Definitions (HACCP)

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Acceptable level	The presence of a hazard at a level that is unlikely to cause an unacceptable health risk.
Control measures	Actions or activities required to prevent or eliminate a food safety hazard or reduce it to an acceptable level.
Control point	A step in the process where control may be applied, but a loss of control would not result in an unacceptable health risk.
Corrective action	The action to be taken when results of monitoring at a CCP indicate a loss of control i.e. a critical limit is breached.
Criteria	Specified characteristics of a physical (e.g. time or temp), chemical (e.g. pH) or biological (e.g. sensory) nature.
Critical control point (CCP)	A step in the process where control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.
Critical limit	A monitored criterion which separates the acceptable from the unacceptable.
Decision tree	A sequence of questions to determine if a step in the process is a critical control point.
Deviation	Failure to meet a critical limit.
Flow diagram	A systematic representation of the sequence of steps or operations involved with a particular food item or process, usually from receipt of raw materials to consumer.
Food business	Means any undertaking, whether for profit or not, and whether public or private, carrying out any of the activities related to any stage of production, processing and distribution of food.
Food safety management system	The policies, procedures, controls and documentation that ensure the food sold by a food business is safe to eat and free from contaminants.
HACCP (hazard analysis critical control point)	A food safety management system which identifies, evaluates and controls hazards which are significant for food safety.
HACCP plan	A document prepared in accordance with the principles of HACCP to ensure control of hazards which are significant for food safety of the food chain under consideration.
Hazard	A biological, chemical or physical agent in, or condition of, food with the potential to cause harm (an adverse health effect) to the consumer. (NB most biological hazards are microbiological.)
Hazard analysis (Codex)	The process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant for food safety and therefore should be addressed in the HACCP plan.
Microbiological hazard	The unacceptable contamination, the unacceptable multiplication, the unacceptable production or persistence of toxins and/or the unacceptable survival of pathogenic micro-organisms in food. (Includes bacteria, viruses, parasites, protozoa and moulds).

Definitions (HACCP)

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Monitoring	The planned observations and measurements of control parameters to confirm that the process is under control and that critical limits are not exceeded.
Prerequisite programmes	The good hygiene practices a business must have in place before implementing HACCP, to enable the HACCP plan to concentrate on the most significant hazards.
Review	A reassessment of the HACCP system to ensure its continued validity.
Risk	The likelihood of a hazard occurring in food.
Risk assessment	The process of identifying hazards, assessing risks and severity and evaluating their significance.
Severity	The magnitude of the hazard or the seriousness of the possible consequences.
Target level	Control criterion that is more stringent than the critical limit, and which can be used to reduce the risk of a deviation.
Tolerance	The specified degree of latitude for a control measure, which if exceeded, requires immediate corrective action.
Validation	Obtaining evidence that elements of the HACCP plan are effective, especially the critical control points and critical limits.
Verification	The application of methods, procedures and tests, and other evaluations, in addition to the monitoring, to determine compliance with the HACCP plan. (Includes prerequisite programmes.)

Legal requirement for HACCP

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REGULATION (EC) No 852/2004 ON THE HYGIENE OF FOODSTUFFS
Requirements in relation to HACCP
Article 5

1. Food business operators shall put in place, implement and maintain permanent procedures based on the following HACCP principles:

(a) identifying any hazards that must be prevented, eliminated or reduced to acceptable levels;
(b) identifying the critical control points at the step or steps at which control is essential to prevent or eliminate a hazard or to reduce it to acceptable levels;
(c) establishing critical limits at critical control points which separate acceptability from unacceptability for the prevention, elimination or reduction of identified hazards;
(d) establishing and implementing effective monitoring procedures at critical control points;
(e) establishing corrective actions when monitoring indicates that a critical control point is not under control;
(f) establishing procedures, which shall be carried out regularly, to verify that the measures outlined in subparagraphs (a) to (e) are working effectively; and
(g) establishing documents and records commensurate with the nature and size of the food business to demonstrate the effective application of the measures outlined in subparagraphs (a) to (f).

When any modification is made in the product, process, or any step, food business operators shall review the procedure and make the necessary changes to it.

Paragraph 1 shall apply only to food business operators carrying out any stage of production, processing and distribution of food after primary production and those associated operations listed in Annex I.

Food business operators shall:

(a) provide the competent authority with evidence of their compliance with paragraph 1 in the manner that the competent authority requires, taking account of the nature and size of the food business;
(b) ensure that any documents describing the procedures developed in accordance with this Article are up to date at all times;
(c) retain any other documents and records for an appropriate period.

ANNEX 11 Chapter XII Training

Food business operators are to ensure:

1. that food handlers are supervised and instructed and/or trained in food hygiene matters commensurate with their work activity;
2. that those responsible for the development and maintenance of the procedure referred to in Article 5(1) of this Regulation or for the operation of relevant

guides have received adequate training in the application of the HACCP principles; and

3. compliance with any requirements of national law concerning training programmes for persons working in certain food sectors.

HACCP and Safer food better business (SFBB)

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Flexibility and HACCP

Regulation (EC) 852/2004 requires food business operators to put in place a food safety management system based on HACCP principles**, to control significant hazards at steps in the operation critical to food safety. This system should involve:**

- **identifying significant hazards specific to their operation**
- **implementing effective control measures at these critical steps**
- **monitoring the control measures to ensure they are effective**
- **taking corrective action if something goes wrong**
- **verifying and reviewing the control measures periodically, and whenever there is a significant change in the operation**
- **documentation and recording appropriate to the size and nature of the business**

However, the FSMS does not have to follow the traditional HACCP approach as long as the outcome is safe food (Regulation allows flexibility). Depending on the size and type of business, this enables systems to:

- avoid using HACCP jargon
- use generic controls
- **use pre-validated procedures (e.g. by FSA)**
- combine good hygiene practice and HACCP
- **use practical** craft skills, sensory **observation and supervision instead of numerical critical limits**
- **use minimal documentation**
- **use** exception recording**, i.e. when something changes or goes wrong**

Managers must have the skills to maintain the FSMS proportionate to their business

Safer food better business (SFBB)

SFBB takes advantage of the flexibility allowed for small businesses.

SFBB is a practical food safety management system developed by the Food Standards Agency (FSA) to help small catering businesses **comply with the law regarding HACCP and to produce safe food. It is provided in an A4 binder divided into two parts. The first part provides** safe methods **and the second part contains monitoring records.**

The safe methods relate to cross-contamination, (including personal hygiene), cleaning, (including handwashing), chilling and cooking.

There is also a section on management **which provides guidance on opening and closing checks, proving methods are safe, a safe method completion record, training and supervision, stock control and selecting suppliers and contractors.**
The second part includes a cleaning schedule, a supplier's list, staff training records and a diary **to record daily events and a four weekly review.**

The safe method sheets are based on good catering practice. They identify generic hazards and critical control points and describe how to prepare safe food. Safe method sheets must be completed by each business to ensure that the pack is customised to reflect the critical control points specific to their operation. The following table shows how SFBB can be mapped back to the principles of HACCP.

SFBB Headings	Explanation	HACCP principle
Safety points	Advice on how to make safe food	Generic control measures
Why	Provides details of why the control measures are required	Identifies the hazards i.e. what could go wrong)
How you do this	Controls specific to the business used to make the food safe (customisation of the pack)	specific control measures and documentation
Check it	What to look for to ensure control measures are effective (photographs are provided to identify critical limits, for example, to distinguish between cooked and undercooked products	monitoring
What to do if things go wrong	Advice on dealing with suspect food and bringing the process back under control	Corrective action
How to stop this happening again		Corrective action

The completion of the diary and the records provide additional documentation. Carrying out the self audit, the four weekly review and inspections by authorised officers provide the verification of the system. The "prove it" part of the management section is also part of the verification principle. This could involve, for example, using a disinfected probe thermometer to confirm that a particular process achieves a safe cooking temperature or that food can be cooled to a safe temperature in a specific time.
If the food business prepares a food dish not included in a safe method in SFBB, then the owner or manager must develop their own safe method. For example, if not using pasteurised egg when making lightly cooked egg dishes or preparing a donner kebab. This will require the procedures used to be validated to prove they are safe.

The manager must sign the diary every day to confirm that all safety checks were carried out and that the safe methods were followed. If something different happens or something went wrong, this should be recorded in the diary, together with the corrective action that was taken to make the food safe to eat.

The pack does not require the daily use of a probe thermometer or the daily recording of, for example, refrigerator or cooking temperatures. However, the correct use of a probe thermometer, for example, to check deliveries and storage temperatures of chilled food, to confirm cooking temperatures of food and to confirm that food on display is kept below 8°C or above 63°C, may enhance your control measures. Furthermore, accurately completed records should assist a due-diligence defence if this is needed.

SFBB does suggest the use of a thermometer to validate procedures or food preparation which is not included in a safe method, e.g. low temperature cooking.

When using probe thermometers you must always check the warmest part of chilled food and the coolest part of the food during cooking or hot holding. Thermometers must be cleaned and disinfected before probing each food and this is best achieved by hot water above 82°C.

7 HACCP principles

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1 Conduct a hazard analysis. Prepare a flow diagram, identify the hazards and specify the control measures.

2 Determine the critical control points.

3 Establish critical limits, target levels and tolerances.

4 Establish a monitoring system by scheduled testing or observations.

5 Establish corrective actions to be taken when a CCP is out of control.

6 Establish verification procedures which include appropriate supplementary tests together with a review which confirms that HACCP is working effectively.

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

Stages in the implementation of HACCP (The HACCP study) (Codex logic sequence)

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1 **Assemble and train the HACCP team and define terms of reference.**

2 **Describe the product/recipe.**

3 **Identify intended use.**

4 **Construct a flow diagram and food room layout showing product, personnel, equipment and waste flows.**

5 **On-site verification of flow diagram and food room layout.**

6 **Identify hazard/risk/severity and control measures (Principle 1).**

7 **Determine critical control points using the decision tree (Principle 2).**

8 **Determine critical limits, target levels and tolerances for each critical control point (Principle 3).**

9 **Establish monitoring system for each CCP (Principle 4).**

10 **Establish actions to be taken when target levels are exceeded and corrective actions to be taken when a critical limit is exceeded (Principle 5).**

11 **Establish verification and review procedures (Principle 6).**

12 **Establish record keeping and documentation (Principle 7).**

Management commitment is required at all levels for the successful implementation of HACCP.

HACCP Control Chart

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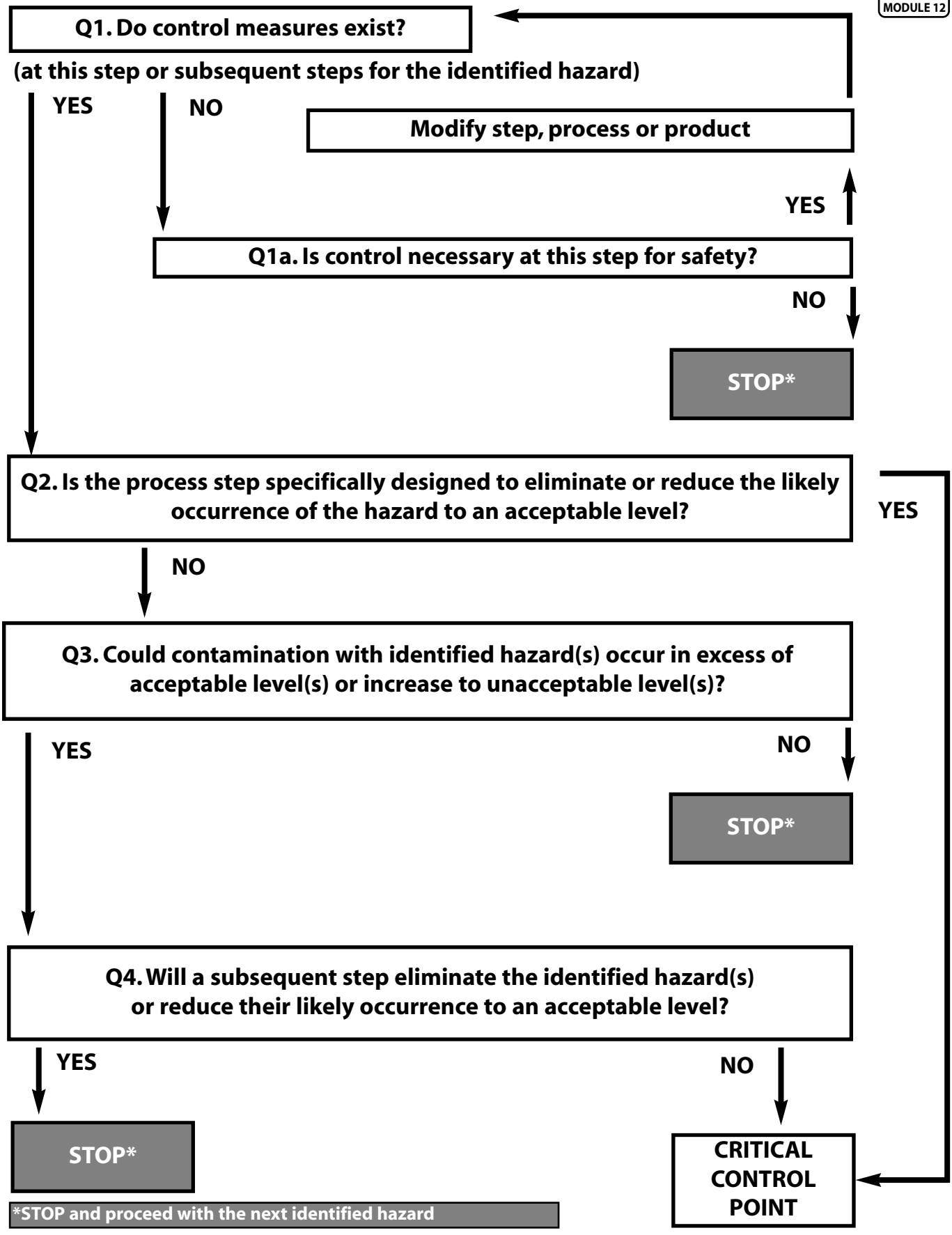
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PROCESS STEP	HAZARDS AND SOURCES CAUSES OF HAZARDS	CONTROL MEASURES	CCP Y/N/P	CRITICAL LIMIT	MONITORING & PERSON RESPONSIBLE (INCLUDE FREQUENCY)	CORRECTIVE ACTION AND RESPONSIBILITY (product and action to bring the CCP under control)*

P = prerequisites - approved suppliers, premises and equipment well designed and maintained, staff trained in general food safety and good personal hygiene, effective cleaning/disinfection, pest management and waste management.
*If there is a deviation it must be investigated to ascertain why the deviation occurred.

Codex CCP Decision tree

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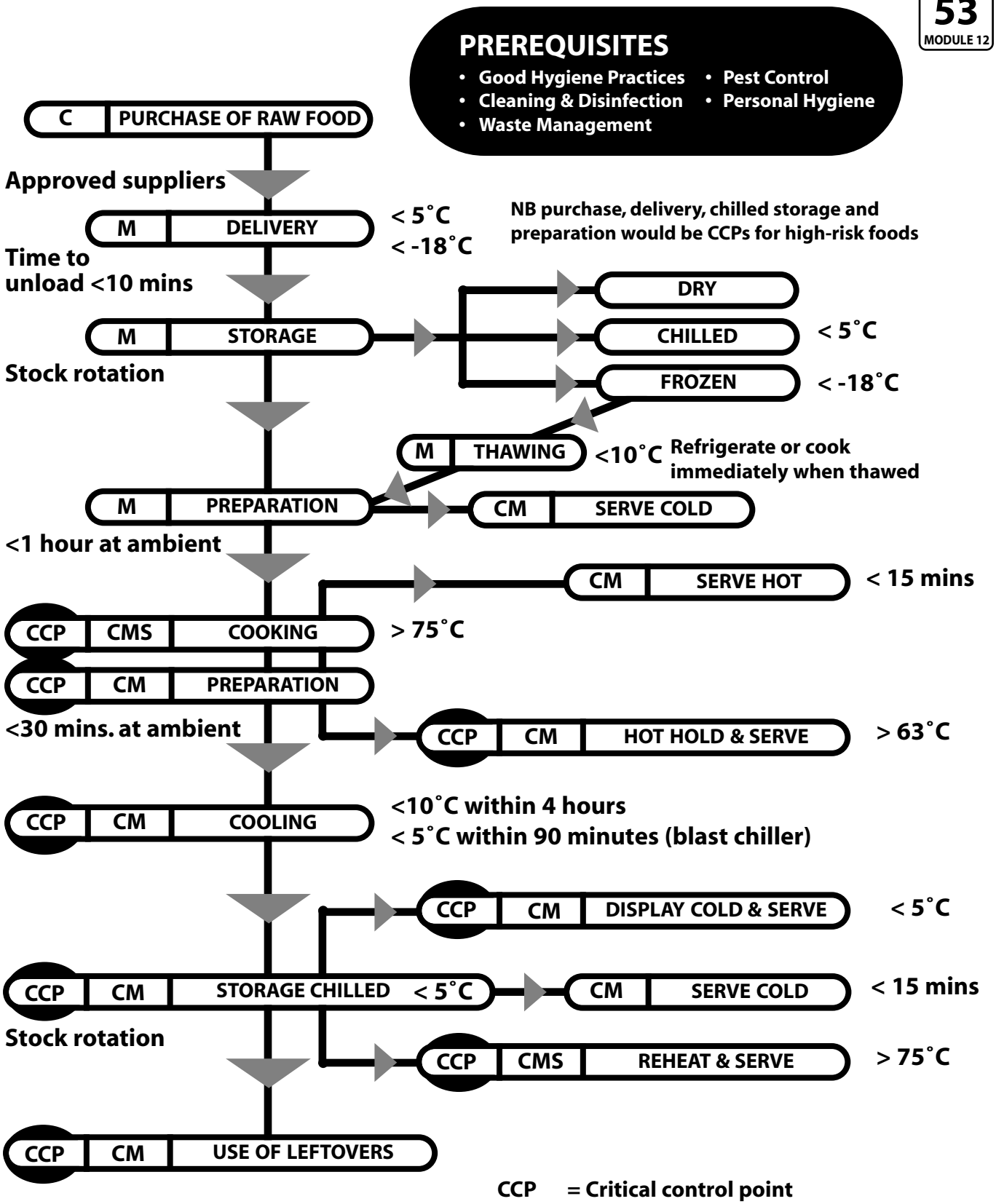


*STOP and proceed with the next identified hazard

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Generic flow diagram for catering

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Check temperatures with a disinfected electronic probe thermometer

CCP = Critical control point

Generic hazards
C = Contamination
M = Multiplication
S = Survival