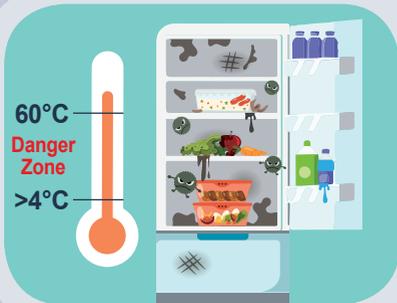
Presence of harmful bacteria, chemicals and/or foreign materials in the raw ingredients

- Poor hygiene status of incoming raw material
- Lack of good hygiene practices, e.g. fresh produce not properly washed before use



Contamination of ingredients during preparation

- Salad ingredients contaminated by dirty equipment or utensils, such as chopping boards, knives, tongs, etc.
- Salad products contaminated by food handlers with poor personal hygiene



Improper storage condition and temperature

- Ingredients and prepared salads not properly stored at a temperature at or below 4°C to prevent bacterial growth
- Ingredients and prepared salads not properly covered to prevent cross contamination during storage

Food safety measures for the preparation of salads

Purchase and receiving

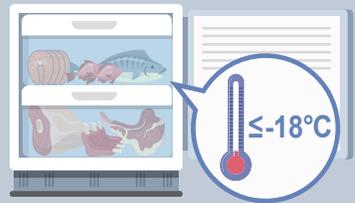
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- When making purchases, choose:
 - food ingredients from approved and reliable sources;
 - pre-cut leafy greens with labels marked 'ready to eat', 'triple washed' or 'no washing necessary' if direct use is intended;
 - vegetables and fruits that are not bruised or damaged;
 - pasteurised eggs, cheese and milk products as ingredients and for making salad dressings; and
 - canned products (such as canned tuna, corns, kidney beans) of the suitable size to avoid the need to store the decanted contents for a longer period than required.
- Upon receipt, check food ingredients to make sure that:
 - they are within the "use by" or "best before" dates;
 - there are no signs of contamination or damage to the packaging; and
 - chilled/frozen ingredients arrive at appropriate temperatures (e.g. frozen items at -18°C or below and chilled items at 4°C or below) and are free from signs of temperature abuse, such as the presence of ice crystals or water or fluid stains on the packaging.



2 Storage

- Immediately store perishable food ingredients, such as eggs, chicken breast, beef, smoked salmon at proper temperatures (chilled items at 4°C or below; frozen items at -18°C or below).
- Foods that can be stored at room temperature should be placed in a cool and dry place.
- Keep ready-to-eat raw material covered/wrapped until use.
- Store cooked or ready-to-eat food ingredients separately from raw food ingredients in the refrigerator (i.e. cooked or ready-to-eat food on upper shelves above raw food to prevent cross-contamination).
- Do not overload the refrigerator and practise first-in-first-out stock rotation.



3 Preparation

- Use separate equipment and utensils to handle cooked or ready-to-eat food and raw food to avoid cross-contamination.
- Clean and sanitise all food preparation utensils and surfaces before starting work.
- Maintain good personal hygiene (e.g. keep hands washed and sanitised, wear clean protective clothing, etc.) at all times.



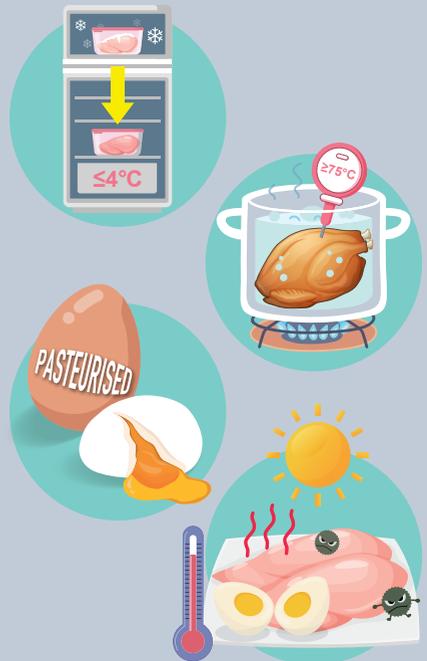
Handling of fresh produce

- ✓ Wash all raw fresh produce thoroughly under running water, in a sink exclusive for this use.
- ✓ Use a clean vegetable brush to scrub cucumbers and other firm produce. Peel or trim as appropriate.
- ✓ If disinfectants are used for fresh produce, food grade products should be chosen and used in accordance with the manufacturer's instructions regarding concentrations and contact time to ensure food safety and effectiveness.
- ✓ Cut fresh produce such as tomatoes, cucumbers should be refrigerated because it is susceptible to bacterial growth.



Cooking or reheating ingredients

- ✓ Frozen ingredients should be completely defrosted before cooking, unless the manufacturer claims it can be cooked from a frozen state, such as croutons.
- ✓ Thoroughly cook or reheat ingredients that are not intended for raw consumption, such as eggs, bacon, and chicken. The core food temperature should reach 75°C or above for at least 30 seconds.
- ✓ For making poached eggs, pasteurised egg should be used.
- ✓ Cooked ingredients should not be left at room temperature for too long, so plan the production schedule and avoid preparing cooked ingredients too far in advance.



Handling pre-packaged or canned ready-to-eat ingredients

- ✓ For pre-packaged ready-to-eat food ingredients, e.g. shredded cheese, smoked salmon, open the pack with sanitised utensils carefully to avoid contamination.
- ✓ After opening, pre-packaged or canned food should be stored in accordance with the manufacturer's instructions and used up as soon as possible.
- ✓ Transfer food from an opened can/package to a clean, lidded container before refrigeration.



Preparing salad dressings

- ✓ Use pasteurised egg products to prepare mayonnaise-based dressings to reduce the risk of *Salmonella* contamination by raw eggs.
- ✓ For acid salad dressings such as mayonnaise, a total formula pH of less than or equal to 4.1 is essential to inactivate *Listeria monocytogenes* and *Salmonella spp.* in the dressing.
- ✓ Store creamy salad dressings right after production at 4°C or below to prevent bacterial growth.



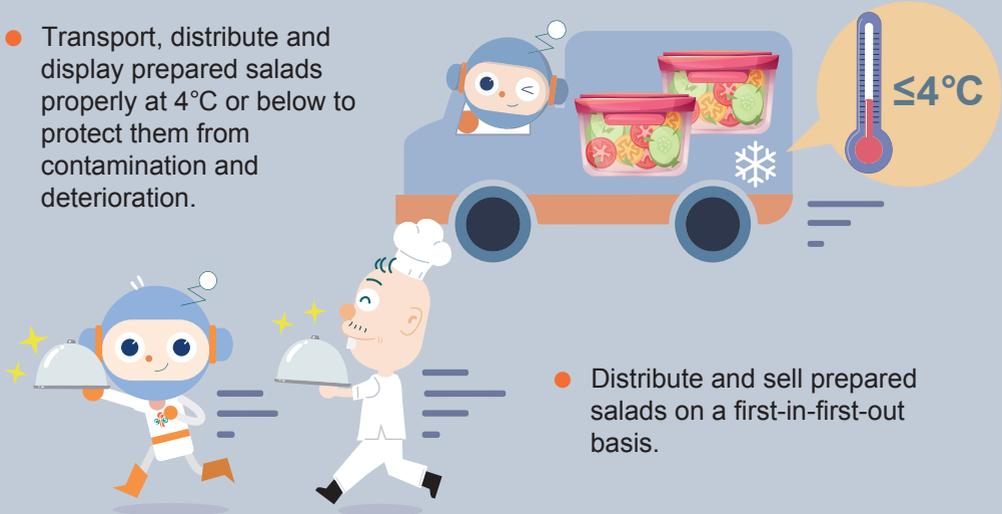
Dish Serving / Packing: 4

- Serve mixed ingredients immediately.
- Keep prepared ingredients or prepared salads, which are not for immediate use, in clean containers at 4°C or below.
- Avoid holding chilled ingredients and prepared salads at temperatures above 4°C for more than two hours.
- Packed salads, should be labelled with a “use-by” date and a statement of storage condition.



Transportation, distribution and display 5

- Transport, distribute and display prepared salads properly at 4°C or below to protect them from contamination and deterioration.



- Distribute and sell prepared salads on a first-in-first-out basis.



Self-serve salad bars

- Display salad ingredients in clean containers in a refrigerated display at 4°C or below to protect them from contamination and deterioration.
- Provide a sufficient number of clean and sanitised serving tools, such as tongs or ladles with long handles. Each item should be provided with an individual serving tool. Immediately replace utensils that are contaminated, dropped on the floor or used for a wrong item container.
- Display ingredients in small portions and replace the container with a tray of fresh ingredients. Avoid topping up with fresh ones.
- Appoint trained staff to monitor the sanitary conditions of the salad bar area and immediately remove any contaminated food and replace dropped utensils.
- Discard leftovers at the end of meal service as the food may have been contaminated during the period of display.



Advice on Personal and Environmental

Personal hygiene

- Wear clean overalls.
- Wear a face mask when handling food. Discard masks that have been damaged, soiled, or used for a prolonged period.
- Discard disposable gloves that have been damaged, soiled, or taken off during breaks. Wash hands between glove changes and after removal of gloves.
- Wash hands thoroughly before handling food, after using the toilet or after touching unclean items (e.g. after handling garbage or cash). Rub hands with liquid soap for at least 20 seconds.



For details, please refer to the *Hand Washing Guideline for Food Handlers* of the Centre for Food Safety (CFS).



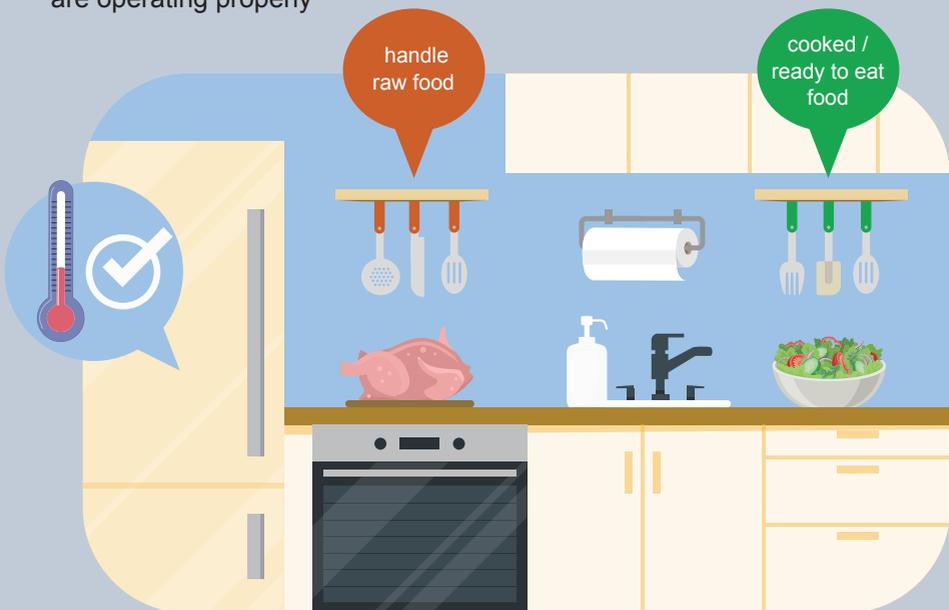
- Properly cover open wounds and wear gloves.
- Suspend from handling food when suffering or suspected to be suffering from an infectious disease or having symptoms of illnesses such as flu, diarrhoea, vomiting, jaundice, fever, sore throat and abdominal pain.



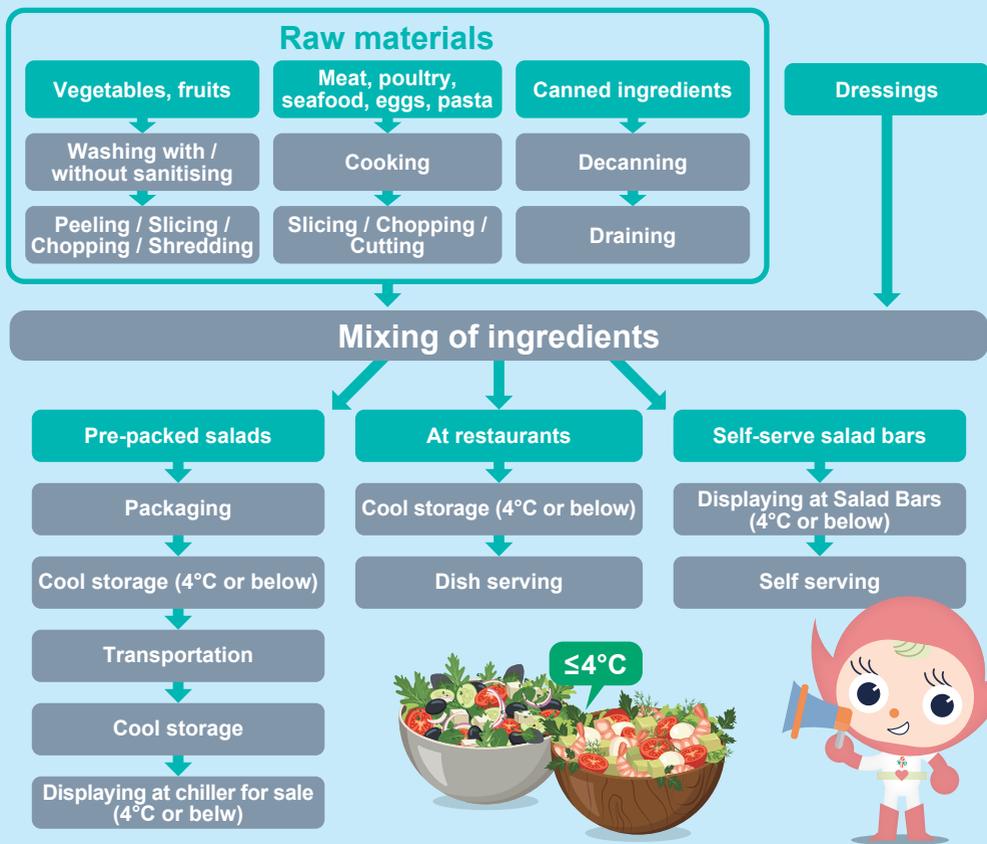
Hygiene for Food Handlers

Environmental hygiene

- Hand washing and drying facilities should be suitably located in food preparation or production areas and supplied with liquid hand soap. Where possible, hand washing facilities should be equipped with non-hand operated taps and single-use towels.
- Use designated utensils and equipment to handle raw food and cooked food/ready to eat ingredients separately.
- Regularly clean and sanitise utensils (including salad bar serving utensils), equipment, work station surfaces (including salad bar surfaces) and wiping cloths with boiling water or approved bactericidal agents. Follow the manufacturer's instructions, e.g. the required contact time, correct concentration, and shelf life after dilution, etc., for the use of bactericidal agents.
- Keep refrigeration facilities in good condition. Make sure temperature controls are operating properly



Flow diagram of salad production



Food safety management system

Implement a preventive food safety management system (such as the HACCP-based Food Safety Plan) to identify and control food safety problems at every stage of the food manufacturing process. Please refer to the "**How to Implement a Food Safety Plan**" for details.



Salads are an example of a ready-to-eat food. They can become contaminated by foodborne pathogens and "superbugs" if not handled properly because there is no heat treatment to kill any bacteria that may be present. This can pose a serious health threat to human health. As a result, it is critical to maintain a high level of personal, environmental, and food hygiene when preparing the food.