INTRODUCTION TO GMP

WHAT IS GMP ?

GOOD MANUFACTURING PRACTICES

OR

COUNTER MEASURES FOR

FOOD SAFETY HAZARDS

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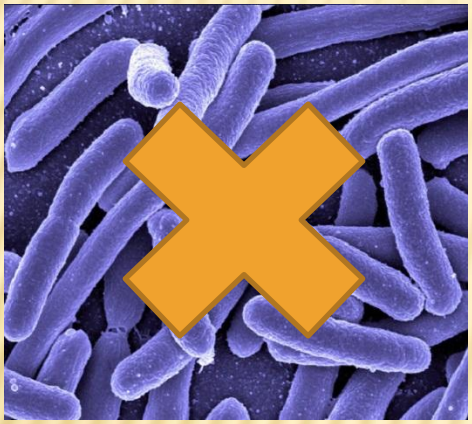
FOOD SAFETY

- HAZARDS



Alcohol
Bitterness
pH

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FOOD SAFETY

- RISK ASSESSMENT
  - LIKELIHOOD
    - SEVERITY
      - COUNTERMEASURES

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WHAT IS A FOOD SAFETY SYSTEM?

Good Manufacturing Practices*
(Prerequisite Programs)
(80%)

+

Hazard Analysis Critical Control Points (20%)

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Meeting the Requirements

- Say what you do: Procedures
- Do what you say: Activities
- Prove it: Records

INDUSTRY GMP STANDARDS

- SOURCES
  - FDA
  - 3RD PARTY
    - AIB
    - COOK AND THURBER
    - GFTC

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FOOD SAFETY PREREQUISITE PROGRAM (GMPs)

TRANSPORTATION & STORAGE
- Documented Carrier Inspections
- SOP's for Materials Handling
- SOP's for Chemical Usage & Storage

PREMISES
- Building Interior & Exterior
- Water, Lighting, Ventillation
- Effluent

EQUIPMENT
- Design
- Installation
- Maintenance & Calibration

SANITATION
- SSOP's
- Master Cleaning Schedules
- Accountability, Verification

PERSONNEL
- Technical (SSOP) & Hygienic Training
- Communicable Diseases
- Documentation & Verification

PEST CONTROL
- Procedures & Manuals
- Verification of procedures
- Corrective Action Documentation

RECALL
- Programs
- Mock Recalls
- Traceability

PRODUCT PROTECTION
- Practices
- Allergens
- Glass control

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PREMISES PROGRAM REQUIREMENTS SUMMARY

- Written procedure(s) describing premises programs which include the following:
  - Proof of food-approved materials for all plant fabric type of projects
  - Documented audit or self inspection program for exterior and interior plant fabric
  - Lighting, ventilation and waste disposal protocols and audited programs
  - Documented inspections and cleaning of employee facilities & proper hand washing facilities throughout plant
  - Written procedures to describe existing water quality programs and powerhouse protocol as it relates to water (including ice & Steam), glycol and ammonia

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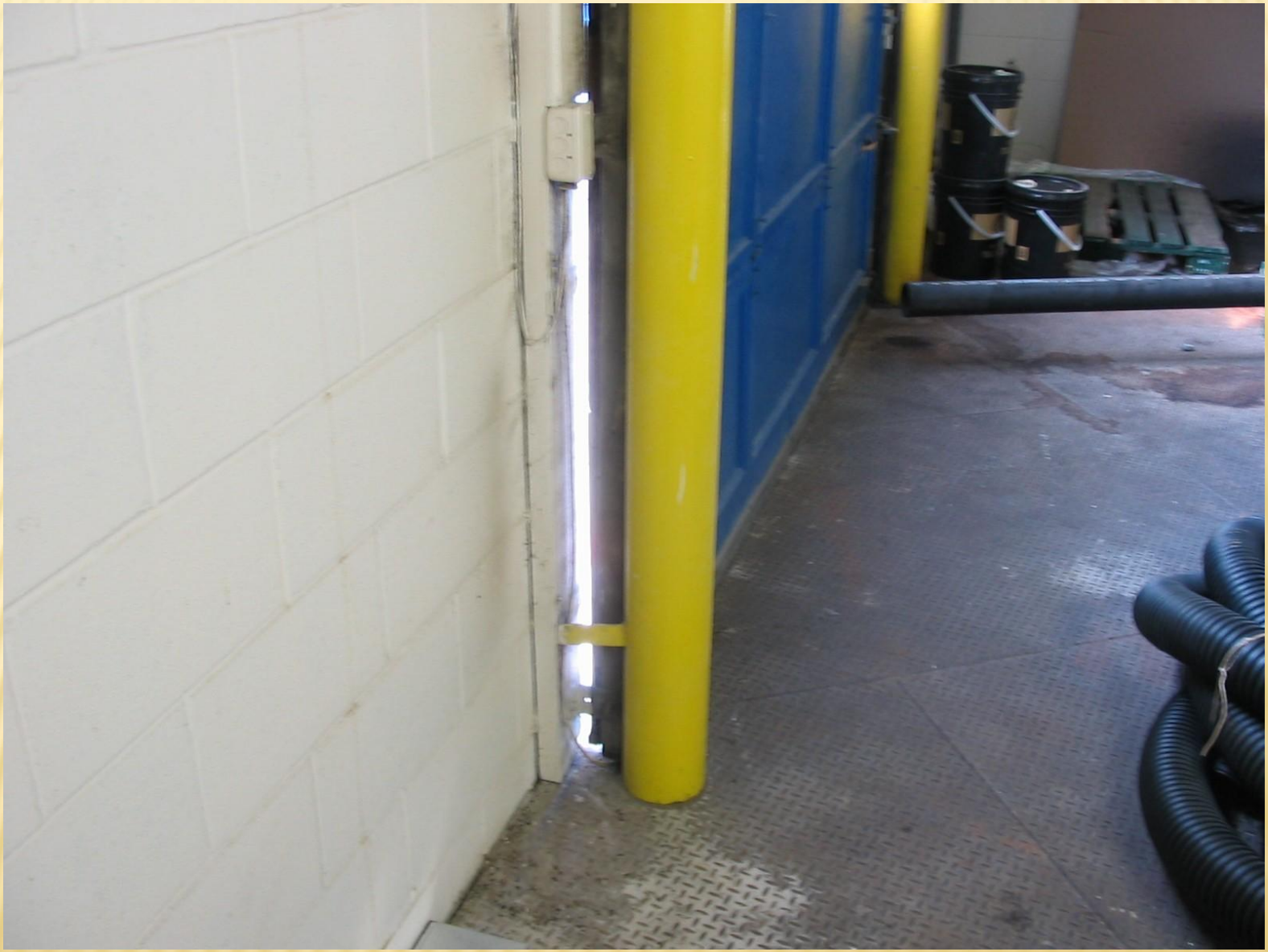
DOCK 4
DK403



HYGIENE + SOCIAL MEDIA

Premises
Exterior

Premises Interior

Premises Interior - Lighting

WHAT'S WRONG WITH THIS PICTURE?

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Transportation & Storage
(Food Carriers, Chemicals)

Carrier inspections and documentation incoming and preloading

Handling of Damaged goods, Returns, Rework

TRANSPORTATION & STORAGE REQUIREMENTS SUMMARY

- Written procedure(s) which describe transportation & storage programs and include the following:
  - Documented carrier inspections for incoming materials and outgoing product shipments
  - SOP's for brewing & packaging personnel involved in handling materials which outlines prevention of contamination, proper storage & corrective action responses
  - SOP's and training to support chemical usage and storage, especially in temporary containers

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RANBERRY
ASPBERRY
COCKTAIL
COCKTAIL
NNEBERGES
RAMBOISES
1.89 L
UNE EXCELLENTE SOURCE
DE VITAMINE C

2DBY8
LEMON WAX
410
CRC
Industrial
Food Grade
Silicone
Mold Releas
Silicona Apta para
Uso Alimentario
Desmoldante
NSF M1

Equipment Requirements

EQUIPMENT REQUIREMENTS SUMMARY

- Written procedure(s) which describe equipment programs and include the following:
  - Documented PM programs for brewing and packaging equipment. Includes schedules, listing of equipment, PM requirements and proof of completion
  - Defined procedures for requirements of design teams, regardless of where responsibility of the project lies
  - Approved materials for all equipment installations and replacement parts
  - Utensils used for production or housecleaning identified

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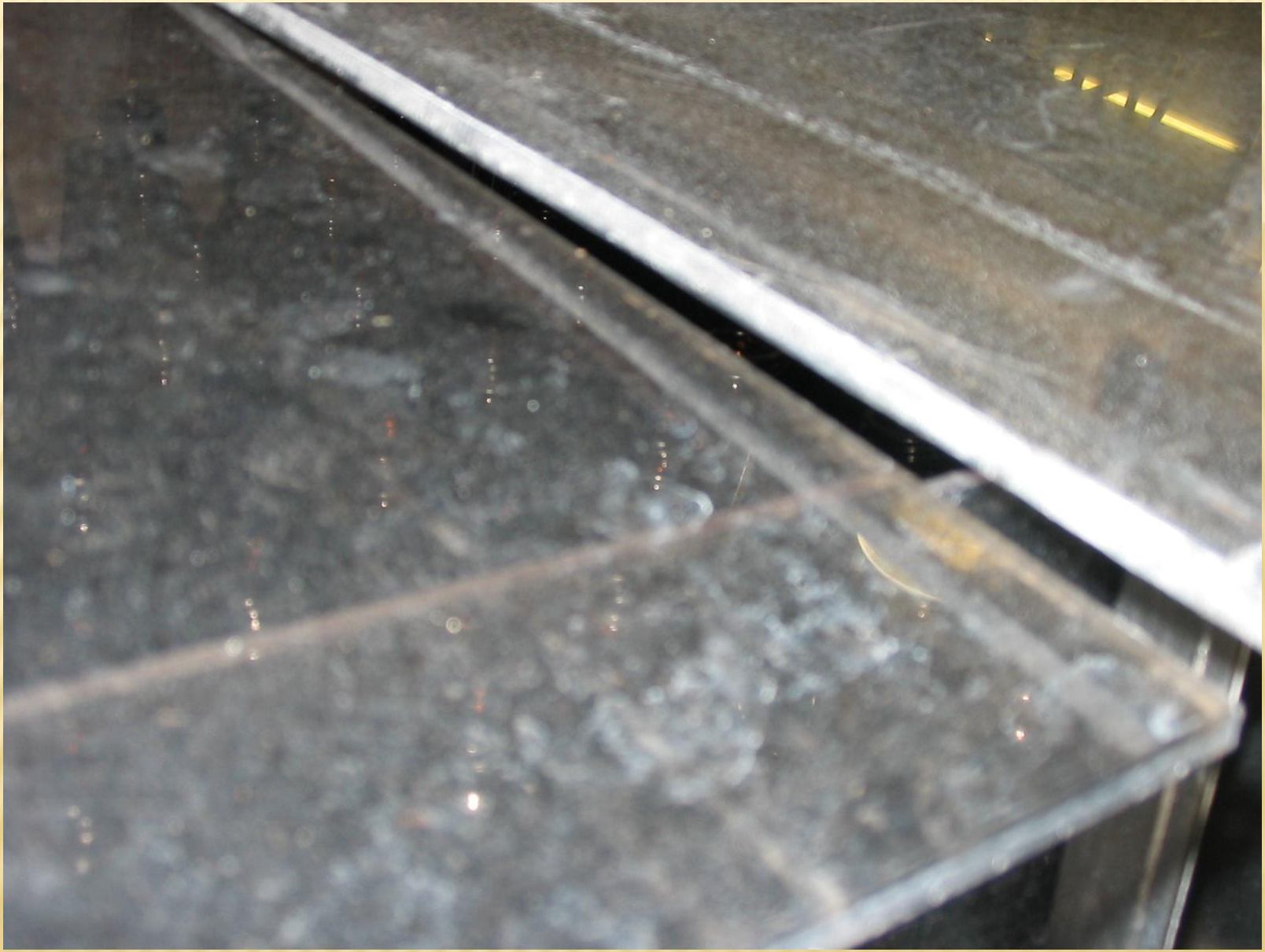


VELAN
M-5000L

19A-CS1

S-S
Sutherland-Schultz
Cambridge, Ontario
(519) 653-4103
TOTAL AUTOMATION SOLUTIONS GROUP
8VFD-0001

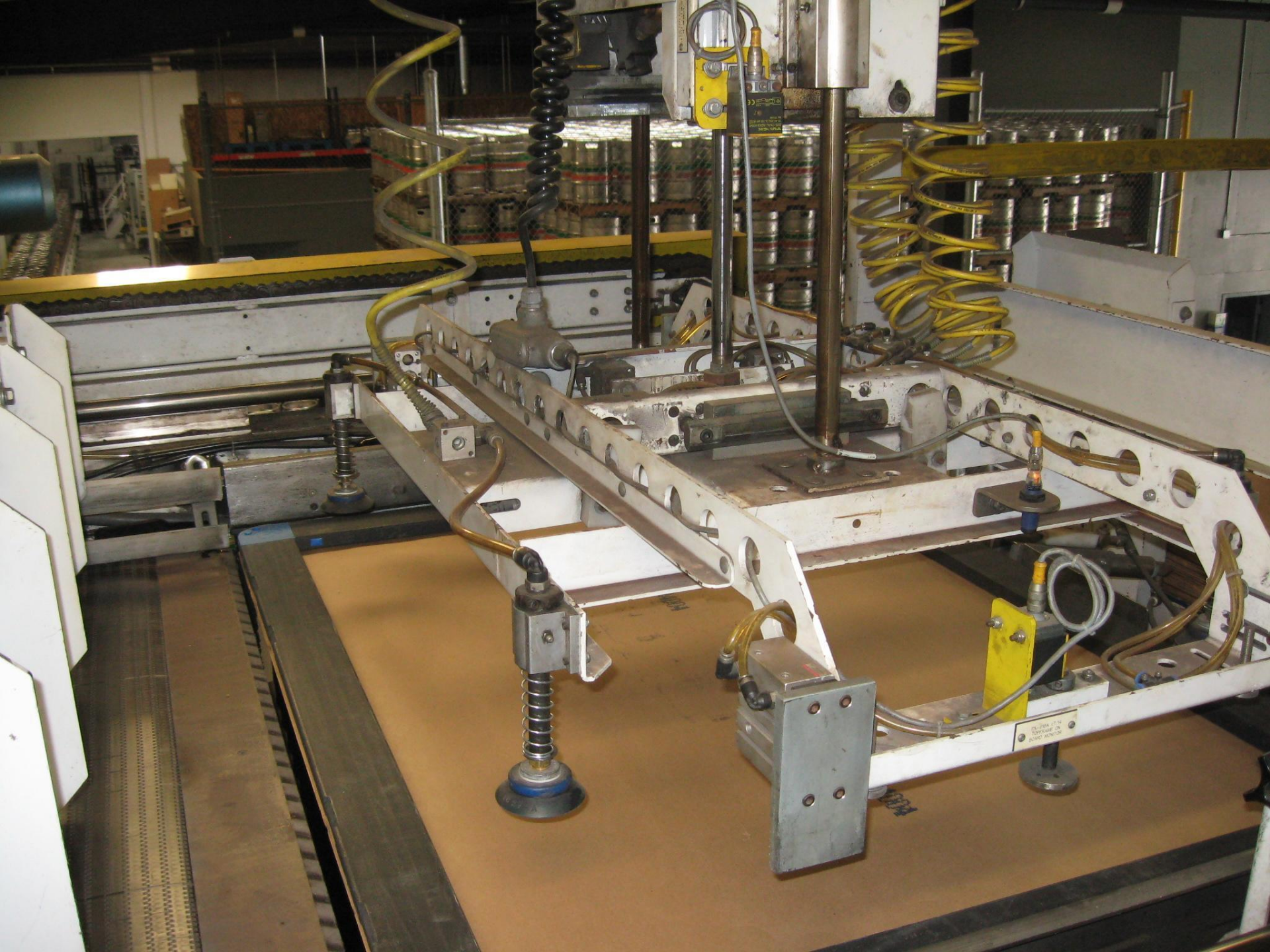
SHOVELS
SHOVELS
BROOMS

SWBC

.alliance.
CAUTION
BACK IN
OR PULL
OUT ON
GREEN
LIGHT
ONLY
LOCATED IN TRENCH DRAIN
BELOW

CAUTION
BACK IN
OR PULL
OUT ON
GREEN
LIGHT
ONLY
ALLIA
alliance.com

MULTI VEYOR
316



PERSONNEL REQUIREMENTS SUMMARY

- Written procedure(s) which describe personnel programs and include the following:
  - Training matrix which documents employee refresher training for personal hygiene, food safety (HACCP/CCP's) and sanitation
  - Documented evidence of each training program which includes content, learning objectives and effectiveness of training
  - Training checklist and managerial verification of on-the-job training in maintenance, brewing, packaging and warehousing.
  - Evidence of supervisory monitoring of proper employee practices
  - Corporate communicable disease policy and plant procedures to adhere to it

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PERSONNEL

TRAINING

- Technical Training
  - Employee involved in HACCP and Critical Control Point monitoring receive initial and ongoing training to support the HACCP plan
  - Maintenance employees receive appropriate training to maintain & calibrate equipment & control devices.
  - Employees involved in the sanitation program are trained to understand principles & effective of cleaning & sanitizing.
  - Employee are properly trained to execute their job functions and upgrade training is provided for new or changing technologies.
- General Food Hygiene Training
  - Training is provided for personal hygiene and hygienic handling of food for new employees and at appropriate intervals for all existing employees

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PERSONNEL

HEALTH AND HYGIENE

- Cleanliness and Conduct
  - A policy for GMP's (good personal hygiene such as hairnets, uniforms, jewelry etc) exists & is enforced by management
  - Visitor access is controlled and they comply with plant GMP policy. This includes contractors working on site

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PERSONNEL

- Communicable Diseases and Injuries
  - A policy is in place & enforced to ensure employees suffering from diseases transmissible through food do not work in food handling areas and requires employees to notify management
  - A policy is place & enforced to ensure that employees having open cuts or wounds do not handle food unless completely covered and that equipment, food & materials have been properly sanitized in the case of a on-site wound.

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PREMIUM BANANA
STORE AT 14°C (57°F)
STORE AT 14°C (57°F)

Coca-Cola

Sanitation

SANITATION REQUIREMENTS SUMMARY

- Written procedure(s) which describe sanitation programs and include the following:
  - Written SSOP's for all brewing and packaging equipment, auxiliary equipment and plant fabric items.
  - Master cleaning schedules for all equipment and fabric
  - Defined responsibility for maintaining up to date procedures
  - Documentation to prove activities are complete and verification of completeness

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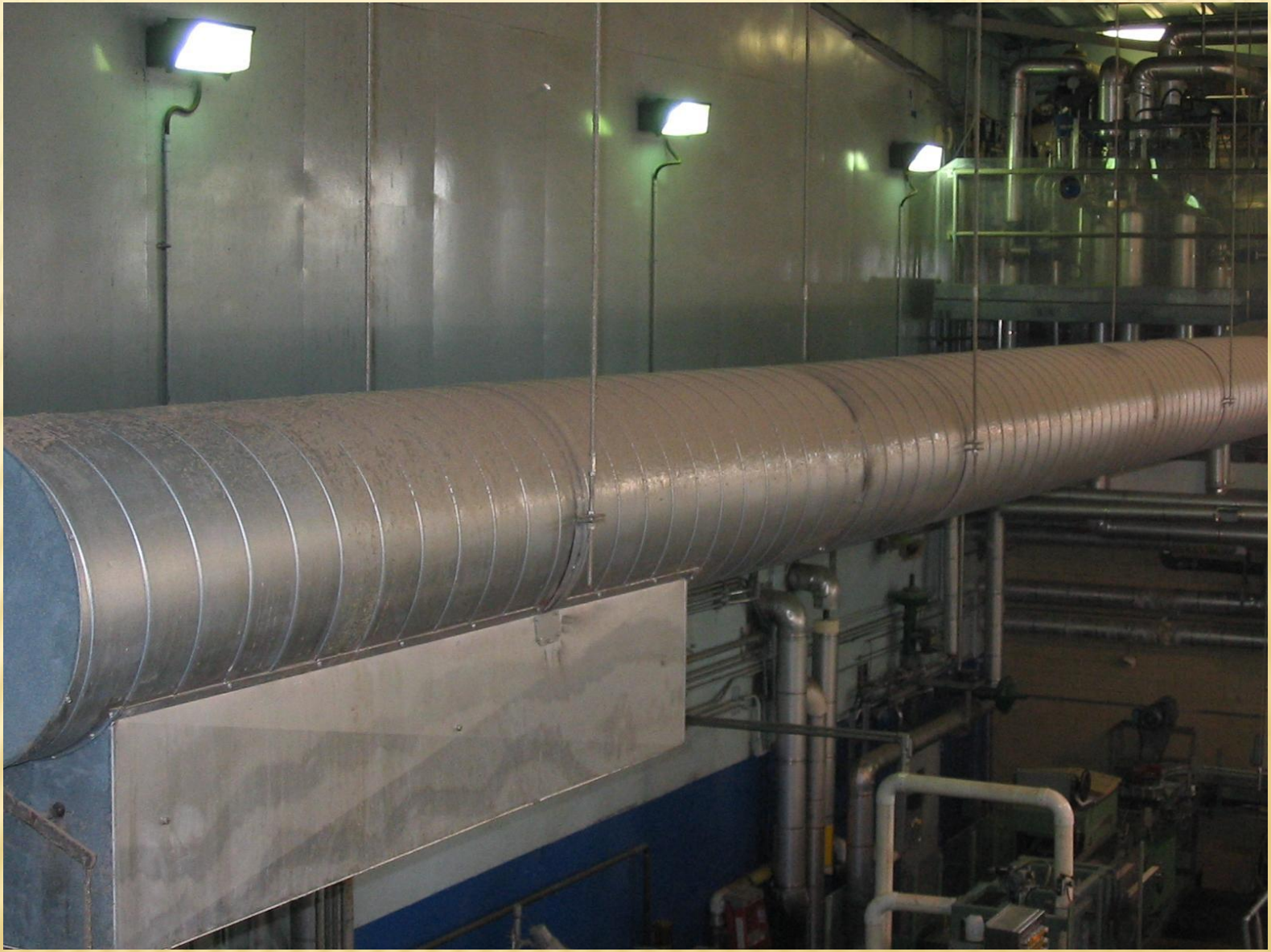

PEST CONTROL

- A document pest control program exists that names responsibilities, lists of chemical & pesticides, maps of pest control devices & frequency of inspection
- Pest control devices are adequately placed at interior & exterior locations.
- No evidence of pest activity exists and all devices have been maintained properly
- There is facility responsibility assigned to ensure all corrective actions are completed & documented.

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PEST CONTROL REQUIREMENTS SUMMARY

- Written procedure(s) which describe pest control programs and include the following:
  - Responsibility for maintaining pest control manual, including maps
  - Verification activities to ensure appropriate contractor inspections
  - Corrective action documentation

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RECALL /TRACEABILITY REQUIREMENTS SUMMARY

- Written procedure(s) which describe plant specific recall programs and include the following:
  - Responsibility for maintaining plant recall team listing
  - Mock recall standardized forms and corrective actions
  - Defined traceability procedures, in brewing for rawa materials and especially in pallet make up or mix areas where use of pallet tags may be absent.

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PRODUCT PROTECTION

- Employee practices, maintenance activity, sanitation practices & general facility appearance does not lead to product contamination or possible product contamination.
- Food allergens have been adequately controlled in the facility
- A glass control or glass & hard plastic breakage policy or procedure is in place.

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Lauterdr
VER PRO

WHAT DO I NEED TO DO ?

- Are you ready ?
  - Are you sure
    - Are you really ready !!!!

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Meeting the Requirements

- Say what you do: Procedures
- Do what you say: Activities
- Prove it: Records

SANITATION

- Verification
  - pH/paa test strips
  - Conductivity meters (calibrated/cross checked)
- Master cleaning schedule system
  - Schedule
    - Supervisor checklists

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PRODUCT INTEGRITY

- Documentation for all new ingredients and materials that direct/indirect contact with food product surfaces
- Allergen program
  - Equipment COP/CIP post allergen use
  - Proper handling/storage to avoid cross contamination
  - Labelling of finished product

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GLASS/BRITTLE PLASTIC PROGRAM

- List of glass usage areas
- Traceability
- Breakage clean up SOP's
- Fragment flush system – manual/automated SOP's
- Validation studies

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GOOD LUCK

ECOLAB
Everywhere It Matters.

Overview of HACCP

What is HACCP

- Management system tool (prevention)
- Helps your facility enhance the safety of the food products it manufactures:
  - Understand what food they are making
  - Understand how they are making the food
  - Identify and focus on what needs to be controlled so that consumers do not get sick, injured or die

Why HACCP

- Protect your customers
- Provide focus, structure, disciplined approach to enhancing the safety of your product
- Will make you think about potential risks intrinsic to your current process and innovation so that you can proactively control them

What is HACCP: the Steps

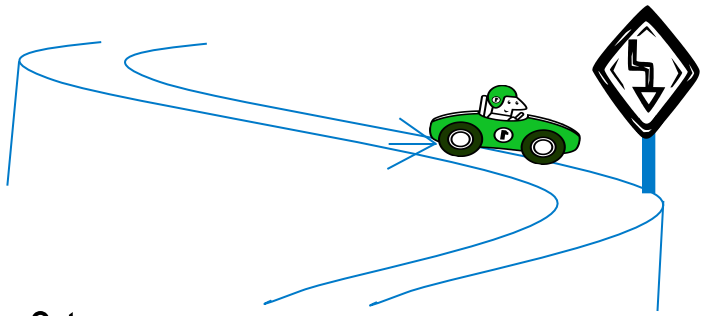
- Defined structure of 5 Preliminary tasks + 7 Principles:
  - Task 1 – Establish a team to put this together, review and maintain it
  - Task 2 – What are we making?
  - Task 3 – How is the product going to be used?
  - Task 4 – How is the product made?
  - Task 5 - Confirmation on the floor that it is *really* made like we said in Task 4

- Tasks 1-5 are important so that your facility understands what products they are making and how they are making them

What is HACCP: the Principles

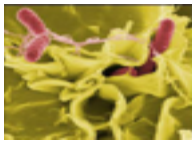
P1. What could go wrong while making the product which could make the product unsafe? How can I control this?

Hazard Analysis



Categorize hazards into 3 types

Biological



Source: Rocky Mountain Laboratories, NIAID, NIH

Chemical

Physical

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What is HACCP: the Principles

P2. Using data and tools, designate — **CCP**

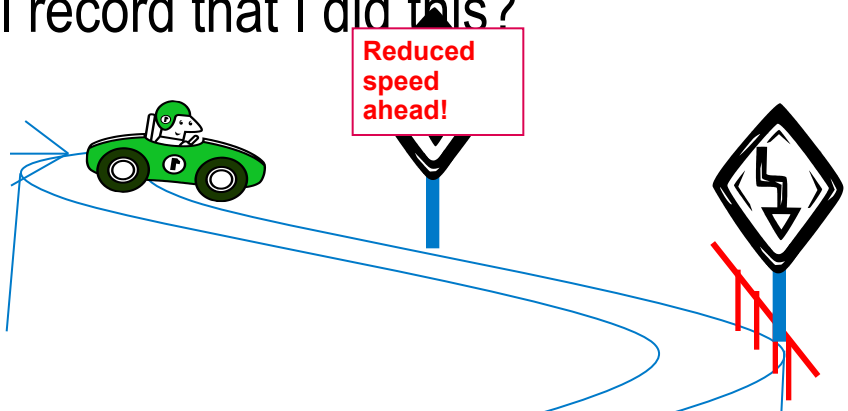
P3. How much “wiggle room” do I have before I lose control? — **Critical Limit**

P4. How can I tell if I lose control? — **Monitoring**

P5. What am I going to do if I lose control? — **Corrective Action**

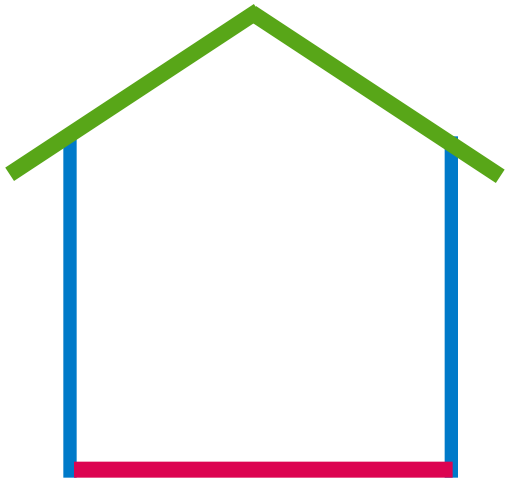
P6. How am I going to make sure this was done? — **Verification**

P7. Where’s my legal record that I did this? — **Record Keeping**



HACCP as Part of Multi-Level Approach

- Control of food safety hazards requires a multi-level approach
  - Compliance with regulatory requirements and Good Brewing Practices (GBPs)
  - HACCP
  - Management System



Brewing Resources/Food Safety

Log In

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Providing technical leadership for the brewing industry

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Master Brewers Association of the Americas > BREWING RESOURCES > Food Safety

Share

MBAA Food Safety

The MBAA Food Safety Committee is committed to providing resources, knowledge, tools, and education to brewers to help them achieve the highest levels of food safety in their breweries.

Our goals are to provide technical food safety guidance; tools and programs such as Hazard Analysis Critical Control Points (HACCP) and Good Manufacturing Practices (GMP) and interpret governmental regulations pertaining to food safety into those easily adapted to their unique circumstances.

Our History

Submit a question to the Food Safety team

Need Direction?

Start here for a guide to food safety for your brewery. Choose between a flow chart or skip right to the supporting documents.

Ask the Food Safety Team

Question

Q. Is beer considered "food" and thus regulated by the FDA?

A. Yes. If it goes into the mouth and can be ingested, it is considered food.

ECOLAB

Everywhere It Matters.

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Engage & Renew
MBAA Districts
Awards
MBAA Communicator
Member Directory
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Food Safety

This committee's charge is to review current issues related to food safety regulatory activities. Interface and coordinate with other brewing related organizations to address these issues. The committee will also maintain and update the MBAA website HACCP program

Committee Chair: Patrick Staggs, patrick.staggs@crowncork.com, Crown Beverage Packaging

Executive Committee Liaison: Jim Kuhr, F X Matt Brewing

Committee Member: Wade Begrow, Bell's Brewery Inc

Committee Member: Scott J. Britton, Brewery Ommegang

Committee Member: Jim Crooks, Firestone Walker Brewing Co

Committee Member: Kate Devine, Left Hand Brewing Company

Committee Member: Rob G. Fraser, Sierra Nevada Brewing Co

Committee Member: Jorge R. Garcia, AB InBev

Committee Member: Tyler J. Glaze, Short's Brewing Co

Committee Member: Tatiana A. Lorca, Ecolab

Committee Member: Matt Stinchfield, Ploughshare Brewing Co LLC

Committee Member: Shawn J. Theriot, Deschutes Brewery

Committee Member: Ron Vail, AIB

Committee Member: Brian Wiersema, Virginia Tech Food Science & Technology

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COMING Q2 2015!!!

HAC

MBAA

INTERNATIONAL HACCP ALLIANCE

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Thank You!

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