

vacuum packing

FOODS

**guidance notes for
small retailers**



Introduction

Vacuum packing is a popular method of extending the shelf life of food products without adversely affecting their quality. Vacuum packing is an effective way of reducing food spoilage, but also creates conditions which enable the growth of anaerobic organisms (organisms that grow better in the absence of oxygen), such as clostridium botulinum, which is able to multiply and produce dangerous toxins even at temperatures as low as 3.3°C

A Devon-wide sampling survey of vacuum packed cooked meats found that a significant proportion of these products had poor microbiological results at the end of their shelf life. This indicates that food safety hazards were not being suitably controlled. Strict observance of hygiene during processing and packing, along with adequate temperature control throughout the operation and a realistic shelf-life are essential to protect consumers from the risk of infection.

This short guidance note has been produced for butchers and small retailers to give good practice advice on vacuum packing ready to eat foods, such as cooked meats and cheeses.



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Primary food safety concern

The absence of oxygen increases the probability of clostridium botulinum toxins being formed without the food showing any signs of spoilage to the consumer. Therefore it is possible for the product to contain lethal levels of toxin whilst it still looks and smells acceptable to eat.



Determining shelf-life

The law requires that high risk foods are given a use by date rather than a best before date. High risk foods are those which are ready to eat without further processing such as cooking and which are capable of supporting the growth of bacteria.

Assuming that all food safety hazards have been controlled during production, the length of time that a vacuum packed ready to eat product will remain safe to eat is dependant on a number of factors.

Current guidance suggests that the fundamental controlling factor in determining shelf-life is storage temperature, and that other controlling factors can extend the shelf life further.

It is the duty of the food business operator to be able to demonstrate that their products are safe to eat at the end of the shelf-life.

The use of risk assessment is important to define and control all organisms likely to limit shelf-life due to a food poisoning or spoilage risk.

- Vacuum packed products stored at 8°C or less, with a shelf-life of 10 days or less, are considered to have minimal risk from clostridium botulinum and do not require any additional controlling factors.
- For vacuum packed products stored longer than 10 days at 8°C or less, the maximum shelf-life should be determined based on the other controlling factors used.

Other controlling factors include:

- a) minimum heat treatment of 90°C for 10 minutes or equivalent
- b) pH of 5 or less throughout the food
- c) salt levels of 3.5% throughout the aqueous phase of the food
- d) water activity of 0.97 or less throughout the food
- e) a combination of the above factors a-e.

For shelf-lives greater than 10 days your documented food safety management system must be able to validate that such controls are in place and effective. It may be necessary to carry out end of shelf life testing to demonstrate this. This would involve storing the product under the required conditions before having it analysed at a microbiological laboratory.

(A full guide to vacuum packing is available from Campden and Chorleywood Food Research Association – A Code of Practice for the Manufacture of Vacuum and Modified Atmosphere Packaged Chilled Foods. Guideline No. 11, May 1996)

Good practice notes

To ensure that food is of an acceptable standard it is advised that the following guidance notes are followed:

- Poor quality foods should not be vacuum packed in an attempt to extend their shelf-life, nor should vacuum packing be used as a means of preserving left over food.
- Vacuum packing a product more than once should be avoided, as it becomes impossible to assess the shelf-life of the product.
- During storage and preparation, the temperature of the food should be kept as low as possible, legally below 8°C and ideally below 5°C.
- Ready to eat foods must be segregated from raw foods to prevent cross-contamination.
- After cooking, meats should be covered, cooled rapidly and placed under refrigeration as soon as possible.
- The type of bag or pouch used for vacuum packing must be suitable for its intended purpose, some lower quality bags can allow oxygen to permeate through to the product.
- Bags should be stored in an area where they are not at risk from airborne contamination. For example they should not be stored in an open butchery area.
- Positioning of the vacuum packing machine is important as it may also be at risk of contamination.
- Good personal hygiene and hand washing must be followed when vacuum packing, including handling equipment and the bags.

- The vacuum packing machine must be thoroughly cleaned and disinfected before use and after using it for raw products.
- Ensure the vacuum packing machine is in good working order and has regular maintenance checks.
- After packing, the integrity of the heat seal should be checked on every bag.
- It is critical that a realistic shelf-life is applied to each product. In most cases this should be a maximum of 10 days, unless your risk assessment demonstrates otherwise.
- Labelling and use-by date coding is important to ensure correct stock rotation and to provide information for customers.
- You should ensure that customers are aware of the limitations of vacuum packed products. Particularly the storage temperature requirements and the use-by date.
- Staff who carry out vacuum packing must be suitably trained and competent to implement all of your food safety procedures.



Contact details

For more information, please contact your local environmental health department.

Local council main switchboard numbers:

Torbay Council	01803 201201
South Hams District Council	01803 861234
Plymouth City Council	01752 668000
Mid Devon District Council	01884 255255

This leaflet can be made available in other formats. For more information please contact your local council.

