



FOOD SAFETY AND STANDARDS
AUTHORITY OF INDIA

Inspiring Trust, Assuring Safe & Nutritious Food

Training Manual
Food Safety Supervisor Course
Advance (Level 2) Retail and Distribution category

PREFACE

Training of food handlers is a pre-requisite for ensuring food safety and the same is also mandated in the Food Safety and Standards Act, 2006. The Food Safety and Standards Authority of India (FSSAI) has set up Food Safety Training & Certification (FoSTaC) ecosystem to ensure widespread and effective delivery of training to food businesses across the value chain. This ecosystem will train and certify the Food Safety Supervisor from each Food establishment as it is envisaged to make this a regulatory requirement.

The manual is designed to train the personnel that can be designated Food Safety Supervisors in the Retail & Distribution sector. This manual details the requirements on food safety and hygienic practices to be followed by Food Business Operators engaged in food retail and distribution. It is based on the Schedule 4 requirements of the Food Safety and Standards (Licensing & Regulation of Food Businesses) Regulations, 2011 along with the industry best practices. It has been designed according to the flow of operations in food retail and distribution. This all-in-one manual is supplemented by a Tutor Guide along with the visuals, specific to the food retail and distribution sector for facilitating the trainers.

It is hoped that this manual will serve a wider purpose of training the Food Safety Supervisors and will also be useful to the food handlers in implementing the hygiene requirements in the food retail and distribution sector.

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Disclaimer: The content of this handbook/ manual is only for training and capacity building purpose, and is not intended to substitute applicable law, which may be referred to separately.

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TUTOR GUIDE

Welcome to the manual –

The manual is designed for small, medium and large scale food retailers, Distributors wholesaler, supplier, marketer and transporter.

This manual explains General Requirements on Hygienic and Sanitary Practices to be followed by all Food Business Operators engaged in retailers, Distributors wholesaler, supplier, marketer and transporter

This manual presents bare minimum requirements of Food Safety and Hygiene to be followed by Food Business Operators along with Industry best practices.

Learning Outcome –

The objective of this handbook / manual is to train personnel, who can become Food Safety Supervisors in food sales and service establishments, about food safety and hygiene requirements which are to be followed in their businesses. These requirements can be adopted and applied in practice according to the size and type of the respective establishment.

The desired learning outcome of this handbook / manual is better understanding of food safety and hygiene requirements and high standards of food safety in the food industry.

What the law says –

The establishment in which food is handled by the food business operator and the persons handling them should conform to the sanitary and hygienic requirement, food safety measures and other standards as specified below. It shall also be deemed to be the responsibility of the food business operator to ensure adherence to necessary requirements.

In addition to the requirements specified below, the food business operator shall identify steps in the activities of Food businesses, which are critical to ensure food safety, and ensure that safety procedures are identified, implemented, Maintained and reviewed periodically.

In India, the mandatory sanitary & hygiene requirements for food business operators are –

“Part II of Schedule 4” of Food Safety and Standards (Licensing & Registration of Food Businesses) Regulations, 2011 (<http://www.fssai.gov.in/home/fss-legislation/fss->

[regulations.html](#)) under Food Safety & Standard Act, 2006 (<http://www.fssai.gov.in/home/fss-legislation/food-safety-and-standards-act.html>).

Definitions –

“Act” means the Food Safety and Standards Act, 2006 (Act 34 of 2006)

“Rules” means the Food Safety and Standards Rules, 2011.

“Adulterant” means any material which is or could be employed for making the food unsafe or sub-standard or misbranded or containing extraneous matter.

“Consumer” means persons and families purchasing and receiving food in order to meet their personal needs.

“Contaminant” means any substance, whether or not added to food, but which is present in such food as a result of the production (including operations carried out in crop husbandry, animal husbandry or veterinary medicine), manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food or as a result of environmental contamination and does not include insect fragments, rodent hairs and other extraneous matter;

“Food” means any substance, whether processed, partially processed or unprocessed, which is intended for human consumption and includes primary food to the extent defined in clause (zk) genetically modified or engineered food or food containing such ingredients, infant food, packaged drinking water, alcoholic drink, chewing gum, and any substance, including water used into the food during its manufacture, preparation or treatment but does not include any animal feed, live animals unless they are prepared or processed for placing on the market for human consumption, plants, prior to harvesting, drugs and medicinal products, cosmetics, narcotic or psychotropic substances :

“Food Authority” means the Food Safety and Standards Authority of India established under section 4;

“Food business” means any undertaking, whether for profit or not and whether public or private, carrying out any of the activities related to any stage of manufacture, processing, packaging, storage, transportation, distribution of food, import and includes food services, catering services, sale of food or food ingredients;

“Food business operator” in relation to food business means a person by whom the business is carried on or owned and is responsible for ensuring the compliance of this Act, rules and regulations made there under

“Hazard” means a biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect;

“Food safety” means assurance that food is acceptable for human consumption according to its intended use;

“Food safety audit” means a systematic and functionally independent examination of food safety measures adopted by manufacturing units to determine whether such measures and related results meet with objectives of food safety and the claims made in that behalf;

“Food Safety Management System (FSMS)” means the adoption Good Manufacturing Practices, Good Hygienic Practices, Hazard Analysis and Critical Control Point and such other practices as may be specified by regulation, for the food business;

“Food Business Operator” in relation to food business means a person by whom the business is carried on or owned and is responsible for ensuring the compliance of the Act, rules and regulations made there under.

PART I

INTRODUCTION

TO

FOOD SAFETY

1.1 Food safety and food safety hazards

1.2 Food spoilage

1.1 FOOD SAFETY AND FOOD SAFETY HAZARDS

Food safety is about handling, storing and preparing food to prevent infection and help to make sure that our food keeps enough nutrients for us to have a healthy diet. Unsafe food and water means that it has been exposed to dirt and germs, or may even be rotten, which can cause infections or diseases such as diarrhoea, meningitis, etc.

1) Basics in relation to certain hazards

Food Safety Hazard means biological, chemical or physical agent in food, or condition of food, with the potential to cause an adverse health effect. There are three types of hazards -

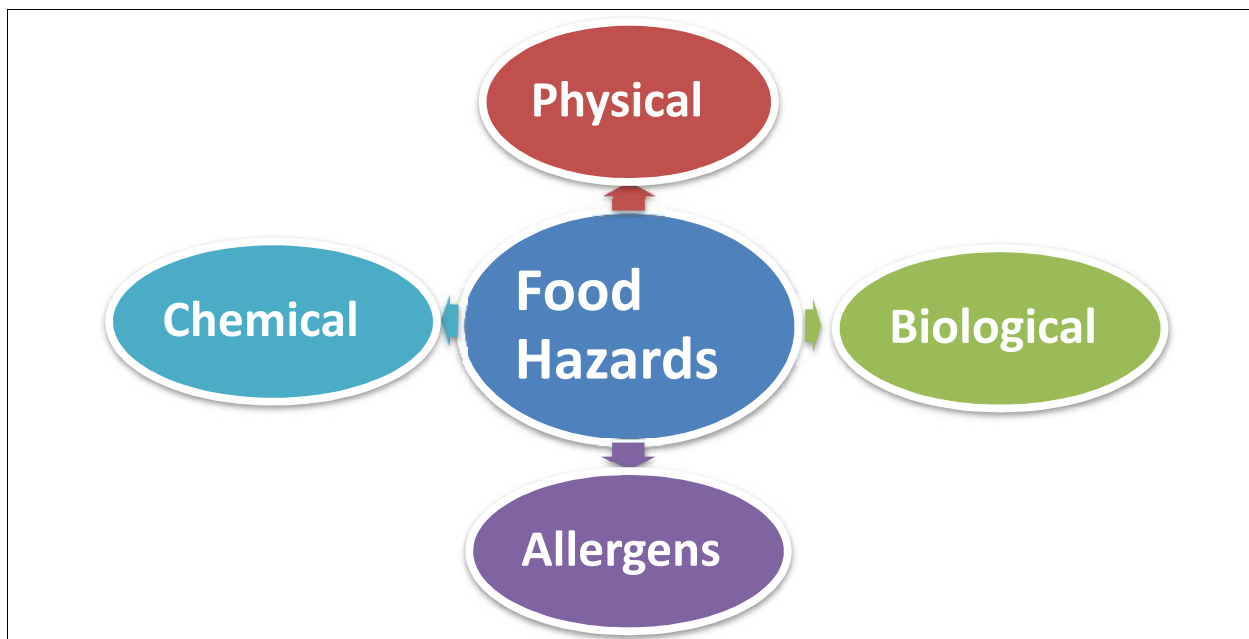


Fig 1.1(1) Types of Hazards

a) Physical Hazards

Any foreign object (inanimate) found in the food or a naturally occurring object (metal, hard plastic), that poses a hazard is called a 'Physical Contamination or Hazard'.

Common Physical Hazards include:

- Glass and Jewellery pieces

- Chipped pieces from equipment
- Metal shavings from cans and foils
- Stapler pins and Blades
- Plastic or chipped pieces of disposables
- Lint and threads
- Band- aids
- Hair
- Finger nails

b) Chemical Hazards

Naturally occurring and process induced chemical substances that can cause a food borne illness are called a 'Chemical Contaminant or Hazard'.

(i) Natural Chemical Contaminants include:

- Allergens
- Mycotoxins

(ii) Process Induced Chemical Contaminants include:

- Toxic metals in the processing set up or supply chain
- Pesticides, Colorants
- Cleansing products and sanitizers
- Equipment lubricants
- Chemical Food Additives, Preservatives
- Packaging materials-migration of residues from packaging material to oil.
- Adulteration with other oils or mineral oil

c) Biological Hazards

Biological hazards are organisms, or substances produced by organisms, that pose a threat to human health. They are a major concern in food processing because they cause most food borne illness outbreaks.

(i) Major biological hazards includes:

- **Bacteria** ex: Salmonella spp., Enterohaemorrhagic *Escherichia coli*, Listeria monocytogenes, Staphylococcus aureus, Clostridium botulinum.
- **Yeast and Mold** ex: Candida, Aspergillus sp, Helicosporium.
- **Biological creatures** like flies, worms, cockroaches weevils, caterpillars and so on, whether in live or dead form.

(ii) Biological Hazards causes :

- **Food Borne Infections**—This result when a person consumes food containing pathogens; which grow in the human intestine and cause discomfort or disease. Typical symptoms of a ‘food borne Infections’ do not appear immediately.
- **Food Borne Intoxications** - This result when a person consumes food containing toxins in it; that cause discomfort or disease. Typical symptoms of a ‘food borne Intoxication’ appear quickly. Food Borne intoxications are mediated infections, that is, infections which result when a person consumes food containing toxins produced by the pathogens in it; which grow in the human intestine and produce toxins that cause discomfort or disease.

(iii) Conditions favouring growth of Microorganisms.

Easy to remember: “FAT TOM”

Conditions	Definition
Food	Food borne Microorganisms draw nutrients from Potentially hazardous foods
Acidity	Food borne Microorganisms grow well between the pH range of most foods
Temperature	Microorganisms grow well between the temperature range of 5°C – 60°C, most commonly known as the ‘Danger Zone’
Time	Microorganisms need sufficient time to grow; when exposed to the ‘Danger Zone’
Oxygen	Microorganisms require oxygen in free or combined state; to favor their growth
Moisture	Microorganisms require moisture to grow and is measured in the form of ‘Water Activity (Aw)’

2) Allergens

An **allergen** is normally, any harmless substance that causes an immediate allergic reaction in a susceptible person. Food allergens are almost always proteins although other food constituents, such as certain additives, are known to have allergenic (allergy-causing) properties.

Food allergy is a potentially serious immune response to eating or otherwise coming into contact with certain foods or food additives.

a) A food allergy occurs when the immune system:

- Identifies a particular food protein as dangerous and creates antibodies against it

- The next time the individual eats that food, immune system tries to protect the body against the danger by releasing massive amount of chemicals including Histamine
- Histamine is a powerful chemical that can cause a reaction in the respiratory system, gastrointestinal tract, skin or cardiovascular system.
- In the most extreme cases, food allergies can be fatal. Although any food can provoke an immune response in allergic individuals, a few foods are responsible for the majority of food allergies.

b) List of following foods are highly allergic and shall always be declared on label:

- Cereals containing gluten; i.e., wheat, rye, barley, oats, spelt or their hybridized strains and products of these.
- Crustacean and products of these.
- Eggs and egg products
- Fish and fish products
- Peanuts, soybeans and products of these
- Milk and milk products (lactose included)
- Tree nuts and nut products
- Sulphite in concentrations of 10 mg/kg or more.”

Source: <http://www.foodallergens.info/Legal/CODEX.html>



Fig 1.1(2) – Food Allergens

c) Handling Allergens

(i) Raw Material/finished material Receiving Area

- a. Review the labels of incoming raw materials or finished materials for the appropriate allergen information or any changes.
- b. Tag each case/pallet/bag, etc. as appropriate of raw materials to ensure the allergen is clearly called out as the materials are stored and used in your facility.
- c. Handle appropriately any damaged containers of allergens to minimize cross-contamination at receipt.

(ii) Storage area:

- a. Store allergenic ingredients or products separately to prevent minimize cross-contamination.
- b. Using clean and closed containers.
- c. Designating separate storage areas for allergenic and non-allergenic ingredients and/or products. When segregated storage is not possible, use other methods such as not storing allergens over non-allergens, storing like allergens (peanuts and peanut butter) together, etc.

- d. Using and documenting clean up procedures for spills or damaged containers of allergens.
- e. Using dedicated pallets and bins.

(iii) **Sanitation**

- a. Have standardized procedures for sanitation operations (SSOP's) and ensure they are followed
- b. Use appropriate cleaning methods (vacuum, soap and water wash, proper chemicals).
- c. Ensure adequate lighting in the proper locations (including flashlights to check inside equipment)
- d. Specify employee practices - hand washing at appropriate times (for example after handling a product that contains allergens, such as peanuts); proper hand washing procedures; clean clothing/aprons.

1.2 FOOD SPOILAGE

Food spoilage means that the original nutritional value, texture, flavor of the food are damaged, the food become harmful to people and unsuitable to eat.

Major reasons for food spoilage are –

1. **Foreign matter:** Human hair, stapler, metal particles, fabric, plastic, alkali etc. are big threats to food safety and can cause food spoilage. Anything that is not considered as food or food substance is considered as foreign matter.
2. **Lack of proper drainage:** Improper drainage leads to clogged drains and accumulation of waste water in the processing area which attracts pests and microorganisms and can lead to food contamination.
3. **Non- food grade equipment:** Use of equipment's that are made of non-food grade material can lead to food contamination. It is therefore important to use food grade equipment's and vessels in the processing unit.
4. **Improper handling:** Unclean hands, wrong selection of equipment and packing in unsuitable material could result in food safety issues.
5. **Residues of chemicals:** Chemicals come into contact with food as crop contaminants then later in the process of sanitizing voluntarily by our process. The next involuntary entry of chemicals into food can be through residues of equipment or utensil sanitation operations. The presence of these residues can have adverse consequences on the consumer health. It

is therefore essential to restrain the entry of chemical residues in the food production process.

6. **Non-standard sanitation:** Sanitation must be based on strict guidelines of either historical data or validation. If chemicals are used in less or more quantity or in an unverified process or method, sanitation will fail to achieve proper results giving way for food to become unsafe.
7. **Improper raw materials:** Raw material selection must be based on strict scientific reference and frequent sampling. The raw materials should always be sourced from certified and approved vendors.
8. **Unstandardized Additive:** Additives of any nature like essence, flavors etc. can spoil food if not used in the right quantity. Unauthorized additive also must not be used.
9. **Bad quality Water:** Water is involved in food process in various stages from washing to soaking then involved in either directly food production as an ingredient or in some indirect manner as steam. It is also important for washing and sanitation operations. Potable water should conform to the specifications of IS 10500:2012.
10. **Improper storage:** Storage must not only be done by FIFO (First In First Out) or FEFO (First Expiry First Out) method but also properly segregated and with required ventilation. Right combination of duration, temperature ventilation and segregation defines a good storage. Any deviation in one of these could result in food becoming unsafe.
11. **Illness/Injury to staff:** Food safety is very much dependent on the food handler's personal behavior and health status. A person with cough, cold, open wound, itching and any illness which is of an irritable nature tends to make him handle things without washing his hands after touching the body. The most common danger to food safety is from cough and cold and open wounds for food handlers. Procedures should be in place and followed at all times for cases of illness and injury of the staff.
12. **Improper segregation:** Appropriate segregation of RM, equipment, tools and final product is important to ensure consumer safety.
13. **Poor control of Humidity, Temperature and Time:** Humidity is a major cause that promotes microbial growth, and rancidity. Appropriate humidity levels should be identified and maintained as per the final product in the processing unit. Temperatures of processing, holding, storing, transporting, are all important factors in food being safe. No raw material, or product should be held beyond designated shelf life.
14. **Non-food grade packing:** Intermediate and final product should be packed only in food grade packing material to ensure food safety.
15. **Pest:** Care must be taken to plant pest control devices and other forms of controls to ensure that they are highly restricted from either getting into product or contaminating product resulting in food safety issues.

16. **Body fluids of rodents/pests:** Contamination may be caused by body fluids like urine, fecal matter of rodents, reptiles, pests, nocturnal animals and birds present in the storage yard, marketing yard, transportation etc.
17. **Improper waste disposal:** Waste is an outcome of process but often present very close to the process region. If it is not disposed in a hygienic manner it can breed pest and micro-organisms which are a threat to food safety.

Part I

ACTIVITY - 1

1. **Food Hazards can be present in food when reduced to an acceptable level.** True/False
2. **Equipment Lubricant is**
 - a. Physical Hazard
 - b. Chemical Hazard
 - c. Biological Hazard
 - d. Allergen
3. **Chemical Hazard can come from**
 - a. Toxic metals in the processing set up, packaging materials.
 - b. Pesticides, Colorants, Food Additives, Preservatives
 - c. Cleansing Products, Sanitizers
 - d. Equipment lubricants, adulteration with oils
 - e. All of the above.
4. **Food Borne result when a person consumes food containing pathogens.**
 - a. Infection
 - b. Intoxication

PART II

GMP-GHP FOR ORGANIZED BIG RETAILERS

-
- 2.1 Location and surroundings
 - 2.2 Layout and design of Retail premises / shops
 - 2.3 Equipment and containers
 - 2.4 Facilities
 - 2.6 Operations and Controls
 - 2.7 Management and Supervision
 - 2.8 Food testing facilities
 - 2.9 Audit, documentation and records
 - 2.10 Sanitation & Maintenance of Premises
 - 2.11 Personal Hygiene
 - 2.12 Product Information and Consumer Awareness
 - 2.13 Training

GMP-GHP FOR ORGANIZED BIG RETAILERS

2.1 Location and Surroundings:

Retail outlets shall be located away from sources of pollution like open drains, garbage yards, industries that emit fumes or gases and dense vegetation. In order to avoid contamination from external sources such as odour, pests, dust etc., appropriate measures shall be taken to protect the premises from environmental contamination..



Fig 2.1 – Location and Surroundings

2.2 Layout and design of Retail premises / shops:

Layout of the premises / retail store shall enable separate and designated areas for storing of different varieties of products. (E.g. food and non-food items, veg. and non-veg. items, perishable and long shelf life products shall be well segregated during storage, which helps in prevention of cross-contamination). Floors, walls, ceilings, doors should be designed

- a.** To minimize accumulation of dirt
- b.** To be smooth and easy to clean
- c.** To be made up of impervious material
- d.** To not have flaking paint or plaster

Walls of the premises shall be tiled at Operational height from the floor to facilitate easy cleaning. Floor shall have appropriate slope to facilitate draining and drainage shall flow in opposite direction to storage of food. Outside openings to the environment like windows, ventilators at the food counters, drainage openings shall be well screened to control pest entry inside the premises. Doors can be fitted with automatic closing spring, strip or air curtains.



Fig 2.2 Layout and design of Retails shops

2.3 Equipment and containers:

During processing/handling/ storage of food products (especially loose food items like cereals, grains, dry fruits, bakery ingredients, flour, etc.) certain equipment for e.g. scoops, spoons, cooking vessels, containers, etc. comes into contact with food. All these food contact surfaces shall be:

- a. made up of non-corrosive / rust-free material
- b. smooth, free from any grooves
- c. easy to clean and maintain
- d. non-toxic and non-reactive
- e. of food grade quality



Fig 2.3 Equipment and containers

Generally food grade stainless steel or galvanized iron material is preferred as it complies with the above requirements.

All equipment used during food handling and packaging (if any) shall be designed, located and fabricated to facilitate easy cleaning and shall be kept away from impure air and dust. All equipment shall be kept clean, repaired and maintained in sound condition all the time. Chipped enameled containers shall be discarded immediately from the premises. For cleaning of disassembled equipment, utensils and containers, a separated and identified cleaning area shall be provided with adequate potable water supply, drainage system and cleaning agents.

To collect waste or by-product during any kind of processing, it shall be separated from the final product and well identified. Waste generated in the premises shall be collected in dustbins and dustbins shall be provided with lid, identified to a specific area and cleaned regularly.

Containers used to store cleaning chemicals, pesticides, solvents, etc. shall be well identified and stored at a designated place away from food material storage or food handling area to avoid accidental contamination. All measuring instruments / equipment like temperature gauges of refrigerators and chillers, weighing balances, etc. shall be checked periodically and maintained properly for correct measurement.

2.4 Facilities:

- a. **Water supply:** Water used in cleaning of equipments / containers / cooking vessels (wherever applicable) should be potable and should not introduce any hazards or contaminate the food products. Clean and safe water storage facilities shall be provided. The water storage tanks shall be cleaned periodically and records for the same shall be maintained in a register.



Fig 2.4(a) Water supply

If non-potable water is used anywhere in cleaning of containers / areas which are not in use for food processing / handling / storage then the concerned pipeline shall be identified as such or differentiated from potable water.

- b. **Drainage and waste disposal:** Waste generated during processing like spillage of products, spoiled product due to damaged / broken packing material while handling / storage, left-over, disposable plates, etc. shall be collected regularly and such collected waste shall be stored in a manner that it will not contaminate the food process and storage area inside /outside the environment of the premises. Collected waste shall periodically be handed over to a local waste-collecting body or disposed of in an appropriate manner that will not cause any hazards.



Fig 2.4(b) Drainage and waste disposal.

- c. **Personal facilities and toilets:** Personal facilities include hand washing and drying system with potable water supply, adequate and separate lavatories and changing facilities. Hand wash facilities shall be provided with hot or cold running water with self-closing /or elbow operated tap, soap solution,



Fig 2.4(c) Personal facilities and toilets

hand drying system/ towel and disinfectant. Adequate number of separate clean toilets for males and females, refreshment rooms and changing rooms (wherever applicable) shall be provided at suitable locations and these shall not have direct access to the process/ storage area. To generate awareness in food handlers, display boards for 'Do and Don'ts, Personal Hygiene, Personal Behaviour and Good Manufacturing Practices shall be put up at prominent places with pictorial information and instructions in an understandable language or the local language.

- d. **Air quality and ventilation:** Ventilation systems (in case of food counters) shall be designed in such a way that contaminated air shall not flow towards the clean area.



Fig 2.4(d) Air quality and ventilation

- e. **Lighting:** Adequate lighting facility shall be provided to enable the food handlers to operate in a hygienic manner. Lighting shall be protected/ covered to prevent contamination due to accidental breakages.



Fig 2.4(e) Facilities - Lighting

2.5 Operations and Control:

- a. **Procurement of raw material:** Raw material shall be free from extraneous matter, parasites and pesticides and should be checked before acceptance for cleanliness in case of small food retail counters preparing bakery items, chaat, South Indian items, etc. Food additives added or to be added shall conform to all regulations and standards that are laid down under FSSA 2006 and records shall be maintained for source of procurements.

b. Storage of raw materials and food:

The food storage facility shall be designed and constructed to protect food from any Contamination and permit adequate cleaning and maintenance activity.

During storage of products, good storage practices shall be followed like

- i. Separation and segregation of material (RM, PM, FG)
- ii. Identification
- iii. FIFO system
- iv. Storage shall be off the floor and away from the wall.



Fig 2.5(b) Storage of raw materials and food

c. Food processing / preparation, packaging and distribution/ service:

As a measurable process parameter, the temperature of storage of food products under refrigerated / chilled conditions shall be monitored. Time and temperature also shall be noted during cooking (in case of food counters). For frozen food / raw materials used / handled / transported, care should be taken so that the defrosted / thawed material is not stored back after opening.



Fig 2.5(c) Packaging and Distribution

d. Food packaging:

Packaging material shall be stored in clean containers which are free from pest/rodent infestation Packaging material used for packing shall be made of food -grade material. It shall conform to regulator standards mentioned in Food Safety & Standard Regulation 2011.



Fig 2.5(d) Food packaging

e. Food distribution service:

During transportation processed / packaged and / or ready-to-eat foods shall be protected from contamination and hygienic and sanitary conditions shall be maintained. Transportation vehicles shall be used only for food use and no non-food item shall be stored along with it. Also cleaning and disinfection of vehicles shall be carried out between loads when high-risk products like fish, meat, poultry, eggs etc. are transported in the same vehicle. If transportation is outsourced then transporters must have a FSSAI License.

Temperature controlled vehicles shall be used (whenever applicable) for transportation of perishable and such other food items.

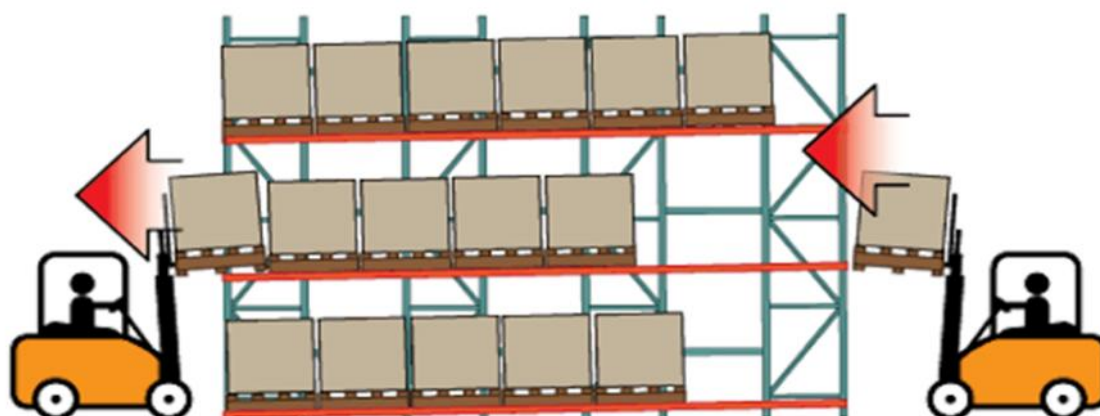


Fig 2.5(e) Food distribution service

2.6 Management and supervision:

Standard operating procedures (SOPs) for every operation such as receiving of raw material (wherever applicable), processing, packaging, dispatch and storage shall be prepared. Operations shall be carried out as per the SOP and it shall be easily available.

Technical persons who have appropriate qualification, knowledge and skills for supervision on the process shall be appointed to ensure food safety and quality and to take preventive and corrective actions.

2.7 Food testing facilities:

Regular testing of the processed food products shall be done through an accredited lab notified by the FSSAI. If complaints are received for any of the product sold, the retailer / FBO shall voluntarily arrange for testing from external laboratory.



Fig 2.7 Food Testing Facilities

2.8 Audit, documentation and records:

Periodic review of GMP and GHP systems shall be carried out to find gaps and corrective actions. Records of daily production / sales, raw material utilized (wherever applicable) should be made available. Appropriate records shall be maintained for a period of one year or the shelf life of the product; whichever is more.



Fig 2.8 Audit, documentation and records

Some common examples of records maintained are records for raw material / product receiving, processing, laboratory test results [for raw material (if applicable), finished product and water], pest control, cleaning and housekeeping records, personal hygiene, waste disposal, daily sales and stock register, etc.

2.9 Sanitation and maintenance of premises:

a) Cleaning and maintenance: Detailed cleaning and maintenance program shall be developed indicating specific areas to be cleaned cleaning frequency, procedure, equipment, cleaning material and method. Cleaning chemicals and tools shall be stored away from the food material at a designated place. Cleaning chemicals shall be clearly identified, along with instructions for use



Fig 2.9 (a) Cleaning and maintenance

b) Pest control systems: Pests generally taken into account are rodents and insects. Processing premises and equipment shall be kept in clean, good and repaired condition to avoid pest harborage.

In order to control pests it is necessary to maintain a non-attractive environment which includes isolated storage of unutilized materials and storage away from wall and off the floor. A pest control program shall be developed and records shall be maintained along with date and frequency.

To control pests, adequate control measures shall be in place

- v. For insects – insect-killer, fly-catcher, fly-killer
- vi. For rodents – rodenticide, rat trap

All food materials shall be stored in pest-proof containers stacked above the ground and away from the walls.

Some of the pest control methods

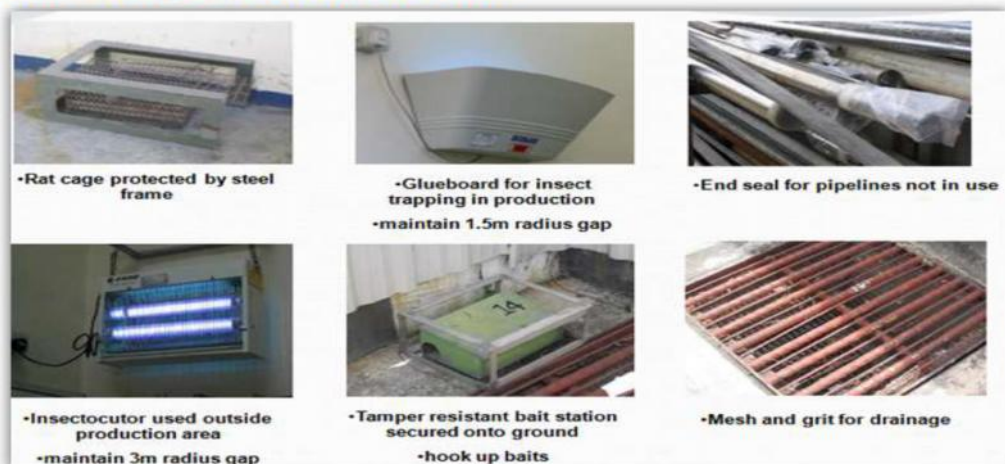


Fig 2.9(b) Pest control systems

2.10 Personal hygiene:

- a. Health status:** Develop a system and communicate to all personnel to inform management in case of any illness, symptoms of illness or injury.

Don't allow personnel in direct contact with food

material to work if they have symptoms of illness, contagious disease, skin disease, or have cuts and burns. Medical examination shall be carried out annually to ensure that the food handlers are free from any infectious, contagious and other communicable diseases. Periodically, health check-ups and vaccination shall be carried out for all the food handlers and records shall be maintained.

- b. Personal cleanliness:** Personnel engaged in handling of open and loose food products (for e.g. flours, grains, fruits and vegetables, etc.) shall follow good hygienic practices viz.

- i. Wearing clean clothes / protective clothing
- ii. Frequent hand washing
- iii. Trimming hair and nails

Maintaining hygienic personal behavior:

- i. Avoid smoking, spitting, sniffing
- ii. Do not eat or drink in processing area
- iii. Avoid certain habits viz. scratching nose, running fingers through hair, scratching body parts, etc.

- c. Visitors:** Visitors shall be discouraged to visit the process area at the food counter / retail store and if necessary or urgent then proper care shall be taken to ensure food safety and hygiene. To visit processing, packaging or storage areas, visitors shall follow all safety and hygiene measures like wearing protective clothing and washing hands.



Fig 2.1(a) Personal hygiene

2.11 Product information and consumer awareness:

All packaged food products shall be labelled as per labelling guidelines described in FSSR 2011 viz.

- a. Name of product
- b. Ingredients
- c. Nutritional information
- d. Veg / non-veg logo
- e. Name and address of manufacturer
- f. Net quantity
- g. Lot / batch code
- h. Date of manufacture
- i. 'Best before' date, etc.



Fig 2.11 Product information and consumer awareness

2.12 Training:

Regular and effective training shall be provided to food handlers on topics like personal behaviour, personal hygiene, and food safety during handling food, storage, FIFO etc.; and the effectiveness of these training programs shall be evaluated by observation, asking questions to food handlers and maintaining proper records.

PART II ACTIVITY - 2

1. Packing material used for packing of food should be
2. The walls of the production facility should be
 - a) Devoid of cracks
 - b) Impervious
 - c) Smooth
 - d) All of the above
3. Routine maintenance and repair of equipment's and containers is important.
True/False
4. Water used for cleaning of equipment's, containers and cooking vessels should be portable (True/False)

PART III

GMP–GHP FOR FOOD PREPARATION FACILITIES IN BIG RETAIL FORMAT

-
- 3.1 Good Manufacturing Practices for whole premises
 - 3.2 Good Food Hygiene Practices
 - 3.3 Personal Hygiene
 - 3.4 Transportation and Handling of Food
 - 3.5 Storage
 - 3.6 Special Requirements for High Risk Foods

GMP-GHP FOR FOOD PREPARATION FACILITIES IN BIG RETAIL FORMAT

3.1 Good manufacturing practices for whole premises

a. Food Preparation Areas:

In case cooking / frying activity takes place at a particular food counter, a chimney shall be in place to control the smoke nuisance.

b. Hand washing facilities and toilets shall be adequate in number and shall be equipped with:

- i. Soaps to wash hands
- ii. Hot and cold running water
- iii. Disposable paper towel or hand napkin or hand dryer to dry hands
- iv. Clean and dry towels or hand dryers for the use of customers



Fig 3.1(b) Hand washing facilities

- #### **c. As far as possible, raw food (wherever required) and equipment / food containers shall be washed in separate sinks, or the sink should be cleaned and sanitized before use for washing of raw food or equipment/food containers.**



Fig 3.1(c) As far as possible, raw food (wherever required) and equipment / food containers

- d. Facilities for staff to change their clothes, wherever necessary must be provided.

3.2 Good Food Hygiene Practices:

a. Cleaning

- (i) Food areas and equipment at frequent intervals
- (ii) Food contact surface in case of food / water / drink spillage
- (iii) Cleaning schedule and instructions shall be developed by the FBO and it shall be followed by the food handlers



Fig 3.2(a) Cleaning

The schedule should include:

- What needs to be cleaned?
 - How often it needs to be cleaned
 - How the cleaning should be done
- (iv) Cleaning instructions should indicate:
- What cleaning products should be used
 - How the products should be stored (away from raw, cooked and packed food) and used
 - How much they should be used or diluted

- How long that should be left in contact with the surface.

b. Cooking (wherever applicable)

- Ensure proper cooking is done in case of non-vegetarian products
- Raw meat and processed meat should be separated from other foods, items and surfaces
- Ensure frozen products are thawed properly
- Preparation / processing / cooking of veg. and non-veg. products should be segregated.
- Whenever cooking or re-heating food, it should be ensured that food is cooked thoroughly.
- Re-use of cooking oil should be avoided. In case of re-heating, it should not be used more than three times.
- Food shall be hot held at 60°C and cooled at 21°C within 2 hrs or cooled to 5°C in 4 hours.
- Re-heated food must reach a minimum internal temperature of 74°C.

c. Chilling (wherever applicable) -

- Short shelf life food items / cooked dishes shall not be left standing at room temperature
- Chilled food intended for consumption should be cold enough.
- Chilled food must be processed in the shortest time possible.
- Fridge and display unit must be cold enough (at 5°C) and as per requirement. The displays of fridge and chillers shall be maintained in good working condition.



Fig 3.2(c) Chilling

d. **Cross-contamination–**

Following should be done to avoid cross-contamination:

- Raw food / meat / poultry and ready-to-eat foods should be kept separate at all times
- Hands shall be washed thoroughly after touching raw meat / poultry
- Work surfaces, chopping boards and equipments shall be thoroughly cleaned before food preparation and after use
- Separate chopping boards and knives for raw fruit / vegetables / meat / poultry and ready to eat food should be used
- Raw meat / poultry should be kept below ready-to-eat food in the fridge
- Staff should be made aware how to avoid cross-contamination.



Fig 3.2(d) Cross-contamination

3.3 Personal Hygiene:

- a. High standards of personal hygiene should be maintained.
- b. Employees handling food shall wash hands properly.
- c. Food handlers should not handle soiled currency notes to avoid cross-contamination



Fig 3.3 Personal Hygiene

3.4 Transportation and Handling of Food:

- a. Dedicated and clean transportation vehicles shall be used.
- b. Transportation time should be minimum to avoid microbial proliferation.
- c. Cooked food served hot and cooked food served cold shall be kept at 60°C and 5°C respectively to prevent microbial and pathogen growth.
- d. Minimum handling of food shall take place and food contact surfaces shall be cleaned and sanitized regularly.
- e. All surplus and unused thawed food shall be discarded.
- f. All packaged food viz. sterilized milk, bottled beverages, canned foods, etc. should be stored properly during transportation so that the seals don't get damaged.



Fig 3.4 Transportation and Handling of Food

3.5 Storage:

Adequate storage of food is very important for the purpose of food safety. It must be ensured that:

- a. Food should be cooked, stored and kept at the right temperature
- b. Separate storage for raw meat / poultry from other foods
- c. Storage of veg. foods above non-veg. foods and cooked foods above un-cooked foods on separate racks in the refrigerator

Frozen food storage at -15°C or below



Fig 3.5 Storage

- d. Cooked food to be eaten later should be cooled quickly and a date shall be put on food packages / containers to keep track of food prepared date-wise and use accordingly to minimize wastage.

- e. Storage instructions over food packaging should be followed
- f. Dried foods (e.g. grains and pulses) should be stored off the floor, in sealable containers
Prevent wastage by following stock rotation with FIFO (First In, First Out) to make sure that older food is used first

3.6 Special Requirements for High Risk Foods:

a. Cut fruits / salads, fresh juices and beverages:

- Refrigerated in sanitized and properly covered vessels and should be used immediately
- Water used in beverages should be potable
- Juice concentrates must be checked regularly for any fungal growth / change of colour, odour or gas formation in the bottle
- Juice dispensing machine should be cleaned and rinsed with water regularly

b. Confectionery products:

- Shall be kept in air tight containers and displayed hygienically
- Cream to be used shall be stored covered under refrigeration
- Products to be properly wrapped / packaged after proper cooling
- Finished products to be refrigerated with proper labels indicating date of expiry

c. Meat, poultry and fish products:

- Processing area should be cleaned and disinfected properly
- Non-veg. products shall be washed with potable water before use
- Non-veg. products shall be cooked thoroughly for at least 15 secs. An effective time / temperature control would be 65°C for 10 mins or 70°C for 2 mins, while maintaining this temperature at the core for 15 seconds.
- Shall be stored covered in refrigerator below the veg. products
- All refuse / waste should be promptly removed from preparation area

d. Water-based chutneys, sauces, etc.:

- All the fruits and vegetables shall be washed properly before processing and chopping boards / machine shall be cleaned and disinfected before use

- Water used shall be safe and potable
- Sauces and chutneys shall be stored in glass / food grade plastic containers with proper lids
- Perishable / uncooked chutneys should be consumed immediately

e. Foods transported to point of sale from the point of cooking:

- Should be re-heated more than 74°C before consumption
- Consumed or served for consumption within 4 hrs of reheating

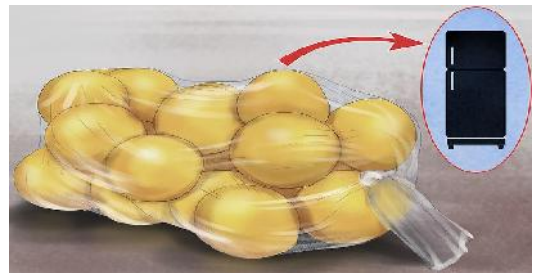


Fig 3.6 Special Requirements for High Risk Foods

f. Foods with gravy:

- Not to be stored for more than two hours at room temperature during display or sale
- For prolonged storage, foods should be stored in refrigerators or kept for hot holding at or above 60°C.
- No addition of water after cooking / reheating / boiling

g. Fried foods:

- Good quality / branded oils / fats should be used for food preparation, frying etc.
- Only packaged oil shall be used
- Use of oils with high trans fats (like vanaspati) should be avoided
- Re-heating & re-use of oil, and using left over oil shall also be avoided

h. Adding ingredients after cooking:

- Ingredients added to cooked food should be thoroughly washed / cleaned
Garnishes etc., if added shall be prepared using fresh, thoroughly washed and freshly cut vegetables and used immediately. Re-use of cooked food is not recommended

i. Thawing of frozen products:

- Thawed food products shall be labelled with defrost date and time

- Thawing of food in refrigerator shall take place at 5°C or less while thawing in running water should not exceed 90 minutes
- Temperature controlled thawing is recommended for meat, poultry and fish
- After thawing, product must be used within 12 hours
- Cold running water in case of thawing in running water shall be at 15°C or less
- Any other means of thawing apart from running water and microwave is not allowed

PART III

ACTIVITY - 3

1. For arrangement of food item in storage follow FIFO or
2. Raw and finished product must be stored :
 - a) Separately
 - b) Together
3. Transportation time should be to avoid cross contamination.
4. After thawing, product must be used within 12 hours or 24hours.(put tick on right)
5. Short shelf life food items / cooked dishes shall not be left standing at

PART IV

GMP–GHP FOR WHOLESALERS

-
- 4.1 Location and Surroundings
 - 4.2 Layout and design of food premises / retail shops
 - 4.3 Equipment and Containers
 - 4.4 Facilities
 - 4.5 Operations and Control
 - 4.6 Audit, documentation and records
 - 4.7 Sanitation and maintenance of storage premises
 - 4.8 Personal Hygiene
 - 4.9 Training

GMP-GHP FOR WHOLESALERS

4.1 Location and surroundings:

Premises where food is being stored by the wholesaler before distribution shall be located away from sources of pollution like open drains, garbage yards, industries that emit fumes or gases and dense vegetation. In order to avoid contamination from external sources such as odour, pests, dust etc., appropriate measures shall be taken to protect the premises from environmental contamination. The premises shall not have direct access to any residential area.

4.2 Layout and design of food premises / retail shops:

Layout of the food premises shall enable separate and designated areas for storing of different varieties of products. (E.g. food and non-food items, veg. and non-veg. items, perishable and long shelf life products shall be well segregated during storage, which helps in prevention of cross-contamination).

Floors, walls, ceilings, doors should be designed

- a.** To minimize accumulation of dirt
- b.** To be smooth and easy to clean
- c.** To be made up of impervious material
- d.** To not have flaking paint or plaster

Walls of the premises shall be smooth painted or tiled at operational height from the floor to facilitate easy cleaning.



Fig 4.2 Layout and design of food premises / retail shops

Floor shall have appropriate slope to facilitate draining (during cleaning of the premise). Outside openings to the environment like windows, drainage openings shall be well screened to control pest entry inside the premises.

4.3 Equipment and containers:

During handling and storage of food products certain Equipments like trolleys, racks, etc. shall be made up of Non-corrosive/ rust free material and shall be easy to clean. They shall be well maintained and repaired / discarded if they are not found to be adequate.



Fig 4.3 Equipment and Containers

Cleaning of the trolleys and racks shall be carried out adequately. Waste generated in the premises shall be collected in dustbins and dustbins shall be provided with lid and cleaned regularly. All measuring instruments / equipment like temperature gauges of refrigerators and chillers, weighing balances, etc. shall be calibrated periodically for correct measurement.

4.4 Facilities:

a. Drainage and waste disposal: Waste generated during storage like spoiled product due to damaged / broken packing material while handling / storage, etc. shall be collected regularly and such collected waste shall be stored in a manner to not contaminate the storage area inside /outside the environment of the premises. Collected waste shall periodically be handed over to a local waste-collecting body or disposed of in an appropriate manner that will not cause any hazards.



Fig 4.4(a) Waste disposal

b. Lighting: It is recommended to have lighting protected/covered to prevent contamination due to accidental breakages.

4.5 Operations and Control:

a. **Storage of food:** The food storage facility shall be designed and constructed to protect food from any contamination and permit adequate cleaning and maintenance activity.

During storage of products, good storage practices shall be followed like:

- i. Separation and segregation of different kinds of material (e.g. agricultural commodities, processed food, veg. and non- veg. items, fruits and vegetables)
- ii. Identification of materials
- iii. FIFO (First In First Out) system –to prevent wastage and to make sure that older food is distributed first.
- iv. Storage shall be off the floor and away from the wall. Storage of veg foods above non-veg.
- v. Foods and cooked foods above un-cooked foods on separate racks in the refrigerator .Frozen food storage at -18°C or below.
- vi. Dried foods (e.g. grains and pulses) should be stored off the floor, in sealable containers
- vii. Storage instructions over food packaging should be followed



Fig 4.5(a) Storage of food

b. **Food storage / service:** The temperature of storage of food products under refrigerated / chilled conditions (wherever applicable) shall be monitored. For frozen food distributed / transported, care should be taken so that the defrosted / thawed material is not stored back after opening.



Fig 4.5(b) Storage of food

4.6 Audit, documentation and records:

Periodic review of Good Storage Practices and Good Hygiene Practices shall be carried out to find gaps and corrective actions. Records of daily inward of material for storage and daily outward should be made available. Some common examples of records maintained are records for receiving, inventory, dispatch invoices, pest control, cleaning and housekeeping records, etc.

4.7 Sanitation and maintenance of storage premises:

a. Cleaning and maintenance: The facility shall be maintained clean and proper without any accumulated scrap, unwanted material, cobwebs, etc.

b. Pest control systems: Pests generally taken into account are rodents, lizards, insects and cobwebs. In order to control pests it is necessary to maintain a non-attractive environment which includes isolated storage of unutilized materials and storage away from wall and off the floor. Pest control measures like mentioned can be adopted:

- i. For insects – insect-killer, fly-catcher, fly-killer
- ii. For rodents - roda-box, rat trap
- iii. For cobwebs – Proper cleaning of cobwebs

All food materials shall be stored in pest-proof containers stacked above the ground and away from the walls.



Fig 4.7(b) Pest control systems

4.8 Personal hygiene:

- a. **Health status:** Medical examination shall be carried out annually to ensure that the food handlers are free from any infectious, contagious and other communicable diseases.

PERFORMA FOR MEDICAL FITNESS CERTIFICATE FOR FOOD HANDLERS (FOR THE YEAR)

(See Para No. 10.1.2, Part- II, Schedule - 4 of FSS Regulation, 2011)

It is certified that Shri/Smt./Miss.....
employed with M/s....., coming in direct
contact with food items has been carefully examined* by me on date
Based on the medical examination conducted, he/she is found free from any
infectious or communicable diseases and the person is fit to work in the above
mentioned food establishment.

Name and Signature with Seal
of Registered Medical Practitioner /
Civil Surgeon

***Medical Examination to be conducted:**

1. Physical Examination
2. Eye Test
3. Skin Examination
4. Compliance with schedule of Vaccine to be inoculated against enteric group of diseases
5. Any test required to confirm any communicable or infectious disease which the person suspected to be suffering from on clinical examination.

Fig 4.8(a) Health status

b. Personal cleanliness: Hygienic personal behaviour

shall also be maintained like:

- i. No smoking, spitting, sniffing
- ii. No eating or drinking in processing area



Fig 4.8(b) Personal cleanliness

c. Visitors: Visitors shall be discouraged to visit the storage area and if or urgent then Visitors shall be given head gears before allowing them inside the storage area.



Visitor policy shall be documented



Visitor shall be given visitor card with restricted entry



Visitor shall wear protective clothing & footwear and shall adhere to food safety provisions as mandate.

Fig 4.8(c) Visitors

4.9 Training:

Regular and effective training shall be provided to food handlers on topics like food safety during handling food, storage, FIFO, GMP, GHP, Personal Hygiene, HACCP, Rejected Food Management & Control and basic regulatory requirements.

PART IV

ACTIVITY - 4

1. **Some signs of rodent infestation include:**
 - a. Droppings, holes, runways, gnawing marks, feet marks
 - b. Small eggs cases
 - c. Tuft of Hair in various places
 - d. Larvae in Flour and Sugar

2. **Which of the following methods help in pest control?**
 - a. Covered drains, screened windows, door closers
 - b. Food Containers with tight lids
 - c. Cleaning food spillage as it happens
 - d. All of the above

3. **Some basic steps for Storage of food are:**
 - a. Storage shall be off the floor
 - b. Away from the wall
 - c. Storage of veg foods above non-veg
 - d. All of the above
 - e.

4. **Which of the foods are not considered as high risk foods:**
 - a. Cut Fruits
 - b. Cut salads
 - c. Fresh juice
 - d. Canned juice.

PART V

GMP–GHP FOR DISTRIBUTORS

-
- 5.1 Location and Surroundings.
 - 5.2 Layout and design of food premises
 - 5.3 Equipment and Containers
 - 5.4 Facilities
 - 5.5 Operations and Controls
 - 5.6 Management and Supervision
 - 5.7 Audit, documentation and records
 - 5.8 Sanitation and maintenance of storage
 - 5.9 Personal Hygiene
 - 5.10 Training

GMP-GHP FOR DISTRIBUTORS

5.1 Location and surroundings:

Premises where food is being stored before distribution shall be located away from sources of pollution like open drains, garbage yards, industries that emit fumes or gases and dense vegetation. In order to avoid contamination from external sources such as odour, pests, dust etc., appropriate measures shall be taken to protect the premises from environmental contamination. The premises shall not have direct access to any residential area.

5.2 Layout and design of food premises:

Layout of the food premises shall enable separate and designated areas for storing of different varieties of products. (E.g. food and non-food items, veg. and non-veg. items, perishable and long shelf life products shall be well segregated during storage, which helps in prevention of cross-contamination).

Floors, walls, ceilings, doors should be designed

- a.** To minimize accumulation of dirt
- b.** To be smooth and easy to clean
- c.** To be made up of impervious material
- d.** To not have flaking paint or plaster

Walls of the premises shall be smooth, painted or tiled at operational height from the floor to facilitate easy cleaning.

Floor shall have appropriate slope to facilitate draining (during cleaning of the premise) and drainage shall flow in opposite direction to storage of food. Outside openings to the environment like windows, drainage openings shall be well screened to control pest entry inside the premises.

5.3 Equipment and containers:

During storage of food products certain equipments like trolleys, racks, etc. shall be made up of non-corrosive / rust free material or painted and shall be easy to clean. They shall be well maintained and repaired / discarded if they are not found to be adequate. Cleaning of the trolleys and racks shall be carried out adequately.

Waste generated in the premises shall be collected in dustbins and dustbins shall be provided with lid and cleaned regularly.

Containers used to store cleaning chemicals, pesticides, solvents, etc. shall be well identified and stored at a designated place away from food product storage to avoid accidental contamination.

All measuring instruments / equipment like temperature gauges of refrigerators and chillers, weighing balances, etc. shall be calibrated periodically for correct measurement.



Fig 5.3 Equipment and containers

5.4 Facilities:

- a. **Water supply:** Non-potable water can be used for cleaning of the food storage premises, racks and trolleys, etc. Clean and safe water storage facilities shall be provided. The water storage tanks shall be cleaned periodically. The pipeline for non-potable water shall be identified / differentiated from potable water pipeline.
- b. **Drainage and waste disposal:** Waste generated during storage like spoiled product due to damaged / broken packing material while handling / storage, etc. shall be collected

regularly and such collected waste shall be stored in a manner to not contaminate the storage area inside /outside the environment of the premises. Collected waste shall periodically be handed over to a local waste-collecting body or disposed of in an appropriate manner that will not cause any hazards.

- c. **Personal facilities and toilets:** Personal facilities shall include adequate and separate lavatories. To generate awareness in food handlers, display boards for do's and don'ts, Personal Behaviour and Good Storage Practices shall be put up at prominent places with pictorial information and instructions in an understandable language or the local language.
- d. **Lighting:** Adequate lighting facility shall be provided to enable the food handlers to operate in a hygienic manner. Lighting shall be protected/ covered to prevent contamination due to accidental breakages.

5.5 Operations and Control:

- a. **Storage of food:** Adequate storage of food is very important for the purpose of food safety. The food storage facility shall be designed and constructed to protect food from any contamination and permit adequate cleaning and maintenance activity. During storage of products, good storage practices shall be followed like:

- i. Separation and segregation of material
- ii. Identification of products
- iii. FIFO system
- iv. Storage shall be off the floor and away from the wall
- v. Separation and segregation of different kinds of material (e.g. agricultural commodities, processed food, veg. and non-veg. items, fruits and vegetables)



Fig 5.5(a) Storage of food

- vi. Storage of veg. foods above non-veg. foods and cooked foods above un-cooked foods on separate racks in the refrigerator.
- vii. Frozen food storage at -18°C or below
- viii. Dried foods (e.g. grains and pulses) should be stored off the floor.
- ix. Storage instructions over food labels/boxes should be followed.

- b. **Food distribution:** As a measurable process parameter, the temperature of storage of food products under refrigerated / chilled conditions (wherever applicable) shall be monitored. For frozen food distributed / transported, care should be taken so that the defrosted / thawed material is not stored back after opening.



Fig 5.5(b) Food distribution

- c. **Food distribution service:**

During transportation processed / packaged and / or ready-to-eat foods shall be protected from contamination and hygienic and sanitary conditions shall be maintained. Transportation vehicles shall be used only for food use and no non-food item shall be stored along with it.

Also cleaning and disinfection of vehicles shall be carried out between loads when high-risk products like fish, meat, poultry, eggs etc. are transported in the same vehicle. If transportation is outsourced then transporters must have a FSSAI License in case of special products like chilled or frozen foods, etc.

Temperature controlled vehicles shall be used (whenever applicable) for transportation of perishable and such other food items.

5.6 Management and supervision:

Standard operating procedures (SOPs) for receiving, storage and distribution of every lot and variety of food products shall be prepared. Operations shall be carried out as per the SOP and it shall be easily available.

Technical persons who have appropriate qualification, Knowledge and skills for supervision on the storage and distribution process shall be appointed to ensure food safety and quality and to take preventive and corrective actions.



Fig 5.6 Management and supervision

5.7 Audit, documentation and records:

Periodic review of Good Storage Practices and Good Hygiene Practices shall be carried out to find gaps and corrective actions. Records of daily inward of material for storage and daily outward should be made available.

Some common examples of records maintained are records for product receiving, pest control, cleaning and housekeeping records, etc.

5.8 Sanitation and maintenance of storage premises:

- a. **Cleaning and maintenance:** Detailed cleaning and maintenance program shall be developed indicating specific areas to be cleaned, cleaning frequency, procedure, equipment, cleaning material and method.

Cleaning chemicals and tools shall be stored away from the food material at a designated place. Cleaning chemicals shall be clearly identified.

- b. **Pest control systems:** Pests generally taken into account are rodents and insects. Storage premises and equipment shall be kept in clean, good and repaired condition to avoid pest harbourage.

In order to control pests it is necessary to maintain a non-attractive environment which includes isolated storage of unutilized materials and storage away from wall and off the floor. A pest control program shall be developed and records shall be maintained along with date and frequency.

To control pests, adequate control measures shall be in place

- i. For insects – insect-killer, fly-catcher, fly-killer
- ii. For rodents – rodent-box, rat trap

All food materials shall be stored in pest-proof containers
Stacked above the ground and away from the walls.



Fig 5.8(b) Pest control systems

5.9 Personal hygiene:

- a. **Health status:** Medical examination shall be carried out annually to ensure that the food handlers are free from any infectious, contagious and other communicable diseases.
- b. **Personal cleanliness:** Personnel engaged in storage and distribution of food products shall comply to the basic requirement of wearing head gears. Hygienic personal behaviour shall also be maintained like:
 - No smoking, spitting, sniffing
 - No eating or drinking in processing area
- c. **Visitors:** Visitors shall be discouraged to visit the storage area and if or urgent then visitors shall be given head gears before allowing them inside the storage area.

5.10 Training:

Regular and effective training shall be provided to food handlers on topics like food safety during handling food, storage, FIFO and the effectiveness of these training programs shall be evaluated by observation, asking questions to food handlers and maintaining proper records



Fig 5.10 Training

PART V

ACTIVITY - 5

a. Workers who are involved in food handling should be medically examined :

- a. Every 6 month
- b. Once in a year
- c. Every Quarter
- d. None of the above

b. Transporter should be:

- a. Licensed under FSSAI.
- b. Free from gaps and holes.
- c. Cleaned and sanitized before use
- d. All of the above

c. Personal facilities shall includes:

- a. Adequate and separate lavatories
- b. Display boards for do's and don'ts
- c. Hand wash facility along with hand dry facility/tissue paper/towel.
- d. Personal Behavior and Good Storage Practices shall be put up at prominent places with pictorial information.

d. Floors, walls, ceilings, doors should be designed:

- a. To minimize accumulation of dirt
- b. To be smooth and easy to clean
- c. To be made up of impervious material
- d. To not have flaking paint or plaster

PART VI

GMP–GHP FOR TRANSPORTERS

6.1 Operations and Control

6.2 Management and Supervision

6.3 Audit, Documentation and Records

6.4 Sanitation & Maintenance of
transportation vehicle

GMP- GHP FOR TRANSPORTERS

6.1 Operations and Control:

- Dedicated transportation tankers or containers used for milk, edible oil, frozen foods, etc. shall be identified clearly. These shall not be used for other purpose.
- During transportation processed / packaged and / or ready-to-eat foods shall be protected from contamination and hygienic and sanitary conditions shall be maintained.
- Transportation vehicles shall be used only for food use and no non-food item shall be stored along with it.
- Also cleaning and disinfection of vehicles shall be carried out between loads when high-risk products like fish, meat, processed poultry, processed eggs etc. are transported in the same vehicle.
- Temperature controlled vehicles shall be used (whenever applicable) for transportation of perishable and such other food items. Temperature controls, monitoring needs to be done for all such vehicles.
- While part loads are done with food and non-food the products like pesticide, aromatic chemicals, hazardous chemicals shall not be transported together.

6.2 Management and supervision:

Do's and Don'ts for the transportation activity need to be documented such as cleaning of vehicle and conducting its inspection before use, temperature control (wherever applicable), ensuring delivery of food products in safe and hygienic manner, etc. Non-food items shall not be transported along with sensitive food items like chocolates, milk powders, etc. Operations shall be carried out as per the SOP and it shall be easily available.

6.3 Audit, documentation and records:

Records of daily vehicle inspection, vehicle cleaning and maintenance should be made available.



Fig 6.3 Audit, documentation and records

6.4 Sanitation and maintenance of transportation vehicle:

a. Cleaning and maintenance: Based on the product criticality vehicles shall be cleaned adequately between the loads. Where the tarpaulins are used, needs to be washed and kept cleaned with defined frequency.



b. Pest control systems: Infestation needs to be monitored in the vehicles particularly closed vehicles, containers, etc. Fumigation can be practiced as required.



Fig 6.4(a) Cleaning and maintenance

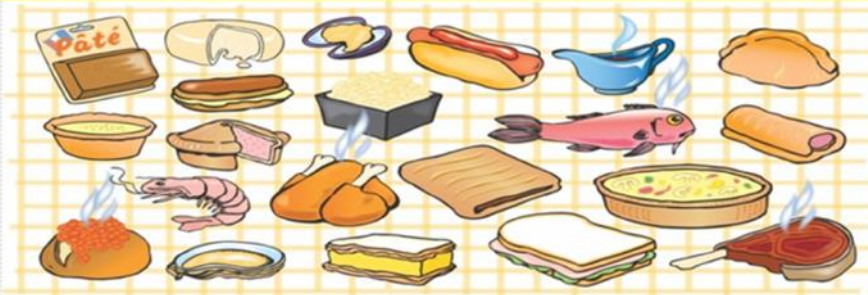
Part VI ACTIVITY - 6

1. Records to be maintained in case of transporter are:
 - a. Records of daily vehicle inspection
 - b. Vehicle cleaning and maintenance
 - c. Both
2. Transportation of food and non food items can be done together (True/False)
3. Vehicles used (whenever applicable) for transportation of perishable and such other food items needs controls and monitoring.

PART VII

RETAIL & DISTRIBUTION OF HIGH RISK FOODS

High-risk foods



Common food vehicles in food poisoning,
usually protein, ready-to-eat, stored under
refrigeration, no further processing

HIGH-RISK FOODS

High Risk Foods are at high risk from a contamination or food safety point of view may be sold by or dealt with by Food Retailers. These foods are milk, milk products, meat and meat products which needs maintenance of cold chain technique throughout it reaches the consumer.

- In the case of milk and milk products, the Food Retailer must follow the relevant provisions [Shatadru1] of Part III of Schedule 4 of the Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011 (being “Specific Hygienic and Sanitary Practices to be followed by Food Business Operators engaged in manufacture, processing, storing and selling of Milk and Milk Products”).
- In the case of meat and meat products, the Food Retailer must follow the relevant provisions [Shatadru2] of Part IV of Schedule 4 of the Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011 (being “Specific Hygienic and Sanitary Practices to be followed by Food Business Operators engaged in manufacture, processing, storing and selling of Meat and Meat Products”).

High Risk Foods

- Bacteria really like foods which are moist & high in protein
- These include:
 - Meat
 - Poultry
 - Eggs
 - Stocks
 - Shellfish
 - Cooked rice
 - Fish
 - Dairy products
 - Gravies
 - Sauces
 - Seafood



FACTORS EFFECTING HIGH RISK FOODS:

A. TEMPERATURE CONTROL

The control of temperature is essential in restricting the growth in numbers of bacteria and thus minimising the risk of food poisoning. For high risk foods in particular, keeping them chilled or hot is the single most important control in ensuring their safety.

Temperature requirements for cooling and reheat cooked foods

- a) Cooked foods that you intend to cool and use later needs to be cooled to 5°C or below as quickly as possible.
- b) The less time that the food is between 5°C and 60°C during cooling, the less opportunity there will be for food-poisoning bacteria to multiply.
- c) When reheating food for hot holding or immediate service, it is good practice to reheat food to temperatures above 75°C. This temperature will destroy food-poisoning bacteria that may have contaminated the food, or multiply in the food, while it was prepared and stored.

- d) Reheating should be done rapidly, ideally in less than one hour. The reason for reheating the food 'rapidly' is to minimise the amount of time that food is between 5°C and 60°C while it is being heated because food-poisoning bacteria multiply between these temperatures.
- e) Food-poisoning bacteria cannot multiply in food that is 60°C or hotter, so the food can be held hot at this temperature until it is served to a customer without it becoming unsafe.

B. PRODUCT HANDLING

Good product handling is an essential element in the control microbiological, chemical and physical hazards. Great care must be taken during all stages of the handling that the food undergoes, i.e. delivery, storage, preparation, display and sale to ensure that they have been carried out as hygienically as possible.

1) Storage

After a delivery has been accepted, the food should be taken immediately to a designated storage area. Dry goods should be stored off the floor. Extremes of temperature and humidity should be avoided in store rooms. Foods must be kept in storage conditions which are appropriate to the nature of the product. Raw meat and fish should be kept in chilled storage.

- Frozen food must be placed as soon as practicable in to freezer storage.
- Food which have been defrosted should not be refrozen in a commercial scale without obtaining a process approval from the inspection officer.
- Dry goods must be stored in an area that is clean, dry and infestation free.
- Fruit and vegetables must be stored in a clean, infestation free area.
- Chilled foods must be placed without delay into clean chilled storage.

2) Cleaning

Cleaning is essential to control the hazards of microbiological and physical contamination of foods. Different standards will be applicable for store rooms for packaged foods and for areas where high risk open food is being prepared, but generally cleanliness of equipment and structure throughout the premises is important in order to convey a positive image to

customers and staff and a safe and efficient working environment. The effectiveness of cleaning will depend upon the frequency (how often you clean) and the methods used.

3) Chemical Control

Chemicals should be stored in original containers and used before the expiry date. Chemicals must be in marked containers and stored in a separate lockable cabinets. The supplier of the chemical must train your staff on safe use of chemicals. Care must be taken when making up cleaning solutions and manufacturers' instructions must always be followed.

C. PERSONAL HYGIENE

A high standard of personal hygiene is essential in a food business. It helps to keep food safe from contamination. Food Handlers with bad habits will not only distress the customer but could also cause physical harm, or illness due to food poisoning. Whilst it is desirable that all staff in retail premises display good personal hygiene, those who only work in other areas like office must also adhere to the requirements when they visit food premises.

- 1) No employee who is known to have communicable disease which could be transferred directly by the employee or by the employee contact with food is allowed to work in food preparation and service of food.
- 2) Restrict the duties of those employees who are vomiting, have diarrhea or have been diagnosed with a food related illness. For example, instead of handling food, they could be limited to grounds cleanup until their illness passes.
- 3) Employees are required, and it is their responsibility, to report food related illnesses and symptoms, such as diarrhea and vomiting.
- 4) If illness is not severe and symptoms are not acute, employees can be assigned to tasks that do not involve food handling until they are completely well free of symptoms for at least 48 hours).
- 5) All employees who prepare or serve food must wash their hands and fingertips properly and as often as required by tasks performed.
 - upon beginning a work shift and after breaks
 - after visiting the toilet, cleaning, handling food waste or outer packaging (e.g. boxes) and
 - Between touching raw and cooked foods or their equipment and utensils.

D. DISPLAY OF FOODS

- 1) Good hygiene practices and high standards of cleanliness must be maintained at all times to minimise the risk of food contamination occurring.
- 2) All food displays need to be supervised or inspected regularly by staff. The most important hazard to foods is that of microbiological contamination. This is a particularly significant hazard when selling open foods from the high risk categories.
- 3) These foods are likely to support the growth of bacteria if contaminated and stored incorrectly.
- 4) Contamination of these products can occur readily when displayed in an open way by coming into contact with contaminated containers, equipment and utensils, hands, cleaning cloths or pests.
- 5) The hazards of physical contamination and physical damage are likely to occur in all open foods whether high or low risk. As these can lead to serious injury as well as to products not of the required quality, all open foods must be protected as far as possible from these hazards.

E. PEST CONTROL

Pests are animals, birds or insects which live in or on food and either directly damage it or contaminate it. Whilst damage itself is serious, many pests are carriers of bacteria which can contaminate foods and cause illness. Pests also contaminate foods with hair, nesting materials, urine or faeces or even their bodies.

1) Exclusion or Preventing Access

- Buildings must be in good repair and condition in order to restrict pest access and help to eliminate potential breeding sites.
- If windows open directly into food preparation areas and are used for ventilation when food is being prepared, then they must be fitted with screens if there is a risk of infestation or of contamination.
- External doors should be kept closed when not in use and be well fitted to restrict access by pests.

- In food rooms where food is prepared, treated or processed and external doors have to be opened in warm weather for ventilation, screens must be fitted to keep insects and birds out.
- Domestic pets must on no account be admitted to areas where open food is kept or handled. Assistance dogs are permitted provided access does not pose a risk of contamination of food.

2) Restriction by Denying Harbourage and Food Sources

- The availability of food and refuse, together with a source of water, encourages pests to harbour and infestations to develop.
- Waste food must not be allowed to build up so that it acts as an attraction for pests. Many pests, especially rats, need drinking water.
- Deny them this and they will go elsewhere.
- Make sure that access to cisterns is barred. Repair dripping taps. Ensure that staff empty wash basins.
- Flies will breed rapidly in residues that have become wet through leaks or poor drainage.
- Traps and gratings must be kept clean and disinfected frequently to prevent flies using accumulated decomposing residues as a breeding site.
- The premises must be periodically visually checked for signs of pest presence.

3) Destruction or Eradication

- Where pest infestations do occur these must be dealt with immediately. Treatments with chemicals, physical or biological agents must be carried out in such a way that they do not pose a threat to the safety or suitability of food.
- Continuous destruction of flying insects can be achieved using electric fly traps with ultra-violet lamps.
- Manufacturers' instructions on their location, cleaning and replacement of lamps should be followed. Where used, baits must be clearly identified and dated and kept away from foodstuffs that could be contaminated.

F. WORK FLOW:

Plan for a good flow pattern for handling foods; from receiving through to the serving.

- 1) Ensure adequate refrigeration and storage space to handle the volume of foods expected.
- 2) Ensure adequate separation between raw foods and cooked, ready to eat foods; and between dirty dishes and clean dishes.
- 3) Living areas, toilets and changing rooms must be completely and physically separated from any room where food is prepared, served or stored.
- 4) The layout and design must avoid situations where open foods are kept below areas that may produce contaminants.

G.EQUIPMENTS:

When the plan is made, list all planned equipment.

- 1) A two or three compartment sink or commercial type dishwasher is required for dishwashing.
- 2) Provide a sink large enough to immerse the largest pots or pans.
- 3) There should be at least one prep sink for vegetable washing and salad preparation, one for meat and poultry preparation and one for fish preparation (depending on the menu).
- 4) Arrange and install equipment to provide easy accessibility for cleaning.

H.AIR SUPPLY AND VENTILATION:

- 1) Preparation areas must avoid the build up of excessive heat. It may therefore be necessary to consider the use of ventilation or air-conditioning equipment, or of heaters to ensure proper temperature conditions are maintained throughout the year.
- 2) Where air is drawn into clean areas, the location of air intakes should be carefully chosen to avoid the risks of taking in dust, dirt or odours or fumes from heaters. If fitted, screens/filters must be placed so as to facilitate removal and/or cleaning.

- 3) The layout etc. of the premises must provide adequate ventilation to restrict the formation of condensation. In areas subject to condensation, enhanced cleaning is required to avoid mould growth
- 4) All cooking equipment must be placed under exhaust canopies and mechanically vented to the outside.
- 5) Care must be taken that air contaminated by dust, dirt or odours is not brought into food premises where open food is handled.

I.SANITARY FACILITIES:

- 1) The number of toilets and washrooms required will depend on the number of staff working in the kitchen. Washroom facilities for staff that are separate from public facilities.
- 2) All washrooms must be equipped with tight fitting, self closing doors. Washrooms and toilet rooms should not open directly into any room where food is prepared. But if this is not possible there must be at least an intervening space between, with doors fitted at each side.
- 3) All washrooms must be provided with mechanical ventilation exhausted to the outside.
- 4) Where it is necessary for staff to wear protective clothing, this must be stored in a clean area away from areas where food is handled. If staff need to remove their everyday clothes, a suitable changing area must be provided.

J.FLOORS, WALLS, CEILINGS:

- 1) Floor, wall and ceiling should have a light colour so as to enable you to spot any dirt on the surface.
- 2) All wall and ceiling finishes in the food preparation area must be smooth, tight, and non-absorbent so as to be easily cleaned.
- 3) Ensure floor finishes in the food preparation, storage, dishwashing and washroom areas are non absorbent and are both non slip and allow for ease of cleaning.
- 4) Ensure floor finishes are both non slip and allow for ease of cleaning in all other areas of the establishment.
- 5) Base junctures where walls meet floor or counters should be covered for ease of cleaning.

- 6) Where necessary, adequate drainage facilities should be provided.
- 7) The inner surface of the roof structure will provide an acceptable surface e.g. pre-cast concrete, corrugated metal cladding, provided it is kept clean and does not shed particles. Alternatively a fixed ceiling of painted plaster, or plastic panelling or similar can be used.

K. PRODUCT RECALL

The purpose of a recall is to remove the affected product from the market when there is reason to believe it may be adulterated (injurious to health or unfit for human consumption) or, there may be a problem with the packaging or labelling or the recall may be caused by the discovery of contaminated product or deliberate tampering. It is essential that in the event of a recall, any instructions are followed quickly and if required, items are removed from sale. The date marking on the containers and the lot identification numbers will help you in identifying the products that are recalled.

L. TRANSPORT

The transporting of foodstuffs provides a significant opportunity for contamination and spoilage. Contamination can occur if foodstuffs are carried in dirty receptacles, are inadequately packaged or packaging is damaged due to improper handling. A further potential risk is introduced if the outside of food vehicles are allowed to become heavily soiled.

M. WASTE DISPOSAL

1. Food waste should be removed regularly from areas where it is produced or placed in containers provided for the purpose.
2. Sufficient containers should be provided to readily accommodate the quantity of food waste ordinarily produced and positioned conveniently for the points where the waste occurs.
3. Garbage bins should have foot operated lids to avoid hand contact. In food handling areas, containers need not be lidded if they are in frequent use and are regularly emptied. However, external bins must always be lidded.
4. A defined area must be allotted for the storage of waste pending disposal. If this is inside the premises it must be away from food rooms and be readily cleanable.

Tutor Guide

CONTENTS

1. Introduction for tutors
2. Course Ethos
3. Tutor Qualifications
4. Learning Objectives
5. Course Conduct
6. Group Work
7. Assessment
8. Session breakup
9. Programme of the training
10. Session Plans

1. Introduction for tutors

This tutor guide is intended for trainers who will train the Food Safety Supervisors (FSS) in Retail and Distribution. There are multiple training partners and different trainers associated for training, thus making it necessary that all training partners provide the trainers with a standard framework, so that the deviation in imparting training is minimal. This guide provides tutors with the course ethos, methodology, outline of program structure, session plans and other relevant details on the delivery of the Food Safety Supervisor Training. This guide is restricted information and may be issued as controlled copies only to those personnel authorized to deliver the course.

2. Course Ethos

The design of the course is based on the assumption that the tutor's role is that of a mentor and coach, rather than simply a lecturer. The tutor is encouraged to use accelerated learning techniques which involve delegates and accommodate multiple learning styles. Adjustments in course methods and delivery may be made to accommodate the needs of the delegates, local circumstances, or unforeseen situations. However, tutors are responsible for ensuring that all activities, topics and learning objectives are satisfactorily covered.

The course is designed to run with a maximum of thirty delegates with one tutor. Practical exercises will be used throughout the course to allow delegates to utilize knowledge of general hygiene and food safety and develop the skills required to implement the same in the manufacturing establishment.

3. Tutor Qualifications

Only qualified, certified and authorized tutors who have attended the appropriate train-the-trainer session and hold the following minimum qualification may deliver this course:

1. Should be a Minimum graduate in science/ food technology/food science/chemistry/biology/micro biology subjects having 5 years' experience in food safety aspect in Indian food context.
2. If graduate in other streams minimum 7 years' work & implementation experience in the food manufacturing industry.

4. Learning Objectives

The course is designed to equip participants (Food Safety Supervisor category personnel) with the knowledge and skills to enable them to implement correct food safety and hygiene

requirements in Retail establishments and to also cascade the same to the food handlers of his business operations.

5. Course Conduct

It is recommended that tutors source the latest version of Food Safety and Standards Act, Rules & Regulations along with latest version of **“Training Manual Food Safety Supervisor Course Advance (Level 2 Retail and Distribution category)”**.

6. Group Work

Some of the exercises and activities are designed to be undertaken individually or in groups of 3-4 delegates as small group activities provide opportunities for more reflective members of the group to participate. Where possible, try to select groups with a range of experience levels to give learners the opportunity to learn from each other. As applicable, juggle roles within groups so all delegates obtain a range of learning opportunities.

7. Assessment

At the end of the 8 hours training, there will be 30 minutes' competency based assessment. The assessment consists of written examination along with continuous evaluation of the interaction/contribution /presentations during the sessions.

Each trainee has to successfully pass the assessment. If the trainee fails the assessment, they are required to reappear for the assessment.

Session breakup

S. No.	Session	Duration (Minutes)
1	Part 1 – INAUGURATION AND INTRODUCTION TO FOOD SAFETY	45
2	Part 2 - GMP-GHP FOR ORGANIZED BIG RETAILERS	30
3	Part 3 – GMP–GHP FOR FOOD PREPARATION FACILITIES IN BIG RETAIL FORMAT	30
4	Part 4- GMP–GHP FOR WHOLESALERS	30
5	Part 5 – GMP–GHP FOR DISTRIBUTORS, SUPPLIERS & MARKETERS	30
6	Part 6 – GMP–GHP FOR TRANSPORTERS	30
7	Part 7- RETAIL AND DISTRIBUTION OF HIGH RISK FOODS	30
8	Part 8- ASSESSMENT OF PARTICIPANTS	30
9	Part 9- FEEDBACK SESSION & CLOSING REMARKS	10

Programme of the Training

Time	Topic
09:00 – 09:45	Part 1 – INAUGURATION AND INTRODUCTION TO FOOD SAFETY
09:45 – 10:15	Part 2 - GMP-GHP FOR ORGANIZED BIG RETAILERS
10:15 – 10:45	Part 3 – GMP–GHP FOR CATERING/FOOD PREPARATION FACILITIES IN BIG RETAIL FORMAT
10: 45- 11: 00	Tea Break
11:00 – 11:30	Part 4- GMP–GHP FOR WHOLESALERS
11:30 – 12.00	Part 5 – GMP–GHP FOR DISTRIBUTORS, SUPPLIERS & MARKETERS
12.00 - 12: 30	Part 6 – GMP–GHP FOR TRANSPORTERS
12:30 –13.00	Part 7- RETAIL AND DISTRIBUTION OF HIGH RISK FOODS
13.00 – 13:30	Part 11- ASSESSMENT OF PARTICIPANTS
13:30 – 14.00	Part 12- FEEDBACK SESSION & CLOSING REMARKS

SESSION PLANS

PART I – INAUGURATION & INTRODUCTION TO FOOD SAFETY

S. No.	Inauguration	Proposed Duration: 15 minutes
1.	Contents	-Trainer inaugurates the training session, - Introduces himself & requests all trainees to do the same -Sets the background of the Training by explaining the overall program objectives of learning and cascading the same down the line in their own companies
	Learning Outcome	The FSS will - Learn about the importance of food safety & hygiene requirements to be followed by Food Safety Supervisor in Retail and Distribution sector - will obtain and introduction to each other - gain an overview of the expectations on the course from other FSS in the group.
	Examples	Industry based examples on importance and effectiveness of GHP, GMP and cascaded training
	Mode of training	Briefing by Faculty and Collective views of the participants
	Corresponding Activity	Introduction and Expectations from participants
	Introduction to Food Safety	Proposed Duration: 30 Minutes
2.	Contents	This part covers key terminologies, FSMS Program based on FSSA & Schedule 4, General introduction to food safety and food safety hazards, Introduction to Allergens and Allergen handling including Food Handler and Consumer Responsibilities.
	Learning Outcome	The FSS will learn about physical, chemical, biological hazards that are needed to be controlled, allergen handling and major reasons behind unsafe food.
	Examples	Industry based examples on key responsibilities of food handlers and consumers as per slides/ handbook
	Mode of training	Lecture/ discussion using slides & handbook and Activities
	Activity	- 2 Activity Sheet's on Hazards & Food borne illness - 1 Activity sheet on Allergens

PART II – GMP-GHP FOR ORGANIZED BIG RETAILERS

S. No.	GMP-GHP FOR ORGANIZED BIG RETAILERS	Proposed Duration: 30 minutes
3.	Contents	This part covers general requirements for location & surroundings for manufacturing establishments, what should be the layout & design of food establishment premises and Equipment and Containers. This part also covers facilities like water supply, Drainage & Waste Disposal, Personal Facilities and Toilets, Air Quality, Ventilation and lighting required for providing a safe & hygienic environment.
	Learning Outcome	The FSS will learn about the checks needed to make for ensuring that the surrounding and facilities are hygienic before food preparation and handling starts.
	Examples	Industry based examples on the contents for ease of understanding
	Mode of training	Lecture/ discussion using slides & handbook
	Activity	-

PART III - GMP-GHP FOR CATERING/FOOD PREPARATION FACILITIES IN BIG RETAIL FORMAT

S. No.	GMP-GHP FOR CATERING/FOOD PREPARATION FACILITIES IN BIG RETAIL FORMAT	Proposed Duration: 30 minutes
4.	Contents	This part covers Cleaning, Sanitation and Maintenance of Equipment's and Facility.
	Learning Outcome	The FSS will learn how to develop a robust establishment cleaning and equipment maintenance program which are key to manufacturing safe food.
	Examples	Industry based examples for ease of understanding
	Mode of training	Lecture/ discussion using slides & handbook
	Activity	Ask application related questions on what was covered /Request participants to share examples of good practices related to the cleaning ,sanitation, preventive maintenance of establishments and equipment's

PART IV – GMP–GHP FOR WHOLESALERS

S. No.	GMP–GHP FOR WHOLESALERS	Proposed Duration: 15 Minutes
5.	Contents	This part covers steps to be taken when pests are sited, pesticide applications and use of baits and traps.
	Learning Outcome	The FSS will learn about general pest control activities, its impact on Food Safety and various methods to prevent and control birds and other pests
	Examples	Industry based examples for ease of understanding
	Mode of training	Lecture/ discussion using slides & handbook
	Activity	Facilitate a discussion on How 4D's (Deny Entry, Deny Food, Deny Home and finally Destroy) are an important principle in Pest Management

PART V – GMP–GHP FOR DISTRIBUTORS, SUPPLIERS & MARKETERS

S. No.	GMP–GHP FOR DISTRIBUTORS, SUPPLIERS & MARKETERS	Proposed Duration: 30 minutes
6.	Contents	This part covers monitoring of health status, maintenance of personal cleanliness through personal behaviour and protective clothing and maintenance of personal hygiene policy for visitors as well.
	Learning Outcome	The FSS will learn about how monitoring of health status, maintenance of personal cleanliness through personal behaviour and protective clothing and policy for visitors need to be ensured to ensure an environment of food safety & hygiene requirements
	Examples	Industry base examples for ease of understanding
	Mode of training	Lecture/ discussion using slides & handbook
	Activity	At least 4 Activity slides on Personnel Hygiene (at the end of this module)

PART VI – GMP–GHP FOR TRANSPORTERS

S. No.	GMP–GHP FOR TRANSPORTERS	Proposed Duration: 30 minutes
7.	Contents	This part covers requirements involved in Procurement & Storage of Raw material, Production and Packaging and the concept of Approved additives.
	Learning Outcome	The FSS will learn about: -checks on food safety requirements related to Raw Material (RM), Ingredients and Additives. -precaution for Storage of RM, Packaging Material, Work in Process & Finished Goods. -importance of FATTOM in Process Control, Packaging, Distribution - how to find out Approved Food Additives and Microbiological standards
	Examples	Industry based examples for ease of understanding
	Mode of training	Lecture/ discussion using slides & handbook
	Activity	Facilitate FSS to mention good practices on food safety & hygiene requirements followed for Procurement & Storage of various kinds of Raw material

PART VII – RETAIL AND DISTRIBUTION OF HIGH RISK FOODS

S. No.	RETAIL AND DISTRIBUTION OF HIGH RISK FOODS	Proposed Duration: 30 minutes
8.	Contents	This part covers hygienic requirements for Transportation, Storage and Distribution related to Food Business Operations.
	Learning Outcome	The FSS will learn about: -Hygienic Requirements for Food Transportation Vehicles -Importance of hygiene requirements in the Distribution and Supply Chain .
	Examples	Industry based examples for ease of understanding
	Mode of training	Lecture/ discussion using slides & handbook
	Activity	Facilitate FSS to develop a recording format for Vehicle Cleaning







EXTENDS FRESHNESS

LEAK PROOF

FREEZER READY

EXTENDS FRESHNESS

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