



HACCP System Certification

What is HACCP system Certificate?

Hazard analysis and critical control points, or **HACCP** (/ˈhæslɜp/), is a systematic preventive approach to food safety from biological, chemical, and physical hazards in production processes that can cause the finished product to be unsafe and designs measures to reduce these risks to a safe level. In this manner, HACCP attempts to avoid hazards rather than attempting to inspect finished products for the effects of those hazards. The HACCP system can be used at all stages of a food chain, from food production and preparation processes including packaging, distribution, etc. The Food and Drug Administration (FDA) and the United States Department of Agriculture (USDA) require mandatory HACCP programs for juice and meat as an effective approach to food safety and protecting public health. Meat HACCP systems are regulated by the USDA, while seafood and juice are regulated by the FDA. All other food companies in the United States that are required to register with the FDA under the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, as well as firms outside the US that export food to the US, are transitioning to mandatory hazard analysis and risk-based preventive controls (HARPC) plans.

It is believed to stem from a production process monitoring used during World War II because traditional "end of the pipe" testing on artillery shells' firing mechanisms could not be performed, and a large percentage of the artillery shells made at the time were either duds or misfiring. HACCP itself was conceived in the 1960s when the US National Aeronautics and Space Administration (NASA) asked Pillsbury to design and manufacture the first foods for space flights. Since then, HACCP has been recognized internationally as a logical tool for adapting traditional inspection methods to a modern, science-based, food safety system

7 Principles of HACCP

1. Conduct a hazard analysis
2. Identify critical control points (CCPs)
3. Establish critical limits
4. Establish monitoring procedures
5. Establish corrective actions
6. Establish verification procedures
7. Establish record-keeping procedures



Based on risk-assessment, HACCP plans allow both industry and government to allocate their resources efficiently by establishing and auditing safe food production practices. In 1994, the organization International HACCP Alliance was established, initially to assist the US meat and poultry industries with implementing HACCP. As of 2007, its membership spread over other professional and industrial areas.

HACCP has been increasingly applied to industries other than food, such as cosmetics and pharmaceuticals. This method, which in effect seeks to plan out unsafe practices based on science, differs from traditional "produce and sort" quality control methods that do nothing to prevent hazards from occurring and must identify them at the end of the process. HACCP is focused only on the health safety issues of a product and not the quality of the product, yet HACCP principles are the basis of most food quality and safety assurance systems. In the United States, HACCP compliance is regulated by 21 CFR part 120 and 123. Similarly, FAO and WHO published a guideline for all governments to handle the issue in small and less developed food businesses.

History

In the early 1960s, a collaborated effort between the Pillsbury Company, NASA, and the U.S. Army Laboratories began with the objective to provide safe food for space expeditions. People involved in this collaboration included Herbert Hollander, Mary Klicka, and Hamed El-Bisi of the United States Army Laboratories in Natick, Massachusetts, Paul A. Lachance of the Manned Spacecraft Center in Houston, Texas, and Howard E. Baumann representing Pillsbury as its lead scientist.

To ensure that the food sent to space was safe, Lachance imposed strict microbial requirements, including pathogen limits (including *E. coli*, *Salmonella*, and *Clostridium botulinum*). Using the traditional end product testing method, it was soon realized that almost all of the food manufactured was being used for testing and very little was left for actual use. Therefore, a new approach was needed.

NASA's own requirements for critical control points (CCP) in engineering management would be used as a guide for food safety. CCP derived from failure mode and effects analysis (FMEA) from NASA via the munitions industry to test weapon and engineering system reliability. Using that information, NASA and Pillsbury required contractors to identify "critical failure areas" and eliminate them from the system, a first in the food industry then. Baumann, a microbiologist by training, was so pleased with Pillsbury's experience in the space program that he advocated for his company to adopt what would become HACCP at Pillsbury.

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The 7 principles of HACCP

1. Conduct a hazard analysis

Plan to determine the food safety hazards and identify the preventive measures the plan can apply to control these hazards. A food safety hazard is any biological, chemical, or physical property that may cause a food to be unsafe for human consumption.

2. Identify critical control points

A critical control point (CCP) is a point, step, or procedure in a food manufacturing process at which control can be applied and, as a result, a food safety hazard can be prevented, eliminated, or reduced to an acceptable level.

3. Establish critical limits for each critical control point

A critical limit is the maximum or minimum value to which a physical, biological, or chemical hazard must be controlled at a critical control point to prevent, eliminate, or reduce that hazard to an acceptable level.

4. Establish critical control point monitoring requirements

Monitoring activities are necessary to ensure that the process is under control at each critical control point. In the United States, the FSIS requires that each monitoring procedure and its frequency be listed in the HACCP plan.

5. Establish corrective actions

These are actions to be taken when monitoring indicates a deviation from an established critical limit. The final rule requires a plant's HACCP plan to identify the corrective actions to be taken if a critical limit is not met. Corrective actions are intended to ensure that no product is injurious to health or otherwise adulterated as a result if the deviation enters commerce.

6. Establish procedures for ensuring the HACCP system is working as intended

Validation ensures that the plants do what they were designed to do; that is, they are successful in ensuring the production of a safe product. Plants will be required to validate their own HACCP plans. FSIS will not approve HACCP plans in advance, but will review them for conformance with the final rule.

Standards

The seven HACCP principles are included in the international standard ISO 22000. This standard is a complete food safety and quality management system incorporating the elements of prerequisite

programmes(GMP & SSOP), HACCP and the quality management system, which together form an organization's Total Quality Management system.

Other schemes with recognition from the Global Food Safety Initiative (GFSI), such as Safe Quality Food Institute's SQF Code, also relies upon the HACCP methodology as the basis for developing and maintaining food safety (level 2) and food quality (level 3) plans and programs in concert with the fundamental prerequisites of good manufacturing practices.

Training

Training for developing and implementing HACCP food safety management system are offered by several quality assurance companies. However, ASQ does provide a Trained HACCP Auditor (CHA) exam to individuals seeking professional training. In the UK the Chartered Institute of Environmental Health (CIEH) and Royal Society for Public Health offer HACCP for Food Manufacturing qualifications, accredited by the QCA (Qualifications and Curriculum Authority).

Application

- Fish and fishery products

Consequent to the promulgation of US Seafood Regulation on HACCP on 18th December 1995, it became mandatory that every processor exporting to USA to comply with HACCP with effect from 18.12.1997. The Marine Products Export Development Authority of India (MPEDA) constituted an HACCP Cell in early 1996 to assist the Indian seafood industry in the effective implementation of HACCP. Technical personnel of MPEDA are trained in India and abroad on various aspects of HACCP including HACCP Audit. Seafood Exporters Association of India has eight regional offices to monitor compliance and members use the latest sustainable aquaculture practices and a high-tech hatchery that provides disease-resistant baby shrimp and fingerlings to its own farm, and to hundreds of farmers who supply raw shrimp to major brands Falcon Marine, Devi Seafoods, Ananda Group, Gadre Marine and Mukka Seafood. Devi Seafood now one of India's largest shrimp exporters and Sysco's 2018 Gold Supplier for Seafood, benchmarks latest HACCP practices. Its farm-to-fork traceability, commitment to environmental and social responsibility and meticulous standard for food safety and quality have made it a great partner to Sysco for more than 10 years. "We are an integrated seafood company, with our own farms and processing plants," says Sree Atluri, Director of Operations. "We work closely with Sysco in adding new items and supporting sustainability."
