

The image features a white background with a black rectangular border. Three stylized teal circles of varying sizes are arranged vertically on the right side. Each circle is composed of three concentric layers: a solid teal center, a light teal middle ring, and a darker teal outer ring. Two thin teal lines originate from the top-left corner and extend diagonally towards the top-right and middle-right areas, passing near the circles. A large teal shape, consisting of a circle and a square, is partially visible at the bottom right corner, overlapping the border.

**CAUSAL  
REVERIE**

# Protocol on Application of HACCP

(Hazard Analysis Critical Control Point)

For

Food Safety Management

## HACCP-based Food Safety Plans

### HACCP Goal



- ✓ To identify the hazard of raw materials and foods in term of presence of alimentary pathogens and toxic compounds.
- ✓ To detect whether raw materials and foods are able to inhibit the growth and reproduction of microorganisms.
- ✓ To identify potential sources of the hazard and places of contamination or its entry into the food chain.
- ✓ To detect a probability of microorganism's survival or reproduction during the manipulation with food.
- ✓ To evaluate the relevance of the hazard risk
- ✓ To detect the critical control points in the production process
- ✓ To determine critical limits
- ✓ To establish a monitoring system
- ✓ To determine preventive and corrective actions
- ✓ To determine verification procedures
- ✓ To determine a data recording system
- ✓ To determine a data management system
- ✓ To determine a data archiving system

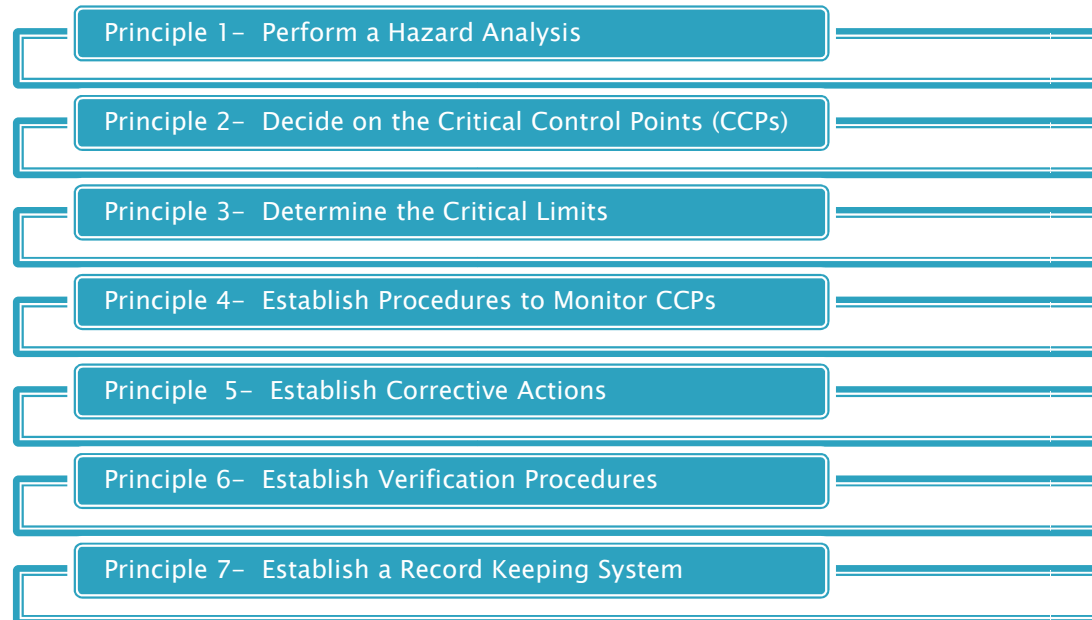
### Advantages of HACCP



- ✓ Ensures the food safety of products
- ✓ Increases the trust of customer towards products
- ✓ Increase the trust of customer towards brand
- ✓ Preventive actions increase the efficiency of the production process
- ✓ Increases the quality of products
- ✓ Operating procedures are standardized and rationalized
- ✓ Enlarge the possibility of trade development

# **HACCP Principles**

There are 7 Principles of HACCP....

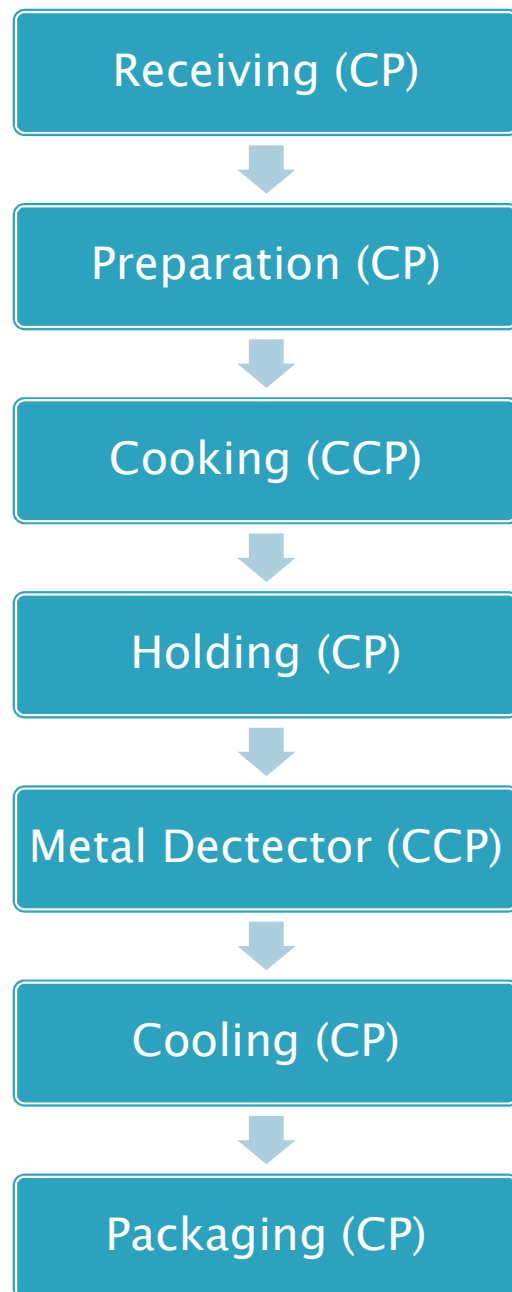


## **HACCP Implementation in Food Manufacturing Industries**

During the food processing these operations involves for sanitization and GMP (control points)

- Washing Hands
- Using Suitable Utensils When Handling Foods
- Personal Hygiene
- Using and Calibrating Food Thermometers
- Preventing Cross-Contamination during Storage and Preparation
- Cleaning and Sanitizing Food Contact Surfaces

**The process flow chart of food manufacturing (HACCP Implementation) is as follows-**



## HACCP Application on Commercial Kitchen

HACCP (Hazard analysis critical control point) system is based on Good Manufacturing practices (GMP) and standard sanitation operation procedures for providing safe & healthy foods. There are following steps are involved in commercial kitchen for HACCP implementation-



1. Hazard Analysis on the Production Line
2. Critical Control Points on the Production Line
3. Washing Fruits and Vegetables (**Control Point**)
4. Washing and Rinsing the Equipment (**Control Point**)
5. Storage of Raw Materials (**Control Point**)
6. Cooking the Meal (**Critical Control Point**)
7. Distributing Meal (**Control Point**)
8. Metal Detectors (**Critical Control Point**)
9. Packaging of meal (**Control Point**)

Several activities or stages make up the flow of food and are called operational steps. Examples of operational steps include receiving, storing, preparing, cooking, cooling, reheating, holding, assembling, packaging, serving, and selling. There are following steps involves in the processing of food -

Most food items produced in a food service establishment can be categorized into one of three preparation processes based on the number of times the food passes through the temperature danger zone between 41 °F to 135 °F:



Process 1

The diagram for Process 1 consists of a blue downward-pointing chevron on the left side of a rounded rectangular box. The text is contained within the box to the right of the chevron.

- **Food Preparation with No Cook Step**  
**Receive – Store – Prepare – Hold – Serve**  
(other food flows are included in this process, but there is no cook step to destroy pathogens)



Process 2

The diagram for Process 2 consists of a blue downward-pointing chevron on the left side of a rounded rectangular box. The text is contained within the box to the right of the chevron.

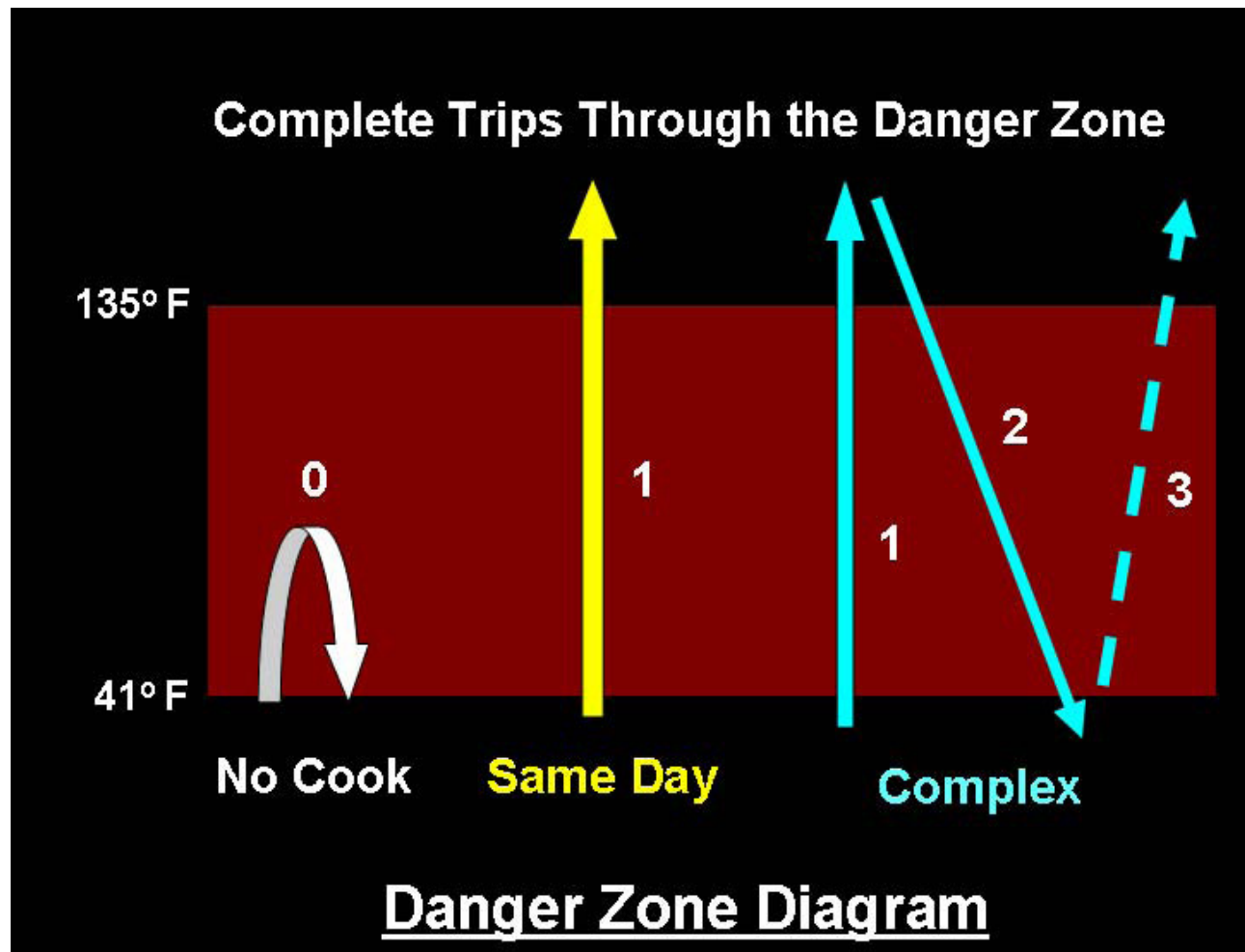
- **Preparation for Same Day Service**  
**Receive – Store – Prepare – Cook – Hold – Serve**  
(other food flows are included in this process, but there is only one trip through the temperature danger zone)



Process 3

The diagram for Process 3 consists of a blue downward-pointing chevron on the left side of a rounded rectangular box. The text is contained within the box to the right of the chevron.

- **Complex Food Preparation**  
**Receive – Store – Prepare – Cook – Cool – Reheat – Hot – Hold – Serve**  
(other food flows are included in this process, but there are always two or more complete trips through the temperature danger zone)



## DETERMINING RISK FACTORS IN PROCESS FLOWS

In developing your food safety management system, keep in mind that active managerial control of risk factors common to each process can be achieved by either designating certain operational steps as critical control points (CCPs) or by implementing prerequisite programs.

The HACCP plans that you will develop using this Manual, in combination with prerequisite programs; will constitute a complete food safety management system.



In order to have active managerial control over personal hygiene and cross contamination, you must implement certain control measures in all phases of your operation. All of the following control measures should be implemented regardless of the food preparation process used:

- **No bare hand contact with ready-to-eat foods (or use of an approved, alternative procedure)**

(To help prevent the transfer of viruses, bacteria, or parasites from hands)

- **Proper hand washing**

(To help prevent the transfer of viruses, bacteria, or parasites from hands to food)

- **Restriction or exclusion of ill employees**

(to help prevent the transfer of viruses, bacteria, or parasites from hands to food)

- **Prevention of cross-contamination** of ready-to-eat food or clean and sanitized food-contact surfaces with soiled cutting boards, utensils, aprons, etc. or raw animal foods.

## HACCP Application on Food Packaging

HACCP is a systematic and preventative approach to food safety that addresses biological, chemical and physical hazards through preventative action rather than by finished product inspection. In the food packaging there are some steps which is necessary for HACCP application-



- ✓ Product Description
- ✓ List of Product Ingredients and Incoming Materials
- ✓ Process Flow Diagram
- ✓ Plant Schematic
- ✓ Testing of packaging materials
- ✓ Biological Hazard Identification and Control
- ✓ Chemical Hazard Identification and Control
- ✓ Physical Hazard Identification and Control
- ✓ Critical Control Point Determination

### **HACCP apply for food packaging made up of 2 key elements:**

1. Prerequisite Program – Common Good Manufacturing Practices (GMPs) for the industries.
2. HACCP Standards for Specific Conversion Processes.

- Flexible & Rigid Plastic
- Paper
- Metal & Glass
- After receiving the food material there are some control and critical control points which are as follows-

Receiving the food materials



Metal detection (CCP)



Storage



Adhesive lamination (temperature control) (CCP)



Packing in Bag/polypack



Storage

## **HACCP Application on Frozen Food**

### **Quality and safety of chilled and frozen foods**

- Maintain high levels of hygiene at all stages of the product's life.
- Chill or freeze products quickly and adequately after preparation and manufacture.
- Rigidly maintain chill ( $<5^{\circ}\text{C}$ ) or frozen ( $<-18^{\circ}\text{C}$ ) temperatures, wherever possible, during storage and distribution.
- Rigidly maintain chill ( $<5^{\circ}\text{C}$ ) and frozen ( $<-18^{\circ}\text{C}$ ) temperatures in holding stores and display cabinets.
- Ensure that chilled or frozen products are transferred in a continuous operation (no stopping or delays) between temperature-controlled areas, e.g. delivery trucks to holding stores; storage areas to retail display units.
- Segregate cooked and uncooked chilled or frozen products in storage and retail display cabinets, e.g. segregate uncooked meats and ready-to-eat meat products.
- Conduct frequent and systematic temperature checks on chilled and frozen food product temperatures, using appropriate and calibrated instrumentation.
- Do not overload chilled or frozen retail cabinets with product: refer to cabinet manufacturer's recommended capacity and loading patterns.
- Train and educate all personnel (including consumers) in the correct handling and storage of chilled and frozen foods.

The processing steps of frozen foods are as follows-



- Raw material selection
- Preparation
- Manufacturing
- Metal detection(CCP)
- Chilling/freezing (temperature control) (CCP)
- Packaging
- Cold storage
- Holding storage
- Transport

# **HACCP Application on Food Safety management**

## **General Objectives of Food Safety Management**



- ✓ Identify the essential principles of food hygiene applicable throughout the food chain (starting from raw material reception to final product), to achieve the goal of ensuring that food is safe and suitable for human consumption.
- ✓ Recommend a HACCP based approach as a means to enhance food safety.
- ✓ Indicate how to implement those principles.
- ✓ Provide guidance for specific codes which may be needed for sectors of the food chain, processes or commodities to amplify the hygiene requirements specific to those areas.

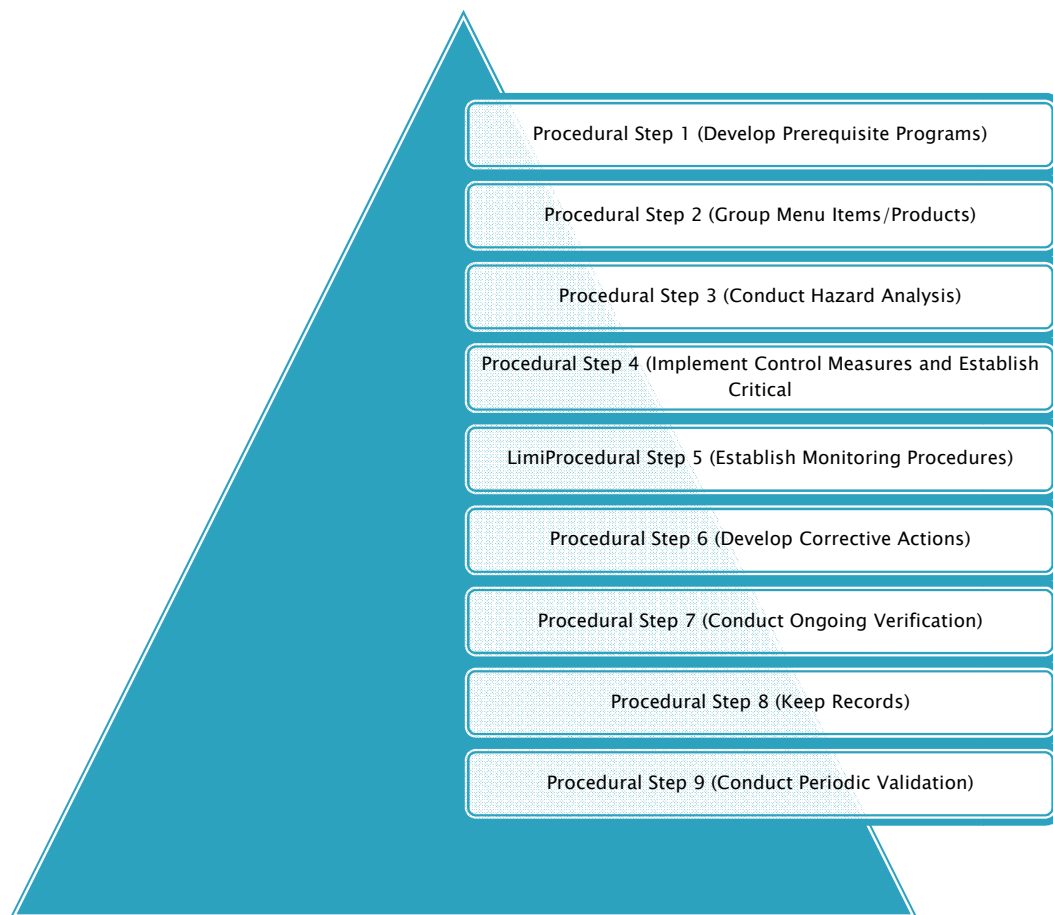
Food Safety, HACCP and other Quality management System looks for hazards, or anything that could go wrong regarding product safety and implements controls subsequently to ensure that the product will not cause harm to the consumer. Food Safety system mainly focuses on identifying and preventing hazards that may lead product to deteriorate.

There are some HACCP applications on food safety management-

HACCP applies the area of food preparation, handling, receiving, storing, serving, transporting, cleaning, sanitizing etc.

The ideal progression of building a food safety management system according to this manual is as follows:

### Assemble Your HACCP Team



### Standard Operating Procedure

## **Personal Hygiene**

### **PROCEDURES:**

1. Follow the Employee Health Policy.
2. Report to work in good health, clean, and dressed in clean attire.
3. Change apron when it becomes soiled.
4. Wash hands properly, frequently, and at the appropriate times.
5. Keep fingernails trimmed, filed, and maintained so that the edges are cleanable and not rough.
6. Do not wear artificial fingernails or fingernail polish.
7. Wear single-use gloves.
8. Do not wear any jewellery except for a plain ring such as a wedding band.
9. Treat and bandage wounds and sores immediately. When hands are bandaged, single-use gloves must be worn.
10. Cover a lesion containing pus with a bandage. If the lesion is on a hand or wrist, cover with an impermeable cover such as a finger cot or stall and a single-use glove.
11. Eat, drink, use tobacco, or chew gum only in designated break areas where food or food contact surfaces may not become contaminated. Only drinks that have covered lids and straws may be consumed in these designated areas.
12. Taste food the correct way:
  - Place a small amount of food into a separate container.
  - Step away from exposed food and food contact surfaces.
  - Use a teaspoon to taste the food. Remove the used teaspoon and container to the dish room. Never reuse a spoon that has already been used for tasting.
  - Wash hands immediately.
13. Wear a hair net while in the kitchen.