
Audit of HACCP systems

Module 1

HACCP Systems

ABC Food Safety Online



Aim

The aim of this module is to provide delegates with an overview of food safety management systems based on the principles of HACCP.

Objectives

On completion of this module, delegates will be able to:

- Describe the seven principles of Codex alimentarius HACCP
- Appreciate the importance of pre-requisite hygiene regimes in the successful implementation of HACCP programmes.
- Recognise the key elements of systems based on HACCP principles
- Understand the flexible approach to HACCP in food businesses

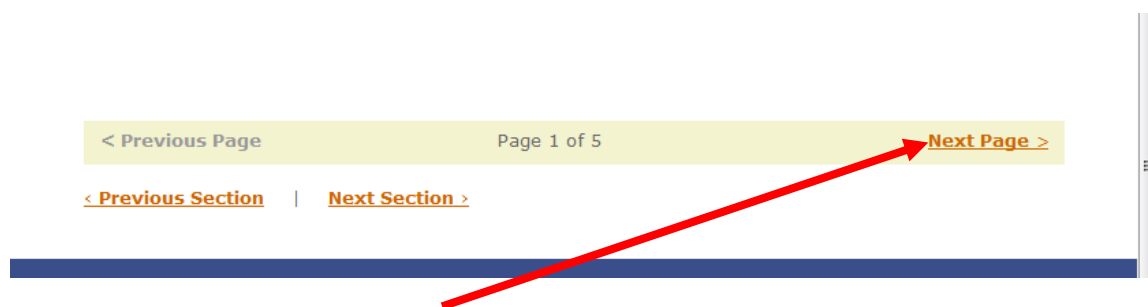
Module Description

Section	Title	Estimated time for completion*
1	Introduction	10 minutes
2	Codex alimentarius systems	80 minutes
3	Systems based on HACCP principles	20 minutes
	Quiz	10 minutes
	Total	2 Hours

* Please note that this figure is provided to help plan your training. The actual time spent on each section may vary depending on your prior knowledge of the topic area.

User Hints

To complete this module, simply read through the on-screen text, click on the links for further information and make notes in this handbook where appropriate. It is recommended that you place these notes in a ring-binder and print out any additional notes from the course as required.



Remember to click on “next page” to progress through the course whenever it appears in orange text at the bottom right of the screen. If this is not highlighted then click on “next section”.

To leave and return to a course simply bookmark the page that you are using, logout and then click on the bookmark when you are ready to return to the course.

If you would like to undertake some further reading on this topic, click on the “library” button to view links to legislation, codes of practice etc.

Introduction

The Hazard Analysis Critical Control Point (HACCP) food safety management system was first developed by the Pillsbury Dough Company in the late 1960s on behalf of NASA in an attempt to assure the safety of foods used by astronauts involved in the Apollo lunar programmes. It comprises an assessment of the likely hazards that a particular food process may present together with the identification and implementation of appropriate controls to prevent these hazards from becoming realised.

HACCP was adopted by the [Codex Alimentarius Commission](#) (CAC) in 1969 as an internationally recognised standard for food production. Over the last 40 years HACCP has been further developed, notably by the Canadians, and there have been a number of revisions to the original Codex standard but the basic approach to HACCP food safety management systems has remained attached to [seven key principles](#).

In practice, HACCP may be implemented in commercial food businesses in one of three different ways:

[“Pure” or “Full blown HACCP”](#); "Systems based on HACCP principles" and Home made systems.



Question 1

What are the 7 principles of HACCP?

Codex alimentarius HACCP

Codex alimentarius HACCP is an internationally recognised food safety management system based on the framework provided in the "HACCP System and Guidelines for its Application" CAC/RCP-1 (1969), Rev 4 (2003). It is not a legal requirement to implement Codex HACCP in food businesses in the EU but compliance with Codex HACCP will satisfy the legal obligations for a documented food safety management system required by Regulation (EC) 853/2004.

Codex alimentarius HACCP is based on seven key principles:

- Conduct a Hazard Analysis
- Determine the Critical Control Points
- Establish Critical Limits
- Establish monitoring procedures
- Establish corrective actions
- Establish verification procedures
- Establish record keeping and documentation



Question 2

What are the main steps in conducting a hazard analysis?

Preliminaries

Before embarking on the development of a HACCP food safety management system it is important firstly to consider certain [pre-requisites](#). It is essential for the successful implementation of a HACCP system that the pre-requisite programme provides the basic environmental and operating conditions for the food safety management system to work effectively. It is common practice for the first step of HACCP development to involve a review and assessment of the existing pre-requisites and for any [environmental hazards](#) not controlled by pre-requisites to be included in the HACCP assessment process.

Supplier control

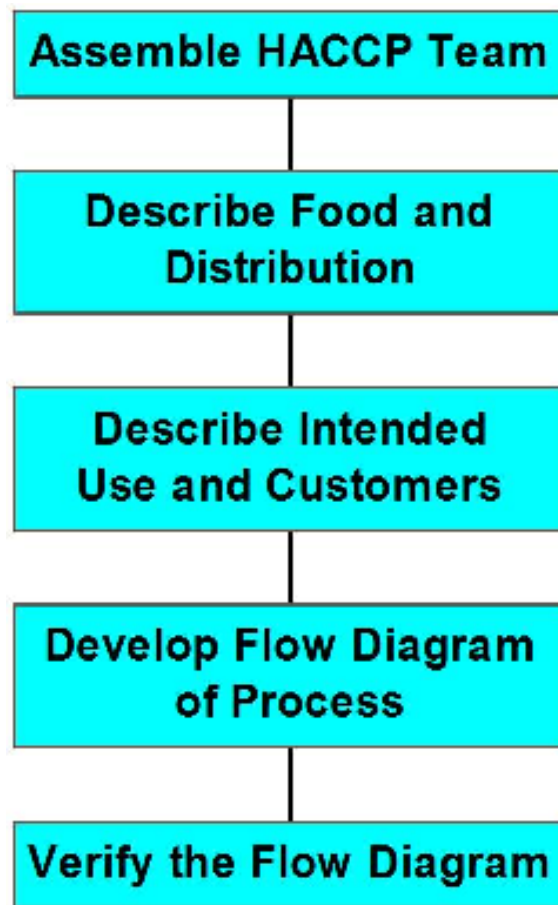
- Specifications
- Storage and transport
- Equipment
- Personal hygiene
- Training
- Cleaning
- Pest control
- Product withdrawal



Question 3

What is the legal requirement for training in HACCP systems?

There are five key steps that should be undertaken prior to the development of a HACCP system, these are:



Question 4

Who should be involved in the development of a HACCP as part of the HACCP team?

HACCP – First Steps: Principle 1 Conduct a Hazard Analysis

The HACCP team should Identify significant hazards associated with their food activities that are reasonably likely to occur. In practice this will often be achieved by producing a "long list" of potential hazards which will be whittled down through a process of hazard evaluation to produce a "short list" of hazards which are important in terms of likelihood of occurrence and/or severity.

This step will be undertaken separately for biological, chemical and physical hazards and once completed, appropriate control measures should be identified for each hazard on the short list.

Question 5

What is the purpose of hazard evaluation?

HACCP – First Steps: Principle 2 Determine Critical Control Points (CCPs)

A Critical Control Point (CCP) is a step in the food activity where control can be applied and is essential to prevent, eliminate or reduce a named hazard to an acceptable level. The correct identification of CCPs is essential and yet is a common failure in poorly constructed HACCP system.



When determining CCPs, the HACCP team need to consider:

The identified hazards, their likely occurrence and severity
Processes that the food will be subjected to
Intended use of product

A logical approach to the identification of CCPs is important and decision trees are often used for this process.

Question 6

What are the key questions that one would expect to find in a CCP decision tree?

HACCP – First Steps: Principle 3 Establish Critical Limits

Critical limits can be described as criteria applied at critical control points which separate acceptability from unacceptability. In other words they can be considered to be maximum or minimum values at which a given parameter, such as a cooking temperature, must be controlled at a CCP to control a named hazard. Critical limits should be achievable and measurable and some examples include:
pH, a_w , temperature, time

Question 7

What are the key characteristics of a critical limit?

HACCP – First Steps: Principle 4 Establish Monitoring Procedures

Monitoring can be described as a planned sequence of observations and measurements carried out at CCPs to ensure that the critical limits are reliably achieved. It should be recognised that loss of control at a CCP can be considered to constitute an imminent risk to health.

Whilst the monitoring of critical limits by a food business operator is only required at critical points, there is nothing wrong with additional monitoring of non-critical points as long as the comparative significance of each is recognised by the food business operator and the relevant staff. The frequency of checks as part of an effective monitoring strategy can vary depending on:

- Nature of product
- Nature of process
- Nature of production
- History of previous checks

Question 8

Where must monitoring be carried out in a HACCP system?

HACCP – First Steps: Principle 5 Establish Corrective Actions

Corrective actions should be identified and then followed whenever monitoring reveals that a deviation from critical limits has occurred or is likely to occur.

The HACCP plan should identify the action required when such deviation occurs which should include:

- Who is responsible for implementing corrective action
- What steps will be taken to prevent a recurrence
- What steps should be taken to identify similarly affected food
- What records should be made

Question 9

When must corrective actions be taken?

HACCP – First Steps: Principle 6 Establish Verification Procedures

Verification procedures are an essential element of a HACCP system in order to ensure that the food safety management system is fit for purpose. There are some key elements to this process:

Validation

Initial verification

Review

Question 10

What is validation?

HACCP – First Steps: Principle 7 Establish Documentation

Typical documents for a HACCP system will include:

Summary of hazard analysis

Rationale in hazard identification

HACCP team / responsibilities

Description of food, distribution etc

Verified flow diagram

HACCP plan diagram

Monitoring records

Pre-requisite plans

Pre-requisite records

Question 11

What should a summary of the hazard analysis comprise?

Legislative framework

The legal requirement for a food business operator to operate a system based on HACCP principles is set out in Article 5 of Regulation (EC) 852/2004 which states:

‘Food business operators shall put in place implement and maintain a permanent procedure or procedures based on the [HACCP principles](#).’

Recital 15 of Regulation (EC) 852/2004 provides some discussion on how these HACCP principles can be achieved in food businesses:

“HACCP requirements should take account of the principles contained in the Codex Alimentarius. They should provide sufficient flexibility to be applicable in all situations, including in small businesses. In particular, it is necessary to recognise that, in certain food businesses, it is not possible to identify critical control points and that, in some cases, good hygienic practices can replace the monitoring of critical control points.

Similarly, the requirement of establishing ‘critical limits’ does not imply that it is necessary to fix a numerical limit in every case.

In addition, the requirement of retaining documents needs to be flexible in order to avoid undue burdens for very small businesses.”

Flexibility

Guidance on the application of Article 5 in food businesses has been provided by the European Commission where they state:

‘The seven HACCP principles are a practical model for identifying and controlling significant hazards on a permanent basis.

This implies that where that objective can be achieved by equivalent means that substitute in a simplified but effective way the seven principles, it must be considered that the obligation laid down in Article 5, paragraph 1 of Regulation (EC) No 852/2004 is fulfilled.’

‘In certain cases, in particular in food businesses where there is no preparation, manufacturing or processing of food, it may seem that all hazards can be controlled through the implementation of the prerequisite requirements.

“In these cases it can be considered that the first step of the HACCP procedure (hazard analysis) has been performed and that there is no further need to develop and implement the other HACCP principles.’

Therefore there is no legal obligation for businesses such as grocers or market stalls which only handle packaged goods to develop

Question 12

What is the legal requirement for a food business operator to operate a HACCP system?

The Food Standards Agency have produced several validated food safety management systems based on HACCP principles which can be considered, when fully implemented, to meet the requirements of Article 5, Regulation (EC) 853/2004:

Safer Food Better Business

Cook Safe

Question 13

Which FSA system based on HACCP principles may a food business operator adopt in his business?