



**QA - HEALTH & SAFETY  
HACCP - Storage Procedures Handout**

*CODE:* 11.02.007

*EDITION:* 1

*PAGE* 1 OF 9

## Outline

1. Food storage guidelines
2. Cross-contamination
3. Hazardous food
4. Sous vide food
5. FIFO
6. Supervision
7. Chilled food storage
8. Frozen food storage
9. Dry food storage
10. Monitoring temperature

	<b>QA - HEALTH &amp; SAFETY HACCP - Storage Procedures Handout</b>	<i>CODE:</i> 11.02.007
		<i>EDITION:</i> 1
		<i>PAGE</i> 2 OF 9

### Storing food

- ✓ Frozen foods must be stored at or below -18°C,
- ✓ Chilled foods must be stored at or below 5°C
- ✓ The date code of food in fridge's and freezers must be checked at least once each day.
- ✓ Raw and cooked foods must be stored apart.

### Storage of Food Guidelines

- ✓ Spoilage and contamination of food is often linked to improper storage procedures, time and temperature abuse
- ✓ All food products should be dated, labeled and covered before being placed in storage
- ✓ These controls encourage the 'first in – first out' principle (FIFO) and minimize the risks of spoilage and potential contamination
- ✓ They will prevent waste, which occurs when stored products cannot be identified, or are misused, or when they absorb odors or flavors from other food
- ✓ Check all dry foods daily for quality, signs of infestation and to ensure that date codes are current. Discard all food that is beyond date code.
- ✓ Remove all outer packaging where possible, especially where this is wooden or cardboard
- ✓ Closely monitor temperature and time in refrigerated and frozen storage
- ✓ Staff members at the storing control point must be trained to conduct inspections, prevent waste, identify and dispose of spoiled food products

### Protecting food from Contamination

- ✓ Food must be protected from contamination by storing the food:
  - ✓ In a clean, dry location
  - ✓ Where it is not exposed to splash, dust or other contamination
  - ✓ In containers a minimum of 15 cm above the floor that permits easy cleaning of the storage area.

	<b>QA - HEALTH &amp; SAFETY</b> <b>HACCP - Storage Procedures Handout</b>	<i>CODE:</i> 11.02.007
		<i>EDITION:</i> 1
		<i>PAGE</i> 3 OF 9

### **Food Storage Prohibited Areas**

Food and containers of food must not be stored:

- ✓ In locker rooms
- ✓ Toilet rooms
- ✓ Dressing rooms
- ✓ Refuse storage areas
- ✓ Mechanical rooms
- ✓ Under exposed or unprotected sewer lines or water lines

### **Cross Contamination (1)**

- ✓ Always store raw meat, poultry and fish away from or below other food products
- ✓ Always separate raw animal food from raw ready-to-eat food, including other raw animal food such as fish for sushi or mollusk shellfish or other raw ready-to-eat food such as vegetables and cooked ready-to-eat food
- ✓ Except when combined as ingredients, separate different types of raw animal food from each other during storage, preparation, holding and display by:
  - Using separate equipment for each type of food
  - Protecting solid cuts of meats by covering in storage

### **Cross Contamination (2)**

- ✓ Store food only in designated areas, never in passageways, changing rooms, utility rooms or under other sources of contamination
- ✓ Protect food from dust, flies, rodents and other pests, toxic materials, unclean equipment and utensils, unnecessary handling, coughs and sneezes, and all other sources of contamination
- ✓ Food not subject to further washing or cooking before serving must be stored in a way that protects it against cross-contamination from food requiring washing or cooking
- ✓ Food or packaged food must not be stored in contact with water
- ✓ Prevent food from dripping on other food products by storing the food in trays and sealed containers

	<b>QA - HEALTH &amp; SAFETY</b> <b>HACCP - Storage Procedures Handout</b>	<i>CODE:</i> 11.02.007
		<i>EDITION:</i> 1
		<i>PAGE</i> 4 OF 9

### Storage of Hazardous Food

- ✓ Potentially hazardous foods must not be stored in contact with other food
- ✓ Toxic and poisonous materials such as cleaners, sanitizers and pesticides must be clearly labeled and stored in areas that are physically separate from food products
- ✓ These storage areas must be locked and accessible to authorized personnel only

### Sous Vide food

- ✓ These types of sealed packaging withdraw oxygen from the package; gases can be added after the air is removed. This preserves food, allows longer shelf life and maintains flavor.
- ✓ Food is kept fresh and wholesome by their packaging and refrigeration rather than preservatives and additives
- ✓ Spoilage is almost entirely prevented as long as the product is handled properly
- ✓ Vacuum-packed food must be kept at 5°C or below and used within the time indicated on the package
- ✓ Vacuum packed fish must be stored at 5°C or below (to suppress bacterial growth)
- ✓ Sous Vide packaged and labeled food may be fully or partly cooked and must be stored at a temperature of 0°C to 5°C until used
- ✓ Check vacuum packaged foods for temperature and for damaged packaging

### **FIFO ('first in – first out' principle)**

- ✓ Rotating food supply on a 'first in – first out' basis is an important stock control point
- ✓ The FIFO system requires new stock to be stored behind old stock so that the old products will always be used first.

### Supervision of Food Storage

- ✓ Conduct frequent inspections of food storage areas to ensure that the quality and safety standards are in place
- ✓ Prevent waste, spoilage and deterioration of food
- ✓ Prevent cross-contamination by using proper storage procedures
- ✓ Discard food that is contaminated or spoiled

	<b>QA - HEALTH &amp; SAFETY</b> <b>HACCP - Storage Procedures Handout</b>	<i>CODE:</i> 11.02.007
		<i>EDITION:</i> 1
		<i>PAGE</i> 5 OF 9

- ✓ Alert the supervisor to surplus products, thus minimizing spoilage

### **Food Storage Containers**

- All containers must be properly labeled with the food name. Repacked foods must be clearly labeled.
- Food whether raw or prepared, if removed from its original packaging or container must be stored in a clean covered
- The use of covers on all food containers reduces the chance of contamination
- Metal containers may cause contamination when foods with high acid such as fruits, tomatoes or sauerkraut come in contact with them. Equipment containing these metals must be avoided in food production, storage and service:
  1. Containers made of copper, brass, tin or galvanized metal
  2. Enamelware if plated with antimony or cadmium

### **Guidelines for Chilled Food Storage**

- The temperature at which raw ingredients are stored influences bacterial activity, thus storage at intermediate temperature must be kept to a minimum.
- The temperature range of 9°C to 63°C is the temperature danger zone (TDZ).
- Refrigerated storage areas are usually designed to maintain food products at temperatures of 5°C or less.
- Recommended temperatures:
  1. Meat and dairy products, 4°C or below
  2. Other chilled produce, 7°C or below
  3. Seafood, 1°C (needs to be placed on ice and kept drained)

	<b>QA - HEALTH &amp; SAFETY</b> <b>HACCP - Storage Procedures Handout</b>	<i>CODE:</i> 11.02.007
		<i>EDITION:</i> 1
		<i>PAGE</i> 6 OF 9

### **Guidelines for Chilled Food Storage**

Thermometers must be checked regularly to ensure their accuracy

- ✓ Foods in refrigerated storage must be at least 5cm away from walls to allow for maximum air circulation
- ✓ Fresh fish must be stored in crushed ice and kept drained
- ✓ Refrigerators must not be overloaded as this can raise the temperature of the cabinet and food
- ✓ Perishable or potentially hazardous foods must be refrigerated in shallow containers not more than 10cm deep.
- ✓ Do not refrigerate foods in large or deep containers as this will prolong cooling and may lead to dangerous bacterial growth
- ✓ Once canned products are opened, remove any product from the original container and place in clean, labeled, dated and covered containers
- ✓ Dairy products must be stored separately from strong-smelling foods
- ✓ Eggs must be stored on the bottom shelf in the refrigerator
- ✓ Spoons, knives and so on must not be left in food containers
- ✓ Date cooked and prepared foods and use them within 48 hours
- ✓ All food handlers must be fully instructed and properly trained in the use of each refrigerator to avoid raw and cooked foods being mixed

### **Guidelines for Frozen Food Storage**

- ✓ The temperature range for frozen food storage is -18°C or below
- ✓ Check the operating temperature twice a day and date codes daily and record the checks
- ✓ Defrost, clean and maintain freezers frequently and regularly. During this process, remove any food to another freezer to allow thorough cleaning  
Provide each freezer with an identification label
- ✓ Rectify unsafe temperatures or faulty thermometers immediately
- ✓ Do not thaw and refreeze frozen foods
- ✓ Do not thaw food at room temperature. All thawing is safer and more efficient under refrigeration
- ✓ Use FIFO (first in – first out) principle
- ✓ Store frozen foods to allow for maximum air circulation between packages
- ✓ Freezers may be tightly packed with food, as air does not need to circulate

	<b>QA - HEALTH &amp; SAFETY</b> <b>HACCP - Storage Procedures Handout</b>	<i>CODE:</i> 11.02.007
		<i>EDITION:</i> 1
		<i>PAGE</i> 7 OF 9

### Guidelines for Dry Goods Storage

A properly designed dry storage facility must be clean, properly organized, well ventilated and pest free. Good sanitation and housekeeping practices reduce contamination risks as well as fire hazards and we recommend the following:

- ✓ Walls must be sealed to protect food from insects and rodents
- ✓ Dry foods must be protected from dripping condensation or leakage from overhead plumbing pipes
- ✓ Window film or frosted glass can be used to reduce heat and exposure to light
- ✓ Dry stores must be well ventilated and well-lit for easy reading of product labels
- ✓ Security measures must include locked doors and proper key control
- ✓ All food must be on shelves at least 5cm from walls and 15cm from the floor to allow adequate air circulation and facilitate essential inspection and cleaning
- ✓ All products to be stored at least 45cm away from light bulbs and tubes
- ✓ Bulbs and tubes should be shielded to protect food supplies from glass fragments in case of breakage
- ✓ All dry foods to be checked weekly for quality, signs of infestation and date codes where applicable. Food that is out of date code must be discarded
- ✓ Shelves opening on both sides for centre aisle location improve space management and facilitates stock rotation
- ✓ A specific location must be assigned in the store area for each type of product
- ✓ Bulky and heavy products must be placed on lower shelves
- ✓ Frequently used products must be stored closer to the entrance
- ✓ Products that have been opened in storage must be kept away from containers that may be contaminated with dirt, wire or other debris
- ✓ Where food is transferred from original date code pack, the "use by" or "best before" date must be transferred to the new container with the food
- ✓ Food must be guarded against physical hazards such as glass fragments and metal chips

	<b>QA - HEALTH &amp; SAFETY</b> <b>HACCP - Storage Procedures Handout</b>	<i>CODE:</i> 11.02.007
		<i>EDITION:</i> 1
		<i>PAGE</i> 8 OF 9

**Storage Temperature-Humidity controls:**

**Dry Food**

- ✓ Ideal storage temperature for dry goods is 10C
- ✓ Relative humidity should be about 50% to 60% – if high humidity is a problem, consider using a dehumidifier

**Procedures to be in place: dry food**

Date all merchandise upon receipt and rotate inventory

- ✓ Wipe cans with a clean cloth before opening
- ✓ Do not allow smoking, eating, or drinking in food storage areas
- ✓ Do not store motors, compressors, machinery, water-heating pipes, or other utility items in the dry store
- ✓ Store all poisonous materials, including pesticides, soaps and detergents away from food supplies
- ✓ Store all open packages in closed and labeled containers
- ✓ Keep the shelving and the floor clean and dry at all times Schedule cleaning of storage facilities at frequent and regular intervals

**Taking Temperatures**

- ✓ Equipment and ambient storage temperatures are critical in each of the three storage areas Dry – Refrigerated – Frozen
- ✓ A thermometer must be placed in the warmest part of each storage area; the warmest part of a refrigerator or freezer is near the door
- ✓ A product thermometer with an accuracy of (+1oC) must be used regularly to monitor the internal product temperatures of potential hazardous foods in storage

**Guidelines for Temperature Monitoring of Food**

- ✓ Temperatures at which food is stored must be monitored and recorded This will confirm that the temperature controls are in place. A properly trained person must carry out temperature monitoring at the appropriate frequency
- ✓ The best is a hand-held digital thermometer, which should be used for probing foods and checking air temperatures. Thermometers must be kept clean at all times





**QA - HEALTH & SAFETY  
HACCP - Storage Procedures Handout**

CODE: 11.02.007

EDITION: 1

PAGE 9 OF 9

**Refrigerator/Freezer Breakdown**

- ✓ Breakdown may occur due to a number of factors, including power failure or compressor failure. The food stored in a unit may be placed at risk if temperatures conducive to bacterial growth are reached. In the event of a breakdown, the following procedures must be followed:
- ✓ The breakdown must be reported to the supervisor
- ✓ The engineering department must be called immediately
- ✓ Check the temperature of the stored food.
- ✓ If the temperature has not risen above the following the food may be placed into an alternative unit:
- ✓ Frozen food\*, -12° C
- ✓ Chilled food, 8° C
- ✓ Frozen food that has partly thawed may be completely thawed, cooked and used immediately; however, partly thawed frozen vegetables must be disposed of, as slow thawing reduces their quality
- ✓ Any frozen food that has thawed out completely must be discarded