



Juice HACCP (Hazard Analysis and Critical Control Point) Systems

Juice means the aqueous liquid expressed or extracted from one or more fruits or vegetables, purees of the edible portions of one or more fruits or vegetables, or any concentrates of such liquid or puree. (21 CFR Part 120.1(a)). **Any juice sold as juice or sold for use as an ingredient in beverages is subject to Juice HACCP.** Juice ingredients used in non-beverage food products are not subject to the Juice HACCP regulation.



Retail facilities that only sell juice directly to the end consumer are exempt from the Juice HACCP requirements. If the retail facility also makes juice for other businesses, they are subject to Juice HACCP.

Juice HACCP requires the processor to conduct a written Hazard Analysis. The Hazard Analysis needs to evaluate the food safety hazards that are reasonably likely to occur in the absence of a control at each step of the manufacturing process and of each ingredient. See the Food and Drug Administration's (FDA) [Food Safety HACCP Hazards and Controls Guidance](#) to assist in the Hazard Analysis and HACCP plan development.

Food Safety Hazards to Evaluate: (21 CFR Part 120.7)

 Microbiological contamination	 Parasites	 Chemical contamination
 Food or color additives	 Pesticide residues	 Natural toxins
 Decomposition in food	 Allergens	 Physical hazards

When the Hazard Analysis reveals one or more food hazards that are reasonably likely to occur, a written Juice HACCP plan is required. The Juice HACCP plan needs to be specific to the manufacturing facility and specific to each type of juice processed at the facility: (21 CFR Part 120.8(a))

A Juice HACCP Plan

must include: (21 CFR Part 120.8(b))

- ✓ List all the food safety hazards.
- ✓ List the CCP's for each hazard.
- ✓ List the Critical Limits for each CCP.
- ✓ List procedures and frequencies to monitor each Critical Control Point's (CCP) Critical Limits.
- ✓ Include corrective action plans in response to a deviation from each CCP.
- ✓ List Verification procedures and frequencies for each CCP.
- ✓ List Validation procedures and frequencies for each CCP.
- ✓ Provide a record keeping system that documents the implementation of each CCP.

Training: (21 CFR Part 120.13)

Those responsible for conducting a Hazard Analysis, developing or modifying the Juice HACCP plan, and reviewing the Juice HACCP plan records need to receive formal training in HACCP principles of Juice Processing or otherwise be qualified through job experience.





Pathogen reduction (21 CFR Part 120.24)

Each Juice HACCP plan needs to include control measures that will consistently produce in the juice at least a 5-log reduction of the most resistant pertinent pathogen of public health concern. A 5-log reduction means eliminating 99.999% of the initial microbe population such as reducing the number of bacteria from 100,000 to 1.

Type of Juice	Pertinent Pathogen
Apple Cider 	<i>E. coli</i> O157:H7 & <i>Cryptosporidium parvum</i>
Orange Juice 	<i>Salmonella</i>
Juices with a pH > 4.6: Carrot, Tomato, & Ginger Juice 	<i>Clostridium botulinum</i>
Other Juices 	<i>Listeria monocytogenes</i>

Methods to Achieve 5-log Reduction

- Thermal Treatment - Pasteurization
- Ultraviolet Light
- High Pressure Processing (HPP)
- Pulsed Light Treatment
- Surface Treatments - for citrus fruits only

Sanitation Standard Operating Procedures (SSOPs) (21 CFR Part 120.6)

Each processor needs to implement Sanitation Standard Operating Procedures that address sanitation conditions before, during, and after operations. The SSOPs need to address the 8 Key Areas of Sanitation. The 8 Key Areas of Sanitation need to be monitored during processing and recorded.

8 Key Areas of Sanitation: (21 CFR Part 120.6(a))



Safety of the water incl. water used to make ice



Proper labeling, storage, and use of toxic compounds



Condition and cleanliness of food contact surfaces



Control of employee health conditions



Prevention of cross contamination



Exclusion of pests from the food plant



Maintenance of hand washing, hand sanitizing, and toilet facilities



Protection of food from chemical, biological, and physical contaminants



Juice HACCP Links



[WSDA Juice HACCP Consumer Protection Criteria](#)



[21 CFR Part 120 Hazard Analysis and Critical Control Point \(HACCP\) Systems](#)



[Juice Hazard Analysis Critical Control Point Hazards and Controls Guidance](#)



[Questions and Answers on Juice HACCP Regulation](#)



[Questions & Answers for the Juice HACCP Regulation \(2003\)](#)



[Juice HACCP and the FDA Food Safety Modernization Act](#)

FDA Guidance for Industry:

How to get licensed as a Juice Processor:

- ✓ Submit WSDA Food Processor Application
- ✓ Receive Juice HACCP training / have HACCP experience
- ✓ Conduct a written Hazard Analysis
- ✓ Create & implement a written HACCP plan
- ✓ Develop & keep HACCP plan records
- ✓ Create & implement SSOPs
- ✓ Document 8 Key Areas of Sanitation monitoring

