

# **Controlling Food Hazards**

## **Presentation Pack**

## Contents

**Section 1: Objectives of the Pack**

**Section 2: Presentation Notes**

**Section 3: Background Notes**

**Section 4 : Blank Hazard Analysis Chart / Summary Notes - Handout**

**Annex A: Visual Aids**

**Annex B: Additional Examples**

## Section 1

### Objectives of the Pack

This pack is designed to help you introduce the basic hazard analysis requirement of the Food Safety (General Food Hygiene) Regulations 1995<sup>1</sup> to small businesses.

The pack contains:

- Instructions on the use of the pack
- A set of visual aids that can be used as a flip book presentation or converted to acetates with 'aide memoire' notes on key points
- Background notes on the implementation of Hazard Analysis
- A handout including blank hazard analysis chart and summary.

The pack can be used on a one to one basis during a visit to a business and should take around 30 minutes to run through the information. The pack, or acetates copied from the pack, can also be used to support group sessions such as short seminars or training groups. You may wish to tailor the content delivered in any session to take account of individual needs.

The pack includes a set of visual aids in a flip pack format. A concise note accompanies every visual aid to indicate the key points to be raised.

The additional background notes provide practical information on the hazard analysis requirement. ***It's not intended that all of this information is presented every time the pack is used. But you can draw practical examples from this information which may better illustrate the requirement, or help to answer questions in discussion.***

### How to use this pack.

**Level of approach.** The pack recognises that the legal requirement in the General Food Hygiene Regulations is currently different to 'classical' HACCP<sup>2</sup>. But the same basic principles are the foundation of any hazard analysis system. The pack tackles hazard analysis by following the HACCP approach in a simplified way:

Simplifications include:

- an abbreviated hazard analysis chart
- a generalised approach to food groups and process steps
- a generalised approach to hazards
- a pragmatic approaches to control & monitoring

The approach is consistent with published guides including:

- A guide to food hazards and your business<sup>3</sup>
- Assured Safe Catering<sup>4</sup>
- S.A.F.E.<sup>5</sup>
- LACOTS Guidance on Approach to Securing Compliance with the Hazard Analysis Requirement<sup>6</sup>

### Presentation of the information

<sup>1</sup> This pack is not intended for businesses covered by product specific regulations ('vertical' directives).

<sup>2</sup> Codex : Hazard Analysis Critical Control Point (HACCP) - Annex to CAC/RCP 1-1969, Rev. 3 (1997).

<sup>3</sup> Department of Health Publications, PO Box 410, Wetherby, LS23 7LN.

<sup>4</sup> Produced by Department of Health, available through The Stationary Office.

<sup>5</sup> British Hospitality Association, 55-56 Lincoln's Inn Fields, WC2A 3BH.

<sup>6</sup> LACOTS, PO Box 6, Robert St. Croydon, CR9 1LG.

- Familiarise yourself with all the information before using the pack.
- It is important to keep the messages clear and concise.
- Try to avoid jargon. Many people are overwhelmed by the jargon of HACCP. At this level, most jargon can and should be avoided altogether.
- It is important to base the presentation on practical examples rather than broad concepts. The guidance and examples in the notes may help with this.
- The most effective presentation will use examples that are directly relevant to the business you are addressing.
- Encourage discussion.

### **Specific Objectives**

Hazard analysis provides a tool to highlight and control basic hygiene practices. Three key points will be central.

#### **i) Basic hygiene principles**

1. Control of contamination
  - a) by good cleaning and disinfection
  - b) by separation of raw and ready to eat foods
  - c) by good personal hygiene of food handlers
2. Good temperature control to limit growth
3. Stock rotation and control of storage life to limit growth of harmful bacteria
4. Good heat processing to destroy microbial contaminants

#### **ii) Introduce the concept of 'control'**

Businesses must control and monitor critical points. A system that identifies all the hazards but fails to implement control is not satisfactory.

#### **iii) Training & Supervision**

There is the basic requirement that all food handlers must be supervised and instructed and/or trained. Industry guides explain what this is likely to mean for different jobs in different industry sectors.

The hazard analysis requirement can impact on training in two additional ways.

- An adequate understanding of food safety principles is needed to analyse the hazards and identify the necessary controls. Someone in the business may need further training to provide this input.
- Every food handler must be supervised, instructed and/or trained to understand and effectively implement the controls that fall within their work activities. This specific training or instruction will be additional to any general training in food hygiene principles.

When discussing practical examples, have these goals clearly in mind and steer towards them. Translating Hazard Analysis into practical hygiene issues and controls more readily understood by proprietors/managers is likely to assist them to implement the requirement.

#### **Handouts: Example of what can be left at the Premises.**

1. Guide to food hazards and your business - Department of Health
2. Blank hazard analysis sheet with simple notes & contacts on the back (section 4).
3. Local information - if applicable
4. Other

## **Section 2**

## Presentation Notes

### 1.Hazard Analysis - What is it?

Hazard Analysis is the term often used to describe the legal requirement for you to assess your business operation to ensure the necessary controls are in place. At its simplest it requires you to:

- Look at your operation and your activities and food processing steps eg : purchasing food, accepting delivery and storage.
- Identify hazards (problems) which may occur during these activities and which may harm your customers.
- Ensure you have the necessary controls in place, and that you routinely check that the controls are always maintained.

It works on the tried and tested theory that 'prevention is better than cure'.

#### Example of Acetate 1 :

##### **Hazard Analysis - What is it ?**

It is the process of :

- Looking at your food business activities.
- Identifying potential problems which may harm your customers.
- Ensuring the necessary controls are always in place.

## 2. Hazard Analysis - Why do it?

First, it's the best way to identify potential food problems and make sure you have the necessary controls in place.

Second, it's the law. And it has been the law since Sept. 1995.

These Regulations bring a change of focus. They require you to look at your practices, and procedures, identify things with the potential to make the food unsafe and ensure that you have the necessary controls in place.

This session will explain in practical terms, what this might mean for your business.

### Example of Acetate 2 :

#### Hazard Analysis - Why do it ?

- Best way to identify and control food safety problems
- It is a Legal Requirement  
Food Safety (General Food Hygiene) Regulations 1995
  - identify any steps critical to food safety and ensure adequate controls are in place

### 3. Hazard Analysis - What's in it for business

• **Hazard Analysis** gives a clear focus on your business:

*It's systematic* - it highlights issues at all points in the operation, some of which you could have missed.

*It's relevant* - it only picks up on the issues that apply to your operation.

*Controls & monitors* - the system doesn't stop at finding the hazards. It tells you to put controls in place and to check that controls are working each day.

**Prevents problems:** If done properly, a hazard analysis system will prevent problems. That's much better than reacting to them after they have happened and perhaps caused complaints or illnesses.

**May build on existing good practice:** The controls should not be new. Most businesses will know about them as part of normal good hygiene and could have many/most of the procedures in place already. However, it is important to check that you have got the necessary controls in place.

**Example of Acetate 3 :**

#### **Hazard Analysis:**

##### **What's in it for business?**

- More focused
  - systematic
  - relevant to your operation
  - controls & monitors
- Prevents problems
- May build on existing good practices

## 4. Hazards

### *What do we mean by hazards?*

**Hazards** are anything that can cause harm to a consumer.

**Microbiological:** We hear most about microbiological hazards, 'germs' which cause food poisoning. They may be doing different things at different steps

- at some steps, **contamination** can occur
  - a lot of raw food will have some contamination when it arrives, especially meat & poultry
  - foods may get more contamination during handling. Contact with equipment, food handlers or other foods.
  - (Contamination of ready to eat food can have serious results.)
- at some steps microorganisms may be able to **multiply** which makes them more dangerous. However, some eg E. Coli 0157 are dangerous in low numbers .
- some preparation (process) steps will destroy them (cooking) if carried out properly. They will **survive** if the treatment is inadequate.

**Physical Contamination & Chemicals** Can also contaminate food especially if the food is left uncovered. Some of these can cause serious harm.

- **Physical Contamination** (metal, glass, or wood splinters)
- **Chemicals** (strong degreasers, bleach, acid descalers, rodent bait.)

### Example of Acetate 4 :

#### **Hazards**

Anything that can cause harm to the consumer'

- Micro-organisms
  - contamination from people, equipment, raw food
  - growth through poor temperature control
  - survival after inadequate cooking, disinfection
- Physical Contamination
  - contamination - glass, metal, paper, hair, etc.
- Chemicals
  - contamination - bleach, acid descaler, rodent bait

## 5. Where to start?

### Who gets involved in hazard analysis?

- The proprietor or manager must lead the way. It is their responsibility to make sure that the necessary controls are in place.

### Proprietor

- The level of understanding needed will depend on the nature of the business. You may need input from someone with a better understanding of food safety.

### Expert

If no-one in the business has enough knowledge, you may need to get someone trained. (Discussion point - training)

Or you could use outside help in the analysis, a consultant trade organisation, or written guidance material eg: Industry Guide.

### Other Staff

Involve key members of your staff.

They may know the process (what actually happens) better than you!

They may be able to suggest practical ways of tackling the issues that will come up.

Eventually the results of the hazard analysis must be put to work in the business. If staff are involved from the start, they're more likely to understand it and put it into practice.

### Then pick a food.

Start with a common food that you produce or handle.

### Example of Acetate 5 :

Where to start?
<ul style="list-style-type: none"><li>• Who does it?<ul style="list-style-type: none"><li>• Proprietor?</li><li>• Expert?</li><li>• Other Staff?</li></ul></li></ul>

## 6. What Do I Need To Do?

### **Foods Handled/Preparation Steps**

Consider the foods you handle. Some will go through similar preparation steps and the same analysis and controls may apply. For example;

- Catering - Consider meats in sauces together, roasts together, salads together.
- Retail - Consider pre-packaged perishable food with 'use by' dates together; canned goods, shelf stable goods together.
- Manufacture - Consider heat processed foods together; cream cakes together.

However, other foods might have different process steps and therefore, different hazard and controls may apply.

- Catering - Procedures for cooking are different to salad preparation.
- Retail - Open foods on a deli counter are different to pre-packed items.
- Manufacturing - making sausages is different to making cooked pies.

Some businesses may have process steps which are common throughout, others may have some but not all steps in common e.g.; receipt and storage practices may be the same but preparation steps are significantly different. The Hazard Analysis needs to consider this.

### **Example of Acetate 6 :**

#### **What do I need to do?**

Systematically consider the :

- Foods you handle
- Preparation steps they go through
- Hazards at each step
- Controls and checks necessary

**7. You can use a flow chart like this to focus your mind.** (We will give you a copy at the end)

Think about the type of food that you intend to tackle first. What preparation steps does it go through? Write them down in the left column. Record every step that the food goes through from the time it arrives as a raw material until it leaves the unit as a finished product.

- You must be satisfied that this is what really happens day to day

**Discussion Point**

*Acetates have been filled in using cooked meats as an example. You may wish to use a more relevant food to suit the needs of the individual. Also a number of alternative sheets are in the pack which are of more relevance to retail, catering and manufacturers. Again ensure steps relevant to the business are used in the example. Only a limited number of steps are elaborated.*

Using cooked meat preparation as an example:

**Example of Acetate 7 :**

<b>Example:</b>			
1. Steps	2 Hazards What can go wrong?	3. Control & Targets What can I do about it?	4. Monitor How can I check?
Cook			
Cool			
Wrap			
Dispatch			

**8. Controls**

**Look at the process one step at a time & fill the next 3 cols.**

**Col 2: Identify the hazards.** What can go wrong at each preparation/handling step?

(Example: Contamination, Growth, or Survival of bacteria)

There may be more than one hazard at any step.

Thinking about your activities and systematically considering what could go wrong (hazards) means that you can assess whether proper controls are in place.

**Col 3: Controls and Targets.** What do we mean by controls?

- **First, they must control the hazard. Eliminate it or reduce it to a safe level.**

**Discussion Point**

*Use relevant examples here to emphasise what controls are in practice. There are plenty to choose from in the background notes.*

- **Second, controls must be practical.** You must be able to apply them in your business. Select controls and checking procedures that you can actually work with.
- **Critical** - Some controls will be so important to final food safety that they must be in place and routinely checked. These are called Critical Control Points.
- You must know what these are in your business and check that they are maintained properly.

**Example of Acetate 8 :**

**Controls**

Effective

- eliminate hazard or reduce to a safe level

Practical

- applicable to the business
- Some will be critical to food safety
- Know which ones these are
- Always check/monitor critical points

**Discussion Point - Choose Practical examples of Controls**  
**Example**

- unlikely that you can do microbiological swab checks on clean equipment, but you can make sure that you have good cleaning schedules, and check that they are followed.
- You may not have enough staff to dedicate some to high risk, some to low, but you can make sure that a thorough handwash & change of protective clothing takes place between activities.

Remember: Controls *must* have targets to enable you to check they are being met. For example, cook to a centre temperature of 75 Degrees Celsius.

**Col 4:** Finally, you must find ways to check (monitor) that the controls are working. Examples?

**Discussion Point - Choose Practical Examples of Checks**

Key points when picking practical examples:

- The control target & system of monitoring must correspond
- They must be practical in the business
- Hazard analysis is not only about temperature control.
- Control of contamination points are equally important especially in the context of E Coli 0157.
- Monitoring: By observation, visual inspection, proper supervision, active management.

Remember - If a routine check shows that the control target was not achieved, **corrective action must be taken**. The corrective action should be identified in advance as part of the hazard analysis.

**Example of Acetate 7(b) :**

<b>Example: Cooked meat preparation</b>			
1. Steps	2 Hazards What can go wrong?	3. Control & Targets What can I do about it?	4. Monitor How can I check?
Cook	Survival	Cook properly to 75 °C	Check temp, return to cooker if not at 75 °C or above
Cool			
Wrap			
Dispatch			

## 9. Work through further process steps.

As many as you can according to the time available.  
(Leave time for the last three visuals)

Once you have worked through every process or preparation step the analysis of that food is finished. What do you do with the information? We'll come back to it.

[Note: If you are limited to 20 minutes, then you will have time to talk through only 2 or 3 steps. i.e. the one on the previous slide, and one, maybe two of these.]

### Example of Acetate 9 :

<b>Example: Cooked meat preparation</b>			
1. Steps	2 Hazards What can go wrong?	3. Control & Targets What can I do about it?	4. Monitor How can I check?
Cook	Survival	Cook properly to 75 °C	Check temp. Corrective Action - return to cooker if not at 75 °C or above
Cool	Growth of spores  Contamination	Cool quickly ideally to below 10 °C in 1.5 hr  Keep covered or wrapped All equipment properly sanitised	Check temperature Check chiller loading  Check cleaning against the schedule
Wrap	Contamination  Growth	Strict separation from sources of contamination Cool packing room to around 12 °C or batch control <1hr out of chiller	Check personal hygiene and equipment sanitation <u>No</u> contact with raw food Check temp , or time.

## 10. Food Groups

You have worked through the hazard analysis and controls for one type of food. **What about the other types of food which you handle**

### **Discussion Point**

- *Different food types may present different hazards and need different controls*
- *For initial understanding the presentation focus should be on general steps eg; delivery, cooking, display.*
- *The general point to emphasise is that different types of foods eg; high risk ready to eat, or raw meats need to be considered as they may present different hazards, although in many cases they can be grouped to simplify the hazard analysis.*

### **Example of Acetate 10 :**

#### **Food Groups**

- Similar Process Steps / same hazard analysis & controls
  - Roast Turkey / Roast Pork etc.
- Different Process Steps / different hazard analysis and controls
  - Hamburgers
  - Salads
  - Ice Cream

## 11. Physical Contamination:

'We could deal with them the same way, step by step, but it's actually simpler to deal with them across the board'.

Generally there are two Control Targets:

1. Control sources of contamination. *You should have rules on what is & what is not allowed into the food preparation areas. Staff must know the rules.*  
(Wood, metal, glass, drinking cups, jewellery).

2. Make sure that food is not exposed to contamination.  
*Policies to keep food covered whenever possible. Store away from hazards. Especially chemicals.*

### Monitoring

A periodic 'hazard spotting' tour of inspection is one practical way to monitor these hazards. Special consideration may need to be given to maintenance, pest control and contract cleaning arrangements.

### **Example of Acetate 11 :**

#### **Physical Contamination / Chemical Hazards**

- Control Targets
  - Keep contamination sources out of the Premises
  - Protect Food (cover)
- Monitor
  - Inspection, Observation, Supervision

## 12. Action Plans & Review

**Once you have finished your Hazard Analysis**, you should know the critical food safety control points in your business and whether they are actually under control.

All the necessary controls may already be in place with existing procedures. Or the hazard analysis may have highlighted extra control and monitoring points.

The regulations do not require *written records*. However many operations will use check sheets or other procedures.

- These serve to remind you what checks need to be done and the targets.
- They can be designed to let you record the results

Different steps will happen in different parts of the unit. You can produce different action plans for each part of the operation.

Delivery, Stores, Cook, Chilling, Equipment sanitation, etc.

***The action plan should cover all the controls that were identified.***

**Train or supervise:** Staff need to understand controls to put them into action. You have a legal obligation to supervise and instruct &/or train staff. You should tell staff about the importance of any controls in place. Each individual must know and understand the importance of the controls that are part of the job they do and know what action to take when targets are not met.

**Review:** The system must be up to date. If you introduce different lines or different foods, or different methods of handling or preparation you must review the system. It doesn't matter how good the hazard analysis, if the controls are out of date, they will not meet the legal requirement **in the Regulations**.

**Remember :** Your local Environmental Health Department will be able to give you help and advice on your hazard analysis.

**Example of Acetate 12 :**

### **Action Plan & Review**

- Do you know the critical controls in your business?
- Are they under control?
  - Check Sheets?
    - delivery
    - fridge temperatures
    - cleaning schedules, etc.
- Do staff understand the system?
- Remember review periodically!

## Section 3

### **Background Notes**

The following notes provide background information to points in the presentation. They are intended as a reference for the users of the pack, to assist with the selection of examples relevant to a business.

### **Critical Control Points vs Control Points : Visual Aid No. 2**

HACCP literature makes a distinction between control points that are “critical” and other “control points”. The Regulations demand control of ‘critical’ points. What is the difference?

**A point is ‘critical’ if lack of control is *likely* to cause a health risk.**

Typically there will be a number of critical points in the preparation of any food.

The distinction between “critical” and “other control points” is important in enforcement. However, it can be a difficult concept to convey. It may not be necessary to focus unduly on the concept during a short session. However the concept that there are points which must be controlled for final food safety is important.

However, points which are not critical should not be ignored. Where a hazard can be controlled it should be controlled albeit the legal Reg 4(3) obligation refers only to ‘critical’ points. Other parts of the Regulations will also require many other controls to be in place, eg pest controls.

---

### **Approach to hazards : Visual Aid No. 3**

HACCP identifies hazards specifically. For example Salmonella, Clostridium perfringens, or viral agents all have different control points and different controls. For basic hazard analysis such as here, a more generalised approach may be taken.

---

### **Level of training needed to complete a hazard analysis**

The General Food Hygiene Regulations cover a very wide range of food operations. The level of expertise needed to do an effective Hazard Analysis of the operation will vary accordingly.

#### **Example:**

- A retail bakery producing only bread and ‘low risk’ cakes will require only a simple analysis.
- A cannery packing low acid vegetables will require a much higher level of input and understanding.

If there is no one in the business with appropriate expertise, this indicates a need for further training. Alternatively, expertise may be brought in from outside the business.

There cannot be prescriptive guidance on the level of training needed. The main issue is whether the hazards and critical points in the operation are (or can be) properly identified and controlled?

---

### **Documentation - the Hazard Analysis : Visual Aid No. 12**

In very simple food handling situations, it may be possible to do the analysis as a mental exercise. Even so, a structured train of thought is needed. An introduction to a hazard analysis chart will serve as useful background and aid with understanding.

In many businesses a simple sketching out of the process steps on paper is more likely to produce a useful end product. It will also help in any assessment to see whether the exercise has been done. And, it may be used in practice by the business as part of any ‘due diligence’ defence in the event of a problem. A Hazard Analysis chart is used in the presentation pack. A blank chart also forms part of a handout as a practical aid to assist the business.

## Approach to Preparation or Processing Steps : Visual Aid No. 6

A generalised approach to hazards and foods is suggested to introduce businesses to the concept. However, preparation or processing steps should not become too generalised and businesses should be reminded to consider all steps.

Less obvious 'steps' may be important to food safety and may serve to illustrate this point.

### Examples:

- Defrost of frozen raw materials or cooling after cooking.
- Transfer of deliveries into chilled stores, transfer of end product in distribution, transfer of ingredients around a processing area.
- Slicing, decorating, garnishing, wrapping, traying.

The hazard analysis is only reliable if it considers all steps.

Problems can also come from making assumptions about process steps. Business managers should check what is actually going on in the unit and with the people who do the job.

### Example:

- The manager of a residential home believes that roasts are cooked in the morning for lunch service. Because of time constraints, kitchen staff had actually switched to pre-cooking the previous day and reheating. There are several extra process steps which the manager is not aware of. Most of them are critical to food safety.

Using practical examples may assist in emphasising this point

---

## Control Targets : Visual Aid No. 8

Hazard analysis is a means to an end. The actual goal is process control. To achieve this goal, targets must be set. 'Critical Limits' is the expression often used in HACCP literature. Some texts define differences between 'targets' and 'limits'. For simplicity 'Control Targets' is used throughout this pack.

'**Control Target**' is a standard that must be achieved to control the hazard at the control point.

### Example:

- Cooking food to a target of hotter than 75°C will kill micro-organisms.
- Discarding stock that has reached its 'Use By' date will prevent the growth of pathogens from becoming excessive.

Ideally, control targets will be easy to measure and so easily monitored. For some important controls, (e.g. equipment disinfection or personal hygiene) it is less easy to set objective targets. These steps are still CCPs. More creativity may be needed in identifying targets and systems of monitoring.

**Highlight control targets relevant to the business.**

## Control and Monitoring : Visual Aid No. 8

Monitoring provides a check that control targets are being achieved. Options in small businesses may be limited by practicalities. Nevertheless, critical points must be controlled and monitored somehow. The following indicates possible approaches to a variety of situations.

Control and monitoring are linked. The 'control target' should be expressed in a way that relates to the chosen system of monitoring.

**Example:**

- The control target is to cook burgers to a centre temperature of 70°C for 2 minutes (or 75°C absolute). This implies that monitoring will use a temperature probe.
- Or the target may be to cook in accordance with instructions. This implies visual monitoring of time/temperature of cooking.

**Cleaning & Disinfection**

Equipment cleaning & disinfection is a recurring control point.

**Control Target:** Is effective cleaning & sanitation properly following a detailed schedule.

**Monitoring:** It is not easy to measure effective disinfection. But these are important control points. They must not be underplayed simply because they cannot be monitored empirically. Management checks that cleaning procedures follow the schedule is a monitoring procedure as could be checks on availability and use of chemicals particularly disinfectants. 'Management', 'Supervision', are emphasised as monitoring tools. A visual check of cleanliness is not an effective monitor of disinfection.

**Remedial:** Evidence that equipment is not properly disinfected - it should be taken out of service until treated again.

**CROSS-CONTAMINATION**

Cross-contamination from raw food is probably the most significant cause of contamination of ready to eat food.

**Given the importance and increase in E Coli 0157 and Campylobacter infections, considerable focus should be given to cross contamination to ensure suitable controls are in place and routinely monitored**

**Control Targets:** Targets will establish separation between high risk and low risk processes. The method of separation may vary. Some units operate rigorous 'high risk' segregation. In others the same area may be used. In this case, the control target will be to separate high risk and low risk by time and to sanitise in between. Equipment could be dedicated and monitoring more readily facilitated by a system of colour coding. (e.g. knives, cutting boards)

**Monitoring:** There is no simple empirical criterion. Visual inspection, management & supervision are the key monitoring tools. Units with less rigorous separation will require more supervision and inspection.

**Remedial:** Evidence of contamination of ready to eat food - food may have to be discarded or reprocessed. Ensure the source of contamination is removed.

**Personal Hygiene**

Personal hygiene is a recurring control point wherever staff handle food directly.

Two distinct points are important:

**i). Carriers**

**Control Targets:** Staff must be aware that they must report illness to their supervisor.

**Monitoring:** of 'carriers' is difficult. Routine stool testing is not considered to be a cost effective way of monitoring potential carriers. Staff must know of their obligation to report illness. (This obligation may need to be re-iterated from time to time and especially if there has been evidence of failure to report).

**ii) Direct cross-contamination hazards especially from hands (soiled clothing, chef's cloths etc.)**

**Control targets** are based on standards of dress, (appropriate uniform standards differ from job to job - see industry guides). Also on personal cleanliness and especially hand hygiene.

**Monitoring:** Again depends upon supervision, management and visual inspection.  
e.g. 'Make a point of watching staff entering work room/leaving the toilets. Check for proper hand washing.'

<b>Remedial:</b>	Poor hand hygiene	- wash hands immediately
	Clothing dirty	- change.
	FM hazard from jewellery or other effects	- remedy immediately

### **Cook or reheat**

Adequate cooking is invariably a CCP. Reheat may be a CCP depending upon the previous steps and controls.

**Control Target:** The accepted standard is a temperature of 70°C for 2 mins.  
Equivalent treatments are satisfactory.

**Examples:**

- absolute temperature of 75°C
- meat cuts/joints - juices run clear
- wet dishes - simmering/bubbling (throughout, after stirring)
- \*microwave - time / power setting
- \*oven, griddles, boilers, deep fryers etc.- cook time / temperature settings
- \* Using cook or reheat time & temperature settings? How do you know that it provides an effective process? Is it verified periodically?

**Monitoring:** Will be appropriate to the control target:

- Check product temperature
- Visual check of the food
- Equipment temperature setting and cooking time

**Remedial:** Continue to cook or reheat until target achieved.

### **Pests**

Pests transmit microbial contamination. They can sometimes introduce a physical contamination hazard.

**Control Target:** The target must be exclusion of pests from premises. Effective proofing of all potential access points will be the primary control measure.

**Monitoring:** Periodic visual checks of the integrity of proofing, also for evidence of pest activity. Survey by a competent contractor.

**Remedial:** Evidence of pest activity - take active control measures e.g. call a competent contractor. Any food subject to infestation or contamination should be discarded or reprocessed. Where was proofing breached?

### **Storage Temperatures**

For perishable foods, effective storage temperatures will be critical controls.

**Control Targets:**

**Chilled:** Businesses should set themselves specific targets usually in the 0°C to 8°C range. 'High risk' foods will almost always need to comply with the 8°C target in Temperature Control Regulations.

**Frozen:** Storage temperatures are unlikely to be 'critical' control points. But many businesses will set control targets around -18°C .

**Monitoring:** Control targets should relate to food temperature. Sometimes food temperature may be monitored directly. Indirect monitoring (air temperature, thermal simulant) is acceptable if the relationship to food temperature is understood.

**Remedial:** Identify reason for failure and rectify. Food may need to be discarded or reprocessed depending upon the extent of Time/Temperature abuse.

### **Stock control**

Bacterial growth hazards have a time element in addition to temperature.

**Control Targets:** Can vary from a few hours (ambient displays) to several days (chilled ingredients). Raw materials supplied pre-packed, carry 'Use By' dates. In other situations, the business will make its own decisions on acceptable storage life. A system of marking may be needed to allow monitoring.

**Monitoring:** Checking dates marks and rotating stock.

**Remedial:** Time expired Stock should be discarded.

### **Time out of temperature control**

Growth hazards also occur when food is exposed to ambient temperature, for example during preparation or display.

**Control Targets:** Targets will be hours rather than days. Again, there should be a system that allows control to be monitored, for example colour code.

**Remedial:** Food may need to be discarded or reprocessed depending upon the extent of Time/Temperature exposure.

### **Supplier Selection**

Critical controls are often in the hands of a third party. E.g. a retailer or caterer buys cooked meat from a processor. Can the retailer or caterer check the safety of the process?

**Control Targets:** The supplier must control the hazards inherent in the process.

**Monitoring:** Difficult for small businesses to check that they have reliable suppliers. Often they simply rely upon reputation and track record in previous supplies to the business. Larger businesses may audit their suppliers. Third party accreditation schemes may be a useful reference point.

**Remedial:** Don't use unreliable suppliers.

### **Deliveries**

Control of supply can at least start at the point of delivery.

**Control Targets:** Temperature - note the points made at storage temperature.

Stock control - has the delivery enough 'life' for it to be used before the 'Use By' date?

'Condition' - undamaged.

**Monitoring:** Temperature checks will be either direct food temperatures or appropriate 'non-destructive' tests. Stock control and condition are checked visually.

**Remedial:** Do not accept deliveries that fail any of the targets.

~~~~~

### **Approach to food groups : Visual Aid No. 10**

HACCP systems in manufacturing generally consider every product specifically. For the presentation and at this level it may not necessary to perform separate hazard analysis on every food. Similar foods with similar preparation steps can be tackled as one. The criterion should be "will all critical points be covered"? Analysis is by process steps rather than by specific foods as might be expected in a manufacturing business. However, the analysis must not be too generalised or hazards and controls will be missed.

**Examples:**

- An operation produces a range of cooked meats, lamb, pork, chicken, or turkey. Process steps and controls may be similar. One analysis will cover them all.
- A canteen prepares many different 'Casserole' type dishes. Even recipes as different as Irish Stew, Chicken Curry and Bolognese sauce have similar preparation steps and hazards.
- A retailer stocks a range of pre-packed foods as diverse as raw meat and cream cakes. The same basic steps of goods receipt, storage and display apply. Hazards and controls will be common and one analysis will cover all the issues.
- A sandwich bar uses dozens of different fillings, but all ingredients arrive ready cooked or prepared. The essential process and hazard analysis is the same.

The test must be 'do all the foods actually have the same process steps and common critical points?' If so they can be treated generically. If any food has different steps that include a critical point, it needs to be separated out.

**Example:**

- A restaurant produces a range of sauces. Part of every batch is cooked and served immediately to customers on site, but some is cooled and used at a smaller unit a few miles away. The latter process includes a number of extra steps, cooling, storage, reheat, etc. many of which are critical points.
- A sandwich bar uses 'home made' mayonnaise in some fillings. These may have different hazards and controls to other fillings.

Even the same 'generic' process step may be carried out differently for different foods. Controls and monitoring may be different:

**Example: Cooking chicken**

- Oven Roast ~ for 90 minutes at 170 °C oven temperature. Check juices run clear
- Deep fry ~ 5 minutes at 180 °C oil temperature.
- BBQ ~ until juices run clear and no longer pink in centre.

In businesses that produce a wide range of different products, such as large Hotels, the generic approach will simplify implementation greatly.

**Documentation - Records of Monitoring : Visual Aid No. 12**

Written records are not an express requirement of the regulations but may be helpful to the business. They show that hazard analysis is implemented, that control is effective, and may support any 'due diligence' defence.

**Review : Visual Aid No. 12**

Hazard analysis is not an exercise to be done once and then forgotten. It is an active system and needs to be kept under review.

**Need for Review****Examples:**

- There may be reason to believe that controls are not effective, for example there are customer complaints or bad results from routine micro-tests.
- The process is changed. Or a new piece of equipment is installed. Or a new product is introduced that is prepared differently.

All of these indicate a need to review the hazard analysis. The controls must be effective and relevant to the current situation. It may not be necessary to discuss 'review' as a concept as long as the business is aware that the controls must be kept up-to-date.

## Control of Food Hazards : Summary Sheet

Regulation 4(3)

1. Food Safety (General Food Hygiene) Regulations 1995 You must identify the **Hazards** at every process step in your operation. Food, delivery, its storage and cooking are examples of process steps.
2. **Hazards** are anything that could harm the consumer:
  - ◇ Micro-organisms
    - **contamination (from people, equipment, raw food)**
    - **growth (temperature control, stock rotation)**
    - **survival (under-cooking, poor disinfection)**
  - ◇ Physical Contamination
    - **contamination with glass or metal fragments**
  - ◇ Chemicals
    - **contamination with bleach, lime scale remover, etc.**
3. You can use the chart on the other side of these notes to help you do this.
4. If you produce a wide range of foods prepared in different ways, the hazards may be different. However it may be possible to group many together where the hazard and controls are the same. Consider this in your analysis. For example, cooking and preparing roast meat will have different hazards and controls to that of preparing salads.
5. **Controls** are vital. You must make sure that the controls from the hazard analysis are put into action. Many of them should already be happening in a well run business.
6. You should also make regular **Checks** to monitor that the controls are effective. For example, Are staff washing their hands correctly? Are the fridges working at the right temperature?
7. Keep **foreign materials** and **chemicals** out of food preparation areas and keep food covered.
8. Your analysis and controls must be kept up to date especially if you vary the foods that you produce, add new ones, or prepare them in different ways.
9. You may get further information on hazard analysis training from:
  - The Chartered Institute of Environmental Health, 0171 928 6006
  - Royal Institute of Public Health & Hygiene, 0171 580 2731
  - Royal Society of Health, 0171 630 0121
  - Royal Environmental Health Institute of Scotland, 3 Manor Place, Edinburgh EH3 7DH, 0131 225 6999
  - Your local Environmental Health Officer



# Hazard Analysis

e.g. Retail ~ High Risk pre-packed food

| 1. Steps                                   | 2. Hazards<br>What can go wrong? | 3. Control & Targets<br>What can I do about it? | 4. Monitor<br>How can I check? |
|--------------------------------------------|----------------------------------|-------------------------------------------------|--------------------------------|
| <b>Display at C&amp;C (cash and carry)</b> |                                  |                                                 |                                |
| <b>Transit to retail outlet</b>            |                                  |                                                 |                                |
| <b>Display</b>                             |                                  |                                                 |                                |

# Hazard Analysis

e.g. Retail ~ High Risk pre-packed food

| 1. Steps                        | 2. Hazards<br>What can go wrong?                                  | 3. Control & Targets<br>What can I do about it?                                                               | Monitor<br>How can I check?                                                                                              |
|---------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Display at C&amp;C</b>       | Growth (Temp.)<br>Growth (Time)<br>Growth (pack)<br>Contamination | Temperature control - <8°C<br>Shelf life ~ sufficient?<br>Vacuum or MAP intact<br>Pack not damaged (any pack) | <ul style="list-style-type: none"> <li>• Check temperatures</li> <li>• Check codes</li> <li>• Check condition</li> </ul> |
| <b>Transit to retail outlet</b> |                                                                   |                                                                                                               |                                                                                                                          |
| <b>Display</b>                  |                                                                   |                                                                                                               |                                                                                                                          |

# Hazard Analysis

e.g. Retail ~ High Risk pre-packed food

| 1. Steps                        | 2. Hazards<br>What can go wrong?                                  | 3. Control & Targets<br>What can I do about it?                                                                     | 4. Monitor<br>How can I check?                                                                                                                |
|---------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Display at C&amp;C</b>       | Growth (Temp.)<br>Growth (Time)<br>Growth (pack)<br>Contamination | Temperature control - <8°C<br>Shelf life ~ sufficient?<br>Vacuum or MAP intact<br>Pack not damaged (any other pack) | <ul style="list-style-type: none"> <li>• Check temperatures</li> <li>• Check codes</li> <li>• Check condition</li> </ul>                      |
| <b>Transit to retail outlet</b> | Growth (temp.)<br><br>Growth (time)<br><br>Contamination          | Must be <8°C<br><br>Transfer to store and into chiller asap<br><br>Avoid damage                                     | Check temperature.<br>(Corrective action - review procedures if unable to meet target).<br>Check (Corrective action - discard damaged stock). |
| <b>Display</b>                  | Growth (temp.)<br><br>Growth (time)                               | Must be <8°C<br><br>Control storage life                                                                            | Check temp. twice a day<br><br>Check codes                                                                                                    |

# Hazard Analysis

e.g. prep. & display (cooked meat)

| 1. Steps       | 2. Hazards<br>What can go wrong? | 3. Control & Targets<br>What can I do about it? | 4. Monitor<br>How can I check? |
|----------------|----------------------------------|-------------------------------------------------|--------------------------------|
| <b>Store</b>   |                                  |                                                 |                                |
| <b>Slice</b>   |                                  |                                                 |                                |
| <b>Display</b> |                                  |                                                 |                                |

# Hazard Analysis

e.g. prep. & display (cooked meat)

| 1. Steps       | 2. Hazards<br>What can go wrong?                     | 3. Control & Targets<br>What can I do about it?                                                      | 4. Monitor<br>How can I check?                                                    |
|----------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>Store</b>   | Growth (temp.)<br>Growth (time)<br><br>Contamination | Store at <8°C<br>Use within life ('Use By')<br><br>Store in clean equipment & separate from raw meat | Temp. checks<br>Check date codes<br>Cleaning schedules followed, check separation |
| <b>Slice</b>   |                                                      |                                                                                                      |                                                                                   |
| <b>Display</b> |                                                      |                                                                                                      |                                                                                   |

# Hazard Analysis

e.g. prep. & display (cooked meat)

| 1. Steps       | 2. Hazards<br>What can go wrong?                     | 3. Control & Targets<br>What can I do about it?                                                                                          | 4. Monitor<br>How can I check?                                                                |
|----------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Store</b>   | Growth (temp.)<br>Growth (time)<br><br>Contamination | Store at <8°C<br>Use within life ('Use By')<br><br>Store in clean equipment & separate from raw meat                                     | Temp. checks<br>Stock rotation<br>Check cleaning schedules followed,<br>Check separation      |
| <b>Slice</b>   | Contamination<br><br>Growth                          | Scrupulous sanitisation of equipment esp. slicer.<br>Strict staff hygiene<br><br>Minimise 'time out of refrigeration'.<br><br>Temp <10°C | Check cleaning schedules followed<br><br>Check staff<br>Check times<br><br>Check temperature. |
| <b>Display</b> | Growth<br><br>Contamination                          | Display at <8°C<br><br>Sanitisation of equipment                                                                                         | Check temp. twice a day<br>Check schedules                                                    |



**controlling Food Hazards**



**Presentation Pack**

# 1. Hazard Analysis - What is it?

It is the process of :

- ◆ Looking at your food business activities
- ◆ Identifying potential problems which may harm your customers
- ◆ Ensuring the necessary controls are always in place

## 2. Hazard Analysis - Why do it?

- ◆ Best way to identify and control food safety problems
- ◆ It is a Legal Requirement
- ◆ Food Safety (General Food Hygiene) Regulations 1995
  - identify any steps critical to food safety and ensure adequate controls are in place

### **3. Hazard Analysis - What's in it for business?**

- ◆ What you're already doing.
- ◆ More focused
  - systematic
  - relevant to your operation
  - controls & monitors
- ◆ Prevents problems
- ◆ May build on existing good practices

## 4. Hazards

‘Anything that can cause harm to a consumer.’

### ◆ Micro-organisms

- contamination (people, equipment, raw food)
- growth (temperature control)
- survival after inadequate cooking, disinfection

### ◆ Foreign material

- contamination - glass, metal, hair, paper, etc...

### ◆ Chemicals

- contamination - bleach, acid descaler, rodent bait

# 5 .Where to start

- ◆ Who does it?
  - Proprietor?
  - Expert?
  - Other staff?

## 6. What do I need to do?

Systematically consider the :

- ◆ Foods you handle
- ◆ Preparation steps they go through
- ◆ Hazards at each step
- ◆ Controls and checks necessary

# 7. Hazard Analysis

**Food :** [REDACTED]

| <b>1.Steps</b><br>(eg; delivery<br>storage<br>cook) | <b>2.Hazards</b><br>What can go<br>wrong? | <b>3.Control &amp;<br/>Targets</b><br>What can I do about it? | <b>4. Monitor</b><br>How can I check? |
|-----------------------------------------------------|-------------------------------------------|---------------------------------------------------------------|---------------------------------------|
| <b>Cook</b>                                         |                                           |                                                               |                                       |
| <b>Cool</b>                                         |                                           |                                                               |                                       |
| <b>Wrap</b>                                         |                                           |                                                               |                                       |
| <b>Dispatch</b>                                     |                                           |                                                               |                                       |

# 7a. Hazard Analysis

e.g : Cooked Meat Preparation

| <b>1.Steps</b> | <b>2.Hazards</b><br>What can go wrong? | <b>3.Control &amp; Targets</b><br>What can I do about it? | <b>4.Monitor</b><br>How can I check? |
|----------------|----------------------------------------|-----------------------------------------------------------|--------------------------------------|
|                |                                        |                                                           |                                      |
|                |                                        |                                                           |                                      |
|                |                                        |                                                           |                                      |
|                |                                        |                                                           |                                      |

# 8. Controls

## ◆ Effective

- eliminate hazard or reduce it to a safe level

## ◆ Practical

- applicable to the business

## ◆ Some will be critical to food safety

- Know which ones these are
- Always check/monitor critical controls

# 7b. Hazard Analysis

e.g. **Cooked Meat Preparation**

| <b>1.Steps</b>  | <b>2. Hazards<br/>What can go wrong?</b> | <b>3.Control &amp; Targets<br/>What can I do about it?</b> | <b>4. Monitor<br/>How can I check?</b>                             |
|-----------------|------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------|
| <b>Cook</b>     | Survival                                 | Cook properly to 75°C                                      | Check temperature<br><br>Return to cooker if not at 75°C or above. |
| <b>Cool</b>     |                                          |                                                            |                                                                    |
| <b>Wrap</b>     |                                          |                                                            |                                                                    |
| <b>Dispatch</b> |                                          |                                                            |                                                                    |

# 9. Hazard Analysis

## e.g. Cooked Meat Preparation

| 1.Steps | 2.Hazards<br>What can go wrong?       | 3. Control & Targets<br>What can I do about it?                                                                               | 4. Monitor<br>How can I check?                                                                                      |
|---------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Cook    | Survival                              | Cook properly to 75°C                                                                                                         | Check temperature.<br><br>Return to cooker if not at 75°C or above.                                                 |
| Cool    | Growth of spores<br><br>Contamination | Cool quickly. Ideally to below 10°C in 1.5 hours.<br><br>Keep covered or wrapped.<br>All equipment properly sanitised.        | Check temperature.<br>Check chiller loading.<br><br>Check cleaning against the schedule .                           |
| Wrap    | Contamination<br><br>Growth           | Strict separation from sources of contamination.<br><br>Cool packing room to around 12°C batch control < 1 hr out of chiller. | Check personal hygiene and equipment sanitation.<br><br><u>No</u> contact with raw food<br>Check food temp or time. |

# 10. Food Groups

- ◆ Similar process / same hazard analysis & controls
  - Roast Turkey/Roast Pork, etc.
- ◆ Different process / different hazard analysis & controls
  - Hamburgers
  - Salads
  - Ice cream

# 11. Foreign Material/ Chemical Hazards

## ◆ Control Targets

- Keep Contamination Out of the Premises
- Protect Food (Cover)

## ◆ Monitor

- Inspection, Observation, Supervision

## 12. Action Plans & Review

- ◆ Do you know the critical controls in your business?
- ◆ Are they under control?
  - Check sheets?
    - delivery
    - fridge
    - cleaning schedules, etc.
- ◆ Do staff understand the system?
- ◆ Remember review periodically

