

Document Title: HACCP Control of Product Integrity
Document control Number WIISC 8-2-001



Purpose:

This program is modeled after the AIB Food Contact Packaging Standard with pertinent elements of HACCP included. The original programs have been modified and combined to address our unique industry. This system was adopted to ensure that we provide protection of the products throughout critical processing points in order to maintain their integrity in a manner that will satisfy our customer's needs and demonstrate our level of commitment to quality.

Application:

This work instruction applies to all areas associated with the creation of final products for customer use at the Independent Stave Company domestic cooperages and mills. It has been written in conjunction with critical points of control identified throughout the processes prior to final product as part of the system of OP 8-2 Control of Non-Conforming Product.

Definition:

Processing Aids - any material used during the production process that comes into contact with the product. This processing aid may or may not remain as part of the final product.

Interior Barrel Contact - any material used during the production process that could potential come into contact with the inside of the barrel following the charring or toasting process. This is to include contact with the rim of the bung hole.

Approved container – a purchased container that is used to hold lubricants or processing aids.

Associated Documents:

- ❖ FM 8-2-003 Product Description Form
- ❖ FM 8-2-004 Ingredient Listing & Potential Hazard Analysis
- ❖ FM 8-2-005 Process Hazard Analysis Worksheet

Note: This listing of associated documents is not all inclusive. Other documents such as work instructions, work aids or forms that tie into this program are stated in the text or referred to with the subsequent forms stated above.

SECTION ONE

1. Operational Methods and Personnel Practices: *The receipt, storage, monitoring, handling, and processing of raw material to manufacture and distribute a safe final product.*

1.1. Rejection of Shipments

- 1.1.1. Facility maintains documentation of rejected shipments
- 1.1.2. Dirty transports/containers
- 1.1.3. Damaged goods
- 1.1.4. Supplies out of specification

1.2. Shuttle Vehicles, Loaders and /or Lifts

- 1.2.1. Maintained so that they do not contaminate the material being transferred.

1.3. Interior Storage Practices and Conditions

- 1.3.1. Clean, well-maintained, and dry
- 1.3.2. Non-product materials are kept separated by bays or sections from product materials
- 1.3.3. Stored in a way to provide safe storage of materials
- 1.3.4. Stored materials-are clearly identified
- 1.3.5. Stored on pallets to prevent ground level contamination
- 1.3.6. Stored at least 10-12” away from walls (depending on structure)
- 1.3.7. Stored at least 15-20” between pallet rows or double rows (depending on structure)
- 1.3.8. Must be safeguarded against water damage and possible pest contamination

1.4. Exterior Storage Area Practices and Conditions (Raw Materials)

- 1.4.1. Stored in a way to provide safe storage of materials
- 1.4.2. Stored materials-are clearly identified with dates and product identification
- 1.3.3. Stored on pallets to prevent ground level contamination
- 1.3.4. Stored in neat rows with spacing to provide passage

1.5. Raw Material Inventory

- 1.5.1. Materials are rotated into production following a First-In, First-out (FIFO) basis
- 1.5.2. Materials that require re-palletizing are clearly identified
- 1.5.3. Pallets kept clean and repaired

1.6. Rework Areas

- 1.6.1. Timely reprocessing to keep inventory down and limit aging of the material
- 1.6.2. Rework is clearly identified for traceability

1.7. Dust and or Smoke Collection and Filtering Devices

- 1.7.1. Devices and equipment used to collect dust and particles are maintained and monitored
- 1.7.2. Statutory and Regulatory requirements are met and records maintained regarding dust emission controls according to the presiding authority
- 1.7.3. Smoke is exhausted and emissions are monitored
- 1.7.4. Domestic locations programs overseen by co-wide Environmental Engineer

1.8. Bulk Liquid Material Handling

- 1.8.1. Storage tanks for any liquids are properly labeled, maintained and waterproof
- 1.8.2. Spigots are maintained and kept leak free
- 1.8.3. Conveying tubes or hoses are maintained and kept clean and leak free
- 1.8.4. They are on supports off the ground to prevent submersion in water
- 1.8.5. Spills are addressed quickly according to common clean up practices
- 1.8.6. MSDS are kept on file for liquid material

1.9. Receiving Supplies

- 1.9.1. Proper receiving practices to ensure product is acceptable
- 1.9.2. Stored in a manner that protects the supply from outside contaminants (such as sealed bulk containers for spiles and wedges)
- 1.9.3. If supply is used at individual stations they are transferred to containers with closure capability for shift end to prevent accumulation of debris.
- 1.9.4. Interior Barrel Contact - Processing Aids
 - 1.9.4.1. Spiles, wedges, flagging, wax, inspection bungs
 - 1.9.4.2. Bung cups (bourbon barrels)
 - 1.9.4.3. Flour Paste or customer specified paste (wine barrels)
- 1.9.5. Oak Alternative Products – Processing Aids
 - 1.9.5.1. Cable ties, infusion bags, nylon line, nylon mesh tubing, eyelet screws, stainless steel hangers

1.10. Receiving Supplies (NO Interior Barrel Contact) - Processing Aids

- 1.10.1. Chalk, crayons, stamps, ink
- 1.10.2. Proper receiving practices to ensure product is acceptable
- 1.10.3. Verify that processing aids are non-toxic

1.11. Foreign Material Control (General)

- 1.11.1. Material is discarded if the presence of metal is detected
- 1.11.2. Material for oak alternative chips is sourced directly from the planning process of cooperage stock following the removal of the surface layer
- 1.11.3. Barrel heads are stacked for processing with the toasted or charred surfaces facing
- 1.11.4. Interior barrel controls - barrel visually checked during the insertion of heads
- 1.11.5. Marking, removal and isolation of suspect material
- 1.11.6. Foreign Matter Entrance Prevention (Specific to Barrels)
 - 1.11.6.1. Sealing Barrels following bung hole drill
 - 1.11.6.2. Process Dependent - Barrels removed from processing line with drilled bung hole sealed to prevent possible entrance of foreign matter.
 - 1.11.6.3. Bung holes are sealed with plastic bung caps or rubber bungs to seal barrels when from the processing line.

1.12. Hazardous Waste Material Disposal & General Waste Disposal

- 1.12.1. Hazardous Waste Programs (Facility Specific)
- 1.12.2. General non-hazardous waste containers centrally located, emptied at least daily

1.13. Workspace Arrangement

- 1.13.1. Adequate workspace is provided to enable operations to be performed in safe, hygienic conditions.
- 1.13.2. Operational debris is kept at a minimum and removed on a daily basis and between shifts if applicable

1.14. Finished Product Transportation

- 1.14.1. Product is coded for traceability
- 1.14.2. Shipping Requirements
- 1.14.3. Containers/trailers inspected for acceptability in regards to cleanliness and structural defects that could jeopardize the product

1.15. Washroom Facilities & Personal Hygiene

- 1.15.1. Centrally located facilities kept in sanitary condition
- 1.15.2. Hot and cold running water with “Wash hands” signs posted at sinks

- 1.15.3. Cleaned on at least a daily basis or more if needed
- 1.15.4. Single use towels in covered dispensers or air dryers
- 1.15.5. Personnel advised to wash hands before beginning work, after eating, smoking, using the restroom or otherwise soiling hands.

1.16. Work Clothing, Shoes, Personal Items & Jewelry

- 1.16.1. Clean outer garments or uniforms at the beginning of production shift
- 1.16.2. Suitable footwear according to company regulations
- 1.16.3. Hair restraints if length is below collar or if the beard is not kept closely trimmed
- 1.16.4. Gloves, if worn, kept clean and replaced frequently
- 1.16.5. Only jewelry kept close to the skin allowed
- 1.16.6. No Food allowed on Production Floor
- 1.16.7. Smoking is only allowed in designated areas

1.17. Health Conditions

- 1.17.1. No person with boils, sores, infected wounds or any infections or communicable disease is permitted to contact the product as defined by local or national law
- 1.17.2. All exposed cuts or grazes that are not dry and scabbed over are kept covered

1.18. Non-Facility Personnel

- 1.18.1. Visitors receive appropriate training and are provided with PPE before entering the production facility

SECTION TWO

2. Facility and Grounds Maintenance: *The design, upkeep and management of equipment, buildings and grounds to provide sanitary, efficient and reliable manufacturing environment.*

2.1. Facility Location

- 2.1.1. Clearly defined facility boundaries
- 2.1.2. Measures in place to prevent product contamination from neighboring properties

2.2. Outside Grounds

- 2.2.1. Litter and waste are removed from the property on routine basis
- 2.2.2. Waste containers are emptied on a routine basis and the area around them is kept clean
- 2.2.3. Weeds/tall grass kept mowed (Exception: Cattails which provide a natural filtering)
- 2.2.4. Roads, yards, and parking areas are maintained to prevent standing water and other potential contaminants
- 2.2.5. Adequate drainage provided for grounds, roofs and other areas

2.3. Fire Protection and Security Equipment

- 2.3.1. A combination of security equipment depending on location
 - 2.3.1.1. Surveillance cameras interior and exterior
 - 2.3.1.2. After hours security personnel
 - 2.3.1.3. Perimeter fences and enclosures
- 2.3.2. A combination of fire protection equipment depending on location:
 - 2.3.2.1. Sprinkler systems and exhaust systems
 - 2.3.2.2. Sprinkler system testing in compliance with water and air quality
 - 2.3.2.3. Trained Personnel to fire safety
 - 2.3.2.4. OP 8-2 Control of Non-Conforming Product in the event of fire
- 2.3.3. Periodic in-house fire safety audits are conducted to report on facility conditions

2.4. Layout

- 2.4.1. Adequate layout and placement of equipment, materials, and structures to enable inspection, cleaning, and maintenance activities.

2.5. Floors, Walls and Ceilings

- 2.5.1. Floors are designed to meet the demands of facility operations
- 2.5.2. Prevent dirt accumulation
- 2.5.3. Holes in walls are repaired to prevent debris from entering and avoid pest harborage
- 2.5.4. Roof leaks are identified, controlled, and repaired

2.6. Overhead Structures

- 2.6.1. Fixtures, ducts, pipes and overhead structures are maintained so that...
 - 2.6.1.1. Drips and or condensation do not contaminant the product
 - 2.6.1.2. Flaking paint or rust does not contaminant the product
 - 2.6.1.3. Other material (such as loose insulation) do not threaten products or contact surfaces

2.7. Overhead lighting

- 2.7.1. Adequate lighting is provided in all areas
- 2.7.2. Light and fixtures in production/storage areas are of the safety type to prevent breakage
- 2.7.3. Light fittings and glass are replaced in a way that protects product below

2.8. Air Quality Control

- 2.8.1. Dust filtering systems (refer to 1.7)
- 2.8.2. Air is free from trace lubricants and filtered to eliminate particles larger than 2 microns.
- 2.8.3. Only copper, brass, stainless steel, FDA approved plastics, or odor free rubber lines and fittings are to be used
- 2.8.4. Heat /air evacuation systems are installed at head and barrel charring stations
- 2.8.5. Equipment is maintained, cleaned, and operated in a manner that protects product
- 2.8.6. Locations regulated by Air Quality Control presiding authorities
- 2.8.7. Domestic locations programs overseen by co-wide Environmental Engineer

2.9. Leaks and Lubrication

- 2.9.1. Managed so they do not contaminate products
 - 2.9.1.1. Facility prevents, identifies and eliminates leaks and excessive lubrication

2.10. Lubricants

- 2.10.1. Non Food Grade are used on equipment when they do not pose a threat of coming in contact with the product
 - 2.10.1.1. Clearly labeled and kept in original or approved containers
 - 2.10.1.2. Managed to ensure they do not come in contact with product
 - 2.10.1.3. Kept separate from food grade lubricants
 - 2.10.1.4. Spills handled according to hazardous waste control program
 - 2.10.1.5. MSDS sheets available in area
- 2.10.2. Food Grade are used on equipment considered to have a potential of having contact with the product, i.e. cotton seed or rice oil used on re-saws, paraffin or chalk
 - 2.10.2.1. Clearly labeled and kept in original or approved containers
 - 2.10.2.2. Managed to ensure they do not come in contact with possible contaminants
 - 2.10.2.3. Kept separate from non food grade lubricants
 - 2.10.2.4. Spills are cleaned up promptly
 - 2.10.2.5. MSDS sheets available in area

2.11. Cross Contamination Prevention

- 2.11.1. Finished products kept separate from products in process by separation of departments

2.12. Design Standards

- 2.12.1. New construction is designed to include the following considerations:

- 2.12.1.1. Safety & Ergonomics
- 2.12.1.2. Ease of access for maintenance and cleaning
- 2.12.1.3. Protection of product

2.13. Compressed Air

- 2.13.1. Equipment is maintained to ensure air hoses are kept leak free
- 2.13.2. Conveying air hoses/nozzles are maintained and kept leak free
- 2.13.3. If air hoses are utilized in an area with potential water accumulation (barrel head-up, inspection) the hoses and nozzles are kept suspended to prevent submersion in water

2.14. Water Quality

- 2.14.1. Comply with regulatory requirements
- 2.14.2. Agency supplying Potable water complies with biological/microbial testing
- 2.14.3. Only potable water supply from an approved source that is free of odor, iron or rust is to be used for production processing
- 2.14.4. Scheduled water quality testing of both water and steam that contacts product
- 2.14.5. Documented results of water testing on file
- 2.14.6. Conveying water hoses are maintained and kept clean and leak free
- 2.14.7. They are on supports off the ground to prevent submersion in water
- 2.14.8. Locations regulated by Water Quality Control presiding authorities
- 2.14.9. Domestic locations programs overseen by co-wide Environmental Engineer

SECTION THREE

3. Cleaning Practices: *The cleaning of equipment and buildings to provide a wholesome and safe processing environment.*

3.1. Identified "critical" cleaning areas are cleaned in a manner to prevent contamination of finished barrels, toasted/charred heads, and barrel contact processing aids.

- 3.1.1. Reusable Processing Aids (Inspection Bungs, Plastic Caps)
 - 3.1.1.1. Kept in a manner that does not contaminant products as specified in the document titled - WAISC 7-4-015 Barrel Sealing & Bung Washing

3.2. Chemicals used in this cleaning process, if any, are controlled as stated below:

- 3.2.1. Chemicals are non-chlorine
- 3.2.2. Containers are clearly labeled
- 3.2.3. MSDS sheets available in area

3.3. Control of Housekeeping Equipment

- 3.3.1. Chemicals used for housekeeping are non-chlorine
- 3.3.2. Labeled to designate the area of usage
- 3.3.3. Kept in a manner that does not contaminant products or production equipment
- 3.3.4. Items used to clean restrooms are never used to clean other areas

3.4. Daily Housekeeping

- 3.4.1. Tasks completed in a way to prevent contamination
 - 3.4.2. Cleaning personnel are responsible for routine cleaning and tasks as assigned
 - 3.4.3. Daily cleaning tasks ensure that production shifts begin with clean areas
 - 3.4.4. Use of water is restricted or controlled as to its use around products or work in process
 - 3.4.5. Periodic in-house audits conducted by HR Manager of ISC to report on facility conditions.
- Includes elements of safety and cleanliness.

3.5. Periodic (Deep) Cleaning

- 3.5.1. Critical areas of cleaning are targeted for deep cleaning that involve production equipment and water draining troughs
- 3.5.2. Equipment and structural overheads are also scheduled for periodic cleaning
- 3.5.3. Cleaning personnel are responsible for tasks as assigned

3.6. Maintenance Cleaning

- 3.6.1. Tasks are completed in a way that does not compromise product safety
- 3.6.2. Any affected product is removed and treated as non-conforming product

SECTION FOUR

4. Integrated Pest Management: *The assessment, monitoring, and management of pest activity to identify, prevent and eliminate conditions that could promote or sustain a pest population.*

4.1. Pest Prevention Integrated Pest Management Program

- 4.1.1. PCO has overall responsibility of inspecting/servicing pest control devices
- 4.1.2. Evaluating the effectiveness of the pest control program is a partnership
- 4.1.3. Pest Management Company provides a copy of certification for personnel
- 4.1.4. Facility has a signed contract with Pest Management Company that includes:
 - 4.1.4.1. Facility name
 - 4.1.4.2. Facility contact person and company contact person (emergency)
 - 4.1.4.3. Frequency of services
 - 4.1.4.4. Description of service
 - 4.1.4.5. Term of contract
 - 4.1.4.6. Mapped location of prevention devices
 - 4.1.4.7. List of approved chemicals (copy of MSDS for chemicals used)
 - 4.1.4.8. Service records to be maintained –activity reports
 - 4.1.4.9. Notification required if any changes in service or materials used
- 4.1.5. Limit of food access restricted to designated break room areas
 - 4.1.5.1. Drinks allowed due to heat in approved drinking containers only

4.2. Control of Pesticides

- 4.2.1. Pesticides are not allowed to be used in the production or storage areas
- 4.2.2. Exterior applications are conducted by the PCO.

SECTION FIVE

5. Adequacy of Practices: *The coordination of management support, cross-functional teams, documentation, education, training and monitoring systems to ensure all departments of the facility work together effectively to deliver a wholesome and safe final product.*

5.1. Quality Policy

- 5.1.1. Written policy outlines the company's commitment to provide quality products
- 5.1.2. Policy is approved by senior management
- 5.1.3. Policy is regularly communicated throughout the company
- 5.1.4. Policy is reviewed annually for adequacy by executive management team

5.2. Accountability

- 5.2.1. Facility management authorizes personnel to monitor the implementation and effectiveness of this program

5.3. Support –management supplies human and financial resources to support the program

5.3.1. Budget and labor support

5.4. Written Procedures/Training and Education

5.4.1. Documentation is controlled by ISO and coordinating ISC procedures

5.4.2. Training and Education are controlled by ISO and coordinating ISC procedures

5.5. Self-Inspections

5.5.1. Product Safety & Safety Committee

5.5.1.1. Periodic inspections to include entire facility and outside grounds

5.5.1.2. Documented results and recorded actions to correct concerns

5.5.1.3. Inspections reviewed at management review meetings

5.6. Audit Summaries

5.6.1. Developed program and subsequent records are audited internally on at least an annual basis as part of the ISO auditing program under the quality system known as OP 8-2

5.7. Customer Concern Program

5.7.1. ISO document OP 7-1 outlines the quality system pertaining to Customer Related Processes

5.7.2. OP 7-1 is audited internally on at least an annual basis and subjected to external audits as part of the external audit sampling process

5.8. Microbial Control

5.8.1. See water quality section 2.1.4

5.8.2. Samples of all products and products types used for aging wine, to include cooperage stock and oak alternatives are sent at least quarterly for chemical analysis

5.8.3. Both the head and the interior of the barrel are toasted or charred according to customer's specifications unless they specify untoasted

5.8.4. Oak alternative products are toasted or roasted according to customer's specifications unless they specify untoasted

5.8.5. Processing aids in contact with the barrel are protected to prevent contamination

5.9. Allergen Control

5.9.1. This is a natural wood product sourced from American White Oak.

5.9.1.1. Raw Material suppliers are certified under ISO 9001:2008

5.9.1.2. Processing aids that contact the product are restricted to food grade or non-toxic

5.10. Traceability Program

5.10.1. Written Traceability Program to cover:

5.10.1.1. Suspect raw materials

5.10.1.2. Rework –or work in progress

5.10.1.3. Finished product

5.11. Recall/Withdrawal Program

5.11.1. Mock Recall/Withdrawal Trials

5.11.2. Conducted annually (In-house)

5.11.3. Results documented

5.12. Non-Conforming Product Program

5.12.1. ISO document OP 8-2 outlines the quality system pertaining to Control of Non-Conforming Product

5.12.2. OP 8-2 is audited internally on at least an annual basis and subjected to external audits as part of the external audit sampling process

5.13. Approved Supplier Program

5.13.1. ISO document OP 7-3 outlines the quality system pertaining to Purchasing and Receiving Processes

5.13.2. OP 7-3 is audited internally on at least an annual basis and subjected to external audits as part of the external audit sampling process

5.14. Specification Program

5.14.1. ISO document OP 4-1 outlines the quality system pertaining to Document, Data, and Record Control, which includes controlled specifications

5.14.2. OP 4-1 is audited internally on at least an annual basis and subjected to external audits as part of the external audit sampling process

5.15. Letters of Guarantee or Certifications

5.15.1. A statement of compliance to required regulations (examples below)

5.15.1.1. Water quality testing

5.15.1.2. Air Permit Compliance Certification

5.15.1.3. Control of Dust Emissions

5.15.1.4. Water protection

5.15.2. Records to prove the implementation and effectiveness of the program

5.16. HACCP Program

5.16.1. Developed Prerequisite Programs outlined above

5.16.2. members of the facility trained to control system

5.16.3. ISO Representative at each location to coordinator and oversee program

5.16.4. Controlled Process Flow Diagrams for each product type produced

5.16.5. Follows Seven Principles of the HACCP program

5.16.5.1. Hazard Analysis – conducted and documented for each raw material

5.16.5.2. Critical Control Points – identified and procedures in place to control

5.16.5.3. Monitoring – the HACCP program

5.16.5.4. Non-Conformance – CAPA System used to address deviations

5.16.5.5. Verification- of the HACCP program (ISO internal audits of OP 8-2)

5.16.5.6. Documentation – associated evidences and records of the program

5.16.6. Control of Critical Process Points (CCPs)

5.16.6.1. Training of personnel at the identified (CCPs)

5.16.6.2. Controlled Procedures for the (CCP)