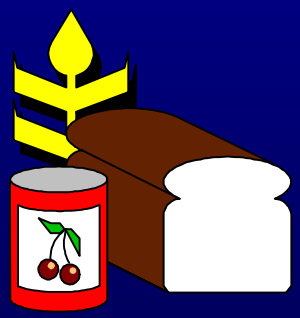
University of Nebraska Lincoln

Identifying Hazards - Chemical

A key element in developing a HACCP Plan



HACCP and Food Safety Help for Small Meat and Food Processing Operations

Chemical Hazards

- Toxic substances and any other compounds that may render a food unsafe for consumption

Chemical Hazards

- Section 7 of your Notebook
- Chapter 6 of the FPI book

NON-TOXIC
simple green
SUPER GALLON
CONCENTRATED ALL-PURPOSE
Extra-Action
GREASE-CUTTER
Food Service Area Degreaser
1 GAL.(3.78 l) NET CONTENTS
Whitens & Disinfects
Purex
Bleach
NET CONTENTS
1 GALLON

Chemical Hazards

- Raw Materials
  - Pesticides, antibiotics, hormones, toxins, fertilizers, fungicides, heavy metals, PCB's, Color additives, inks, indirect additives, packaging materials.
- Processing
  - Nitrite, color additives, peeling aids
- Building and Equipment
  - Lubricants, paints, coatings

Chemical Hazards

- Sanitation
  - Pesticides, cleaners, sanitizers
- Storage and shipping
  - All types of chemicals, cross contamination

Chemical Hazards Analysis Key Questions

- Review the list of raw materials, ingredients and packaging materials.
  - Are there hazardous chemicals associated with growing, harvesting, or packaging of any item?
  - Are additives approved and do they meet purity requirements?
  - Do labeling requirements apply and is the product labeled correctly?

Chemical Hazards Analysis Key Questions

- Review the flow diagram
  - Are food contact surfaces corrosion resistant and free of toxic substances?
  - Are all water treatment chemicals approved for use and used correctly?
  - Are food grade lubricants used?
  - Are paints and coatings on food-contact surfaces approved for use?
  - Are cleaning and sanitizing chemicals approved for use in food plants and used appropriately?

Chemical Hazards Analysis Key Questions

- Review the flow diagram (continued)
  - Are pesticides, insecticides, rodenticides used, are they approved and used appropriately?
  - Are hazardous chemicals handled and stored to avoid contamination of food?
- List all chemical hazards and identify the point

Types of Chemical Hazards

I. Naturally occurring chemicals

- Mycotoxins
- Scombrotoxin (histamine
- Ciguatoxin
- Mushroom toxins
- Shellfish toxins
- Pyrrolizidine alkaloids
- Phytohemagglutinin
- Polychlorinated biphenyls

Types of Chemical Hazards

II. Added Chemicals

- Pesticides
- Fungicides
- Fertilizers
- Insecticides
- Antibiotics
- Growth Hormones
- Lead, zinc, arsenic, mercury and cyanide
- Food additives, nitrite, niacin, color additives
- Plant chemicals, sanitizers, paint