



HACCP (Hazard Analysis and Critical Control Points)

is a written food safety system that uses a preventative approach that controls for biological, physical, and chemical hazards in food production. It is a 12 step program that includes identification of potential hazards and the points in production at which they might occur (the Critical Control Points), management chain of command, and pre-requisite programs with SOPs (Standard Operating Procedures) that address sanitation, pest control, equipment maintenance, approved supplier programs, thermometer calibrations, personnel hygiene plans, and recall instructions.

HACCP was developed in the 1960s by NASA to ensure that food was safe for space flight. Since then, it has been adopted by most federal agencies as the preferred means of food safety prevention. HACCP plans are mandatory in production of meat, seafood, and juice. Many distributors and retail stores also require HACCP plans for all products.

The most important thing to understand about HACCP planning is that each HACCP plan is a living document that must be updated to reflect the practices currently in place in a production facility. A HACCP plan is specific and concrete, and can only be written when a process is in place—steps 4 and 5 must be accurate and implemented before the rest of the plan can be written. There are a variety of SOPs that are considered prerequisite to HACCP, but again, these must reflect what is actually occurring in the plant.

The 12 Steps of HACCP

1. Create the food safety team.

- Generally comprised of the owner, a QA manager (often, in small plants, the owner), the plant manager, and someone with no connection to management who works on the floor. It's best practice to have an uneven number of team members, and they must all complete HACCP training.

2. Describe the food in great detail.

- Listing all ingredients, packaging, and brand names.

3. Describe the intended consumer and how they are going to consume the food.

- Including where they buy the product, how the product is transported to them, how they store the product, and how they are going to use it (cooked? straight from the package?).

4. Diagram the process flow, from receiving to shipping.

5. Verify the process flow diagram.

- Walk through the plant with the diagram to make sure that it accurately describes the process. The diagram should be detailed and accurate enough that someone who doesn't know the facility and process should be able to follow it. The diagram must be signed and dated, and updated any time the process is changed (even minuscule changes must be signed in).

6. Conduct a Hazard Analysis.

- This is a two-step process that collects information on potential biological, chemical and physical agents, and evaluates how likely they are to occur during the process. If it is reasonably likely to occur, it become a Critical Control Point. Some of the questions that are answered during a Hazard Analysis are

- Are the hazards coming in with the ingredients of the product?**◦ What are the physical characteristics of the product that promote or control hazards (such as preservatives, active water, pH).

- During processing, what will contribute to or control for hazards?

- How does the facility and equipment contribute to or control for hazards? What safety controls are in place?

- Are there allergens present, and if so, what is the control plan?

- How can packaging and labeling contribute to pathogen control?

7. DETERMINE CRITICAL CONTROL POINTS.

- If a hazard is determined to be significant, and is reasonably likely to occur, it must be written as a Critical Control Point, which is defined as a step at which a control measure can be applied and is essential to prevent or eliminate a food safety hazard, or reduce it to an acceptable level.

8. SET CRITICAL LIMITS.

- Critical Limits are defined as a maximum and/or minimum value at which a biological, chemical or physical parameter must be controlled, at a Critical Control Point, to prevent, eliminate, or reduce to an acceptable level the occurrence of a food safety hazard.
- The essential points of a Critical Limit are that it must be measurable, and it may be set by a regulatory authority, in this case the USDA.

9. ESTABLISH MONITORING PROCEDURES.

- Once Critical Limits are set, procedures must be established for monitoring the Critical Control Points to determine and document whether the Critical Limits are being met.

10. ESTABLISH CORRECTIVE ACTIONS.

- Deviation from a Critical Control Point is likely to occur at some point, and appropriate procedures must be established to address the problem. These are considered “corrective actions.”

11. VERIFY, THEN VALIDATE.

- The two objectives of this step are to establish that (1) the plan is adequate to control the hazards associated with the product when the plan is properly implemented, and (2) the HACCP system is operating according to the plan.

12. ESTABLISH GOOD RECORD KEEPING.

- Record keeping is essential to implementation of a HACCP plan—if you didn’t write it down, it didn’t happen. Records are the written evidence that document an action or activity and preserve it in a lasting form. In addition, tampering with or changing logs in a USDA monitored setting is a criminal offense.

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