# HACCP
## A FOOD SAFETY MANAGEMENT SYSTEM

# What is HACCP?



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**Food Safety**
AUTHORITY OF IRELAND
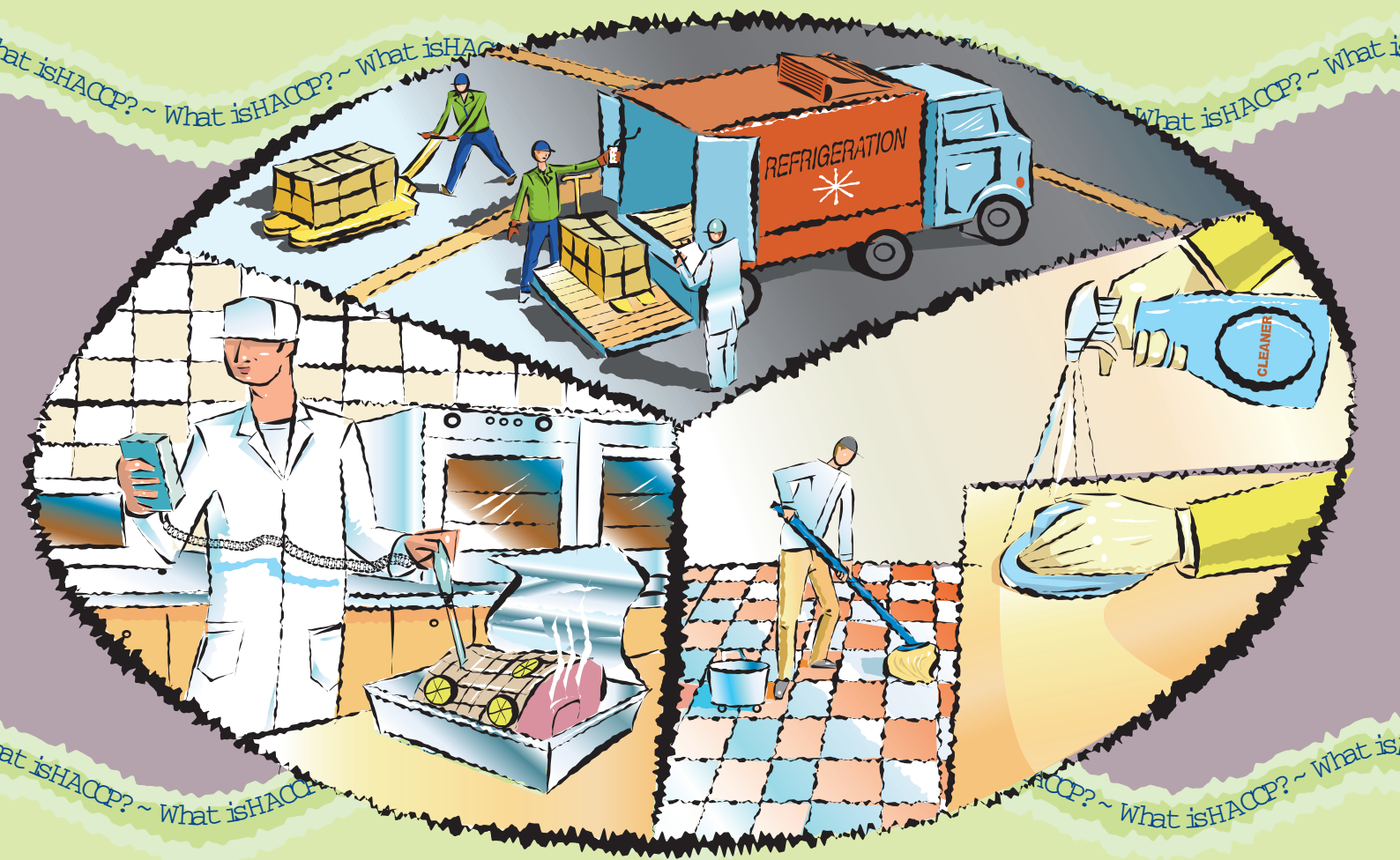
# A Food Safety Management System Based on the Principles of Hazard Analysis and Critical Control Point (HACCP)

## 1. Summary

Hazard Analysis and Critical Control Point (HACCP) is a systematic approach to identifying and controlling hazards (i.e. microbiological, chemical or physical) that could pose a danger to the preparation of safe food. HACCP involves:

- identifying what can go wrong
- planning to prevent it
- making sure you are doing it.

In simple terms, it involves controlling the safety of ingredients and supplies coming into a food business and what is done with them thereafter.

Since 1998 it has been a legal requirement for all food businesses to have a food safety management system based on the principles of HACCP.

Meeting this requirement can be achieved in a number of ways that best suits the business. This will range from the food business operator:

1. Developing a formal HACCP system or
2. Following a recognised industry guide to good practice

3. In the case of a business undertaking simple food operations (e.g. service of pre-packaged food) the correct implementation of the prerequisite hygiene requirements may be sufficient to control all hazards.

The aim of this booklet is to give advice on the application of the HACCP principles.

## 2.　The Benefits of HACCP to Food Businesses

HACCP provides businesses with a cost effective system for control of food safety from ingredients through production, storage and distribution to sale and service to the final consumer. The preventive approach of HACCP not only improves food safety management but also complements other quality management systems. The main benefits of HACCP are:

**S**aves your business money in the long run

**A**voids you poisoning your customers
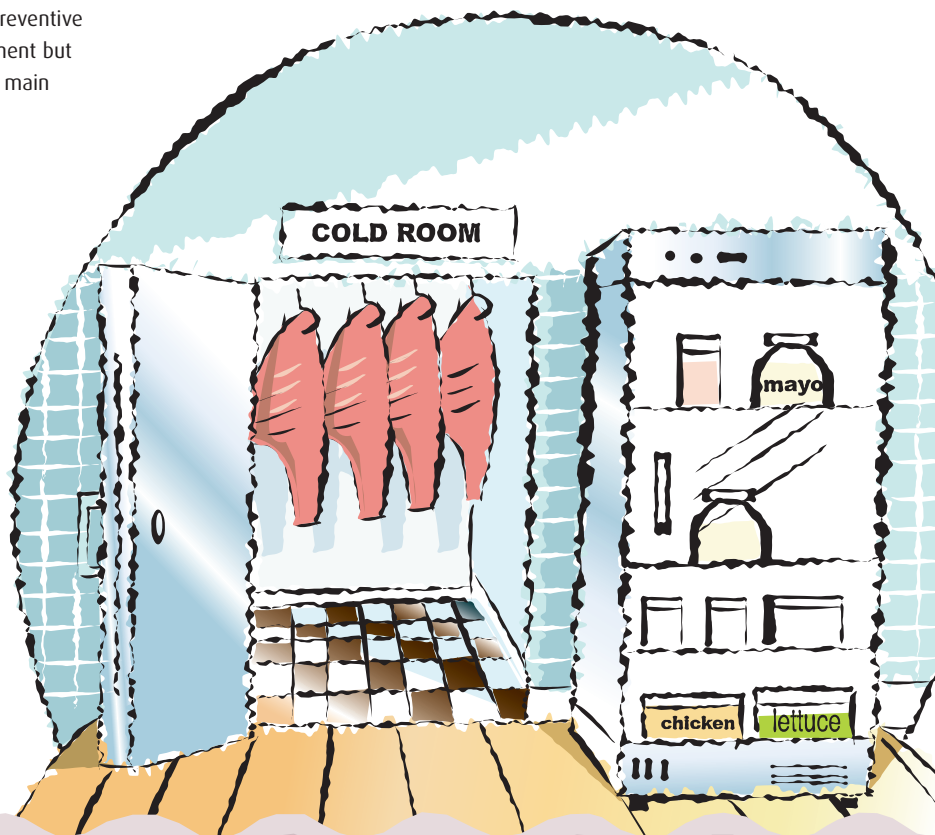
**F**ood safety standards increase

**E**nsures you are compliant with the law

**F**ood quality standards increase

**O**rganises your process to produce safe food

**O**rganises your staff promoting teamwork and efficiency

**D**ue diligence defence in court.

## 3.  Prerequisites (Prerequisite Hygiene Requirements)

Before implementing HACCP, food businesses must already be operating to standards of good hygiene practice by having in place appropriate prerequisites. HACCP can then be used to control steps in the business which are critical in ensuring the preparation of safe food. The National Standards Authority of Ireland (NSAI) has produced sector specific Irish Standards (I.S.) to good hygiene practice. All food businesses are advised to use the appropriate standard for their sector (e.g. catering, retail, processing).

**Prerequisites include, where appropriate:**

1. Cleaning and Sanitation

2. Maintenance

3. Personnel Hygiene and Training

4. Pest Control

5. Plant and Equipment

6. Premises and Structure

7. Services (compressed air, ice, steam, ventilation, water etc.)

8. Storage, Distribution and Transport

9. Waste Management

10. Zoning (physical separation of activities to prevent potential food contamination).

Also available from NSAI is the standard I.S. 22000:2005, an international standard which outlines a food safety management system based on the principles of HACCP.

## 4.  Getting Started *(Pre-Planning)*

Once the prerequisites are in place you can begin to build HACCP on top of these. The first things to do are:

1. Ensure staff involved in the development of the HACCP system have a basic understanding of HACCP. If it is necessary to hire a HACCP consultant, businesses should ensure staff understand how the system works and are suitably trained to ensure effective implementation.

2. Depending on the size of the business assemble staff into a team, with a team leader to lead in designing and implementing HACCP. In the case of a small business, one person may develop the HACCP system. The team should have a good knowledge of your business. Initially, your team will be required to spend a reasonable amount of time and effort to develop and implement the HACCP system.

3. Describe your product(s) and the intended use by consumers and then depending on the size of the business draw up a flow diagram to show each step of your operation. Walk through your operation to confirm that the flow diagram is correct and check that it covers all the foods your business produces.

Now you are ready to apply the principles of HACCP.

## 5.   Principles of HACCP

There are seven principles of HACCP. A food safety management system based on these seven principles will enable hazards to be identified and controlled before they threaten the safety of your food and the health of your customers.

**1.   Identify the hazards**

Look at each step (e.g. purchasing, delivery, storage, preparation, cooking, chilling etc.) in your operation and identify what can go wrong e.g. *Salmonella* in a cooked chicken product due to cross contamination with raw meat (biological hazard),  contamination of uncovered food with detergent (chemical hazard) or a piece of broken glass falling into uncovered food (physical hazard).

**2.   Determine the critical control points (CCPs)**

Once hazards have been identified you must ensure that they are adequately controlled. In general, the majority of hazards are controlled by ensuring that you are operating an effective pre-requisite programme, i.e. good hygiene practices (see Section 3).

A Critical Control Point (commonly referred to as 'CCP') ia a step in food processing where a control procedure must be applied to prevent a food safety hazard occurring or reduce it to a safe level. It is the last chance to control a hazard before the food is sold. For example, cooking beef burgers to a minimum core temperature of 70°C for 2 minutes or equivalent (e.g. 75°C instantaneously) will kill *E. coli* O157 and other pathogens.

**3.   Establish critical limit(s)**

Set limits to enable you to identify when a CCP is out of control e.g. the temperature at the centre of a beef burger following cooking must reach a minimum 70°C for 2 minutes, or equivalent (e.g. 75°C instantaneously).

**4.   Establish a system to monitor control of the CCP**

When CCPs and critical limits have been identified it is important to have a way to monitor and record what is happening at each CCP. Typically, monitoring will involve measuring parameters such as temperature and time. However, how you monitor and how often will depend on the size and nature of your business. Monitoring should in all cases be simple, clear and easy to use e.g. recording the final cooking temperature and time for a cooked beef burger.

**5.   Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control**

When monitoring indicates that a CCP is not under control, corrective action must be taken (e.g. the temperature of cooked meat in a refrigerator rises to >10°C for over 24 hours due to a technical fault in the refrigerator. The cooked meat is destroyed and the refrigerator is repaired by the manufacturer to maintain new cooked meat supplies at the correct temperature of ≤5°C).

**6.   Establish procedures for verification to confirm the HACCP system is working effectively**

Review and correct the system periodically and whenever you make changes to your operation e.g. microbiological analysis of a chicken product to verify that it is free of *Salmonella* after cooking.

**7. Establish documentation concerning all procedures and records appropriate to these principles and their application**

For the successful implementation of HACCP, appropriate documentation and records must be kept and be readily available. e.g. cooking temperatures, delivery or cleaning records. It is unrealistic to operate HACCP or to demonstrate compliance with the current legislation without providing evidence such as written records. As with HACCP itself, the complexity of the record keeping will very much depend on the nature and complexity of the business. The aim should be to ensure control is maintained without generating excessive paperwork.

## 6. Further Information

**Food Safety Authority of Ireland**

- HACCP Booklets
  - What is HACCP?
  - Terminology Explained
  - How to Select an External HACCP Consultant
  - HACCP: A Food Safety Management System for Catering

- Guidance Note No. 10. Product Recall and Traceability

- Guidance Note No. 11. Assessment of HACCP Compliance (Revision 2)

- Guide to Food Safety Training - Level 1 Induction Skills and Level 2: Additional Skills

- Guide to Food Safety Training - Level 3: Food Safety Skills for Management.

**National Standards Authority of Ireland**

- I.S. 340:2007. Hygiene in the Catering Sector

- I.S. 341:2007. Hygiene in Food Retailing and Wholesaling

- I.S. 22000:2005. Food Safety Management Systems

- I.S. 344:2002. Hygiene for Domestic-Scale Food Production.
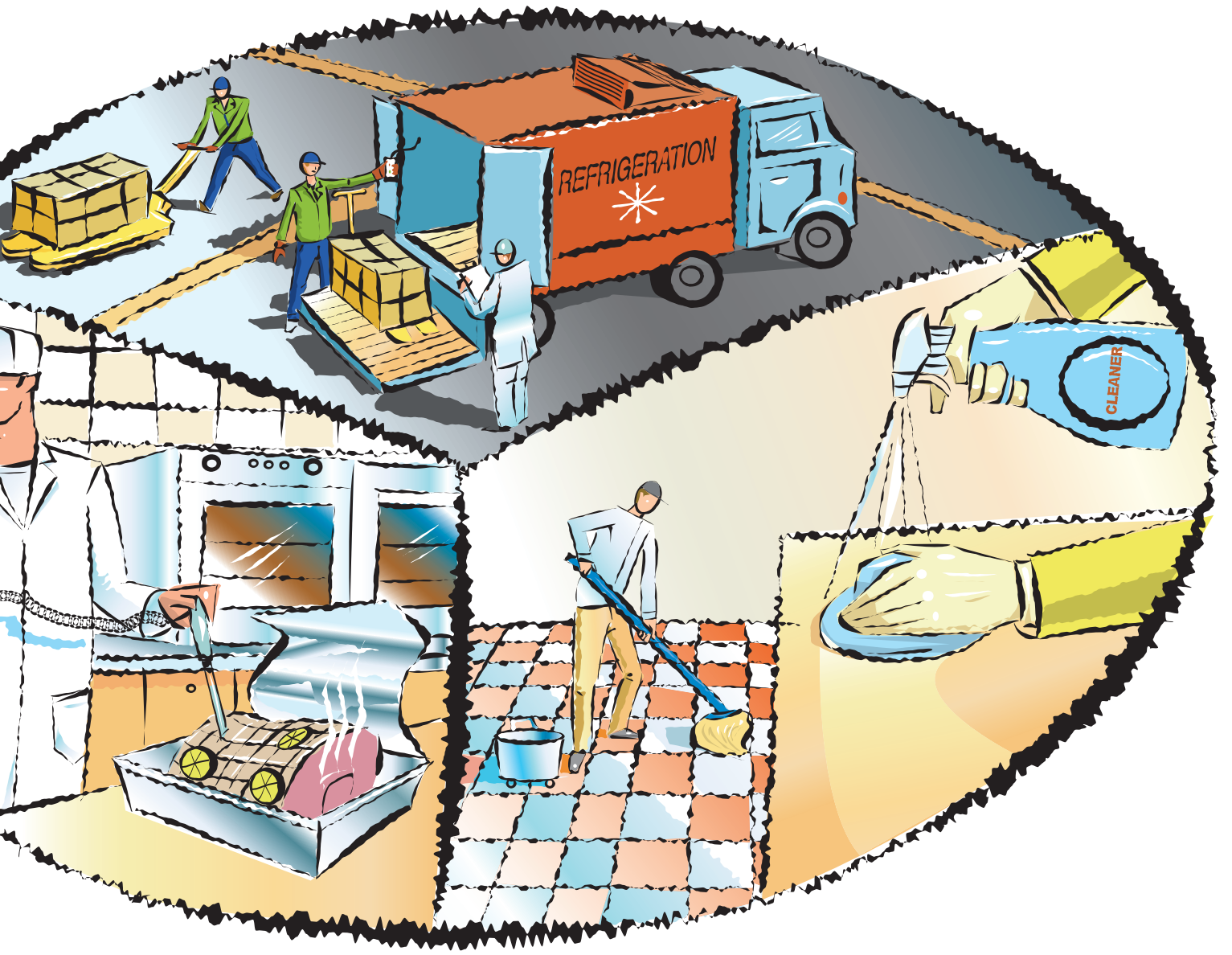
## 7. Legislation

Regulation (EC) No. 852/2004 on the hygiene of foodstuffs. Regulation (EC) No. 178/2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety.

## REMEMBER

Since April 1998, food businesses have been required by law to have a food safety management system based on the principles of HACCP.

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