

Reading Manual for Rusk Under PMFME Scheme



National Institute of Food Technology Entrepreneurship and Management
Ministry of Food Processing Industries
Plot No.97, Sector-56, HSIIDC, Industrial Estate, Kundli, Sonapat, Haryana-131028
Website: <http://www.niftem.ac.in>
Email: pmfmecell@niftem.ac.in
Call: 0130-2281089

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ABBREVIATIONS & ACRONYMS

Sr: No.	Abbreviations & Acronyms	Full Forms
1.	APEDA	Agricultural and Processed Food Products Export Development Authority
2.	FAO	Food and Agriculture Organization
3.	FBO	Food Business Operator
4.	FLRS	Food Licensing and Registration System
5.	FPOs	Farmer Producer Organizations
6.	FSSAI	Food Safety and Standards Authority of India
7.	kcal	kilocalorie
8.	MoFPI	Ministry of Food Processing Industries
9.	PA	Polyamide
10.	PET	Polyesters
11.	PFA	Prevention of Food Adulteration
12.	SHGs	Self Help Groups
13.	WVTR	water vapor transmission rate

CHAPTER -1

INTRODUCTION

1.1.Industrial Overview: Bakery goods are an integral component of a modern lifestyle.

Bakery products are not limited to, bread, rolls, cookies, pies, pastries, and muffins, which are typically prepared from flour or meals derived from some kind of grain and cooked over dry heat, especially in a certain type of oven. There are various categories of bakery and baked goods such as bars, bread (bagels, buns, rolls, biscuits, and loaf bread), cookies, rusk, sweets (cakes, cheesecakes, and pies), muffins, pizza, snack cakes, tortillas and tortillas (doughnuts, Danish, sweet rolls, cinnamon rolls, and coffee cake).

Energy is provided by the food we consume, and our body needs to work. Just like we need to put gasoline in our car or recharge the battery of our cell phone, our body needs to be fed every day with food that provides energy. A balanced diet will give our body the right amount of energy we need to remain healthy, and enough raw materials. Items from bakeries are commonly viewed as detrimental to health. Health-based bakery products are the products that, when consumed in sufficient quantities, result in special health benefits other than the usual nutritional supply.

Bakery owners are also selling bakery items with healthy choices. Bakers are now also taking additional precautions to make it more nutritious and delicious using healthier ingredients. To preserve good health while enjoying the taste and comfort provided by bakery items, customers need to become aware of the healthier choices.

1.1.1. Types of Bakery Products

Bread- Bread is one of the oldest forms of food in the world and is made by baking dough, flour, and water mixture.

Rusk- Rusk are doubly baked bread and very much enjoyed with tea

Cakes- Cakes can be either too simple or quite fancily made, such as the wedding cakes served on beautifully oriented events such as birthdays, Christmas, wedding showers, baby showers, and bridal showers, and a lot more!

Bun- Bagels, popular breakfast items, are usually made of yeast wheat dough and come in the form of a ring.

Pastries- Pastries refer to baked goods made with ingredients that often include butter, sugar, shortening, flour, baking powder, and eggs.

Biscuits/Cookies- Whether you call them “cookies,” “biscuits,” or even “koekee,” cookies have been loved the world over. They can be dropped, sliced, molded, rolled and cut, baked into bars, sandwiched with fillings, and decorated with colorful icings. **Doughnuts-** Usually sweet and deep-fried; doughnuts come with a hole in the middle or as a solid piece filled with items such as jelly, creams, or custards.

1.2.Product description

Rusk is one of the oldest bakery products which is made of wheat flour and semolina. It has a good shelf life and is a common snack along with tea or milk.



Rusk is a hard, dry biscuit or a twice-baked bread. It is sometimes used as a teether for babies. In the UK, the name

also refers to a wheat-based food additive. Also referred to as toast as rusk is toasted at a higher temperature which makes it crisp and dry. It is having a very good shelf life and very tasty to eat. It will have all the ingredients and nutrients of Rusk. It is a popular bakery product among elders and working class which supplements for food.

Rusks are not just a Greek specialty—they are popular in many different countries across the globe. In France, they are called *biscotte* and sold in packages in markets; Germany's version is referred to as *zweiback*, which when translated means baked twice. In Russia, rusks are called “*sookhar*”. The United States’ versions of rusks are melba toast and biscotti.

In India rusk (or toast biscuit) is a traditional dried rusk. It is also known as papay, khasta, russ in Hindi, Punjabi, and Urdu or Kathi biskut in Bengali. It is usually eaten at tea time with milky tea which softens the rusk.

The Manufacturing of Rusk involves the preparation of partially baked bread, slicing, and again roasted in the oven to remove the moisture. Good Roasted rusk will have no moisture and crips and dry.

1.3 Market Potential

The demand for processed and convenience food is increasing constantly due to urbanization, changing lifestyle and food habits of the people. The bakery industry in India is the largest of the food industries with an annual turnover of about Rs. 32000 million and has achieved 3rd

position in generating revenue among processed food sector. With over 1.2 billion population and 350 million strong urban middle class and changing food habits, the processed food market is promising a huge potential to be tapped. The Indian bakery industry is one of the biggest sections of the country's processed food industry. The growth and spread of the bakery market are largely driven by a thriving biscuits and cookies industry. The biscuits and cookies industry accounts for nearly 72% of the sales in the Indian bakery market. The penetration of cookies and biscuits in both the urban and the rural market is increasing owing to their affordable price and ready-to-eat nature. Rusk is also having its presence in both rural and urban markets for a long. However, the major production of the rusk is being done in the unorganized industries/ bakeries. There are very few organized industries preparing rusk.

Based on its distribution channel, the Indian bakery market can be segmented into convenience stores, supermarkets and hypermarkets, independent retailers, artisanal bakeries, and online, among others. By type, the biscuits segment leads the industry. The major regional markets for bakeries are North India, West and Central India, South India, and East India. The key players in the above industry include Britannia Industries Ltd., Parle Products Pvt. Ltd., Surya Food & Agro Ltd., and ITC Limited, among others.

1.4 Ingredients Used in Preparation of Rusk:

✓ **Bread Flour:**

For the production of rusk, the flour required is the same as for bread making. The hard spring and hard winter wheat are the types most desirable for rusk production. The wheat flour used should have a total Ash content of 1% maximum whereas the gluten content of the wheat flour should be about 10.5%. The alcoholic acidity of the wheat flour should be 0.1% maximum

✓ **Semolina (Suji)** - Suji used for rusk making should be free from any dust/dirt or extraneous matter. It should have a moisture content of 14% maximum whereas total ash content 1.0% maximum, gluten content 6%, alcoholic acidity 0.1% maximum.

✓ **Refined oil-** Industries involved in rusk making generally use palm olein. Palmolein should be free from dirt or extraneous matter. There should be no off-odor associated. The moisture content of the refined oil should be 0.1% maximum, free fatty acid 4.1 % maximum, acid value 0.2% maximum, saponification value should be in between

195 to 205, and use of antioxidant TBHQ is generally accepted maximum upto 200 PPM.

- ✓ **Skim milk powder (SMP)**- The milk solids have a binding effect on the flour protein, creating a toughening effect. They also contain lactose which helps to regulate crust color. They improve the flavor and are important moisture-retaining agents. SMP should be free from any dust/dirt or extraneous matter. The moisture content for the skim milk powder should be 5% maximum whereas total Ash 8.2% maximum, protein 34% minimum, solubility 8.5 to 11.5% sedimentation value 99%, fat 1.5% maximum.
- ✓ **Salt**- Common salt or table salt is used for bringing out the flavor of other ingredients which are used in Rusk, and other products. Salt should be pure.
- ✓ **Sugar**- Sugar is most commonly thought of as a sweetener, but in baked goods, it is also involved in several other processes. Sugar undergoes a series of complex browning reactions above 160 °C, and the products of these form the brown crust of many baked goods. The reactions are known as Maillard reactions and are essentially amino acid-catalyzed caramelization reactions in which a sugar aldehyde or ketone is converted to an unsaturated aldehyde or ketone. In addition, 0.5 - 0.75% w/w of sugar increases the rate of fermentation for fermented goods (i.e. rusks) by giving the yeast more sugar to work on. Similar to the salt, sugar should be pure free from any odor, and sulfur content in the sugar should be a maximum of 70 PPM
- ✓ **Yeast**- *Saccharomyces cerevisiae* yeast is used for rusk making. Yeast should have moisture 70% maximum, free from any odor and its dough rising capacity (DCR) should be 200 minimum.
- ✓ **Dough improvers**- Dough improvers are added to prepare a good quality of dough. They help in mixing and dough development.
- ✓ **Water**-Water makes possible the formation of gluten. Gluten as such does not exist in flour. Only when flour proteins are hydrated, gluten is formed. Water controls the consistency of dough. Water assists in the control of dough temperatures and the warming or cooling of doughs can be regulated through the water. It dissolves salts; suspends and distributes non-flour ingredients uniformly. Water wets and swells starch and renders it digestible. Water also makes possible enzyme activity. Water keeps rusk palatable longer if sufficient water is allowed to remain in the finished loaf. RO water with TDS less than 100 ppm is used for making rusk.

CHAPTER-2

PROCESS & MACHINERY REQUIREMENT

2.1 Preparation of Rusk: The whole rusk preparation can be understood in the following steps.

STEP 1:

Sponge Preparation:

- Compressed yeast (*Saccharomyces cerevisiae*) 2.7 Kgs maintained at 20°C add 100 g Bread Flour & 100 g sugar with 4-liter water in a vessel. Stir, retain as it is till the bubble appears (it means activation done). The water temperature for yeast activation is 28 - 30°C. The standing time for the yeast solution is around 10-12 minutes.
- Consider a bowl of the mixer. Add whole quantity of Bread Flour to the bowl, followed by crystal Sugar (crystal sugar used must be passed through a strong magnet of 15000 gauss and then through the sieve of 10 mesh).
- Add Wheat gluten, Bread improver, Suji (without soaked). Mix it properly for 1-2 mins, followed by activated yeast, soaked wheat fiber Start the mixing.
- The remaining water should be added slowly during the mixing. Water temp should be adjusted so that
 - Sponge Temp. should be maintained between 30-32°C.
 - Spiral Mixer use (Mixing Time): First Mixing: 10 mins. (-slow Speed= 4 mins, - Fast Speed = 6 mins fast piper
 - Lay Time: The bowl is covered with wet cloth & kept for fermentation at ambient conditions for 35-40 minutes (at extreme summer should be kept in AC room at 20°C for maintaining sponge temperature). The final temperature after laytime is 30°C-32°C.

STEP 2:

Dough preparation:

1. STEP-A: Mix Refined, bleached, and deodorized (RBD) Palm Oil & Lecithin separately in a blender.
2. STEP-B: Consider the same sponge bowl. Now add to this remaining crystal Sugar, blend of RBD Palm Oil & Lecithin, SMP. Cardamom Flavour (in winter, flavor container should be kept on water bath having temp of 45 to 50°C) and Cardamom Seeds (crushed into 2-3 parts by a suitable grinder). If a small quantity of RBD Palm

Oil is added at the end of mixing for the easy release of dough, the oil should be withdrawn from the initial quantity of RBD Palm Oil. No extra oil to be used at this step.

3. Meshing Time: 10 mins. (-Slow Speed= 4 mins. -Fast Speed = 6 mins.)
4. The final dough temperature after mixing should be not more than 34°C.

STEP 3:

Dividing & Moulding:

1. The pans are greased with a greasing agent (Palmolein Oil)
2. The dimensions of the pan are generally 305-326 mm X 49 mm X 85 mm
3. Length of Rusk pan may vary according to trolley and oven size.
4. The dough is taken for dividing & molding. The time required will be around 10-12 minutes
5. Dough weight per pan is 275-285 gm for 305 mm pan length
6. 305-315 gm for 326 mm pan length (This is for each rusk slice weighing 9.1 g and dimension 75 mm x 45 mm x 14 mm)
7. The dent should be skillfully pressed for every pan.

STEP 5:

Proofing

1. Swing: Here the lid is to be kept on the pan to avoid contamination during Proofing
2. Trolley: Here, it can be kept without a lid, keeping in mind the better quality and less proofing time
3. Proofing room conditions are RH =80-90%, Temperature = 35-40'c.
4. Proofing time = 45 minutes to 1 hour

STEP 6:

First baking:

rack oven

1. The lids should be kept over pans.
2. Baking Time: 30 minutes, Baking Temp.: 190 to 195 C
3. After baking, the final moisture content of bread should be 29 to 30%.

Tunnel oven

1. The lids should be kept over pans.

2. Baking Time & Oven profile to be set so that the bread should contain 30-35 % moisture with proper bread color.

STEP 7:

Depending & Cooling:

1. The loaves are depanned while hot & loaded on the SS trolleys
2. Give 1-hour cooling at normal condition, & then 4-5 hrs forced cooling.
3. After cooling, the final bread moisture should be 20-21%.

STEP 8:

Slicing:

1. The loaves are sliced through an automatic slicer. The distance between two successive blades should be
2. approx. 14.5 mm
3. Slice thickness should be 14 mm approx.
4. Slicer blade quality should be sharp of thickness min. 0,4 mm

STEP 9:

Second baking:

Rack Oven

1. The slices are spread over the trays & baked in the Rotary Oven at 160-170°C for 30-32 minutes
2. There should not be any gap between the slices.

Tunnel Oven

1. Baking Time & Oven profile to be set so that the final product moisture is 1.8% and no dark edges.

Metal detector:

1. All bread and rusk slices should be passed through a metal detector.

STEP 10:

Cooling & packing:

1. The main goal is to decrease the internal temperature of the baked rusk from 180–190°C, depending on or coming out of the oven, to 32–43°C (90–110°F). Cooling can

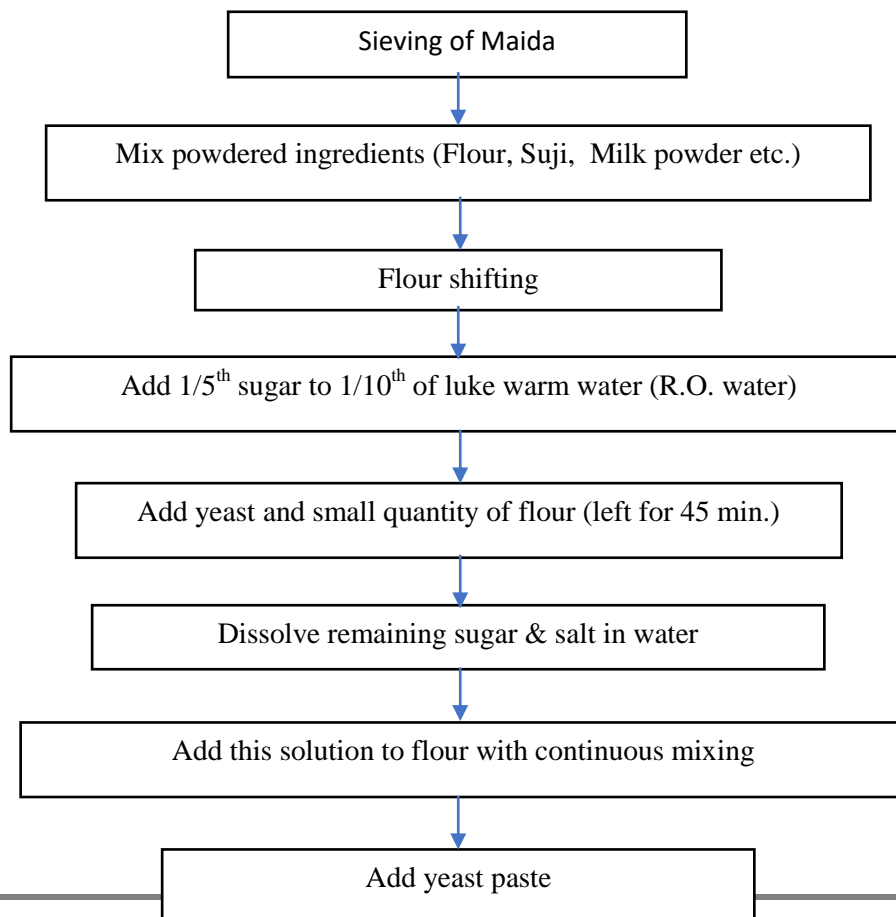
be done by Natural cooling or Forced-cooling. Baked rusk slices are cooled to a moisture content of (1-1.2%).

2. Packing can be done in Polypacks, Paper bags, bags in boxes for superior strength, or water resistance paper bags.

Types of packs for rusk:

- **Loose wrap:** Loosely wrapped unsealed packs are generally obtained by using one side of waxed paper.
 - **Primary pack:** (Individual pack made by using both sides waxed, printed paper having play value and to be dispensed as a unit.
 - **Secondary pack:** A pack in which a product is pre-packed in a carton and subsequently over wrapped with protective waxed wrappers
3. Packet weight to be checked at the end of Packing, 100% CB weight to be checked & written on the CB

Process flow chart of Rusk Preparation



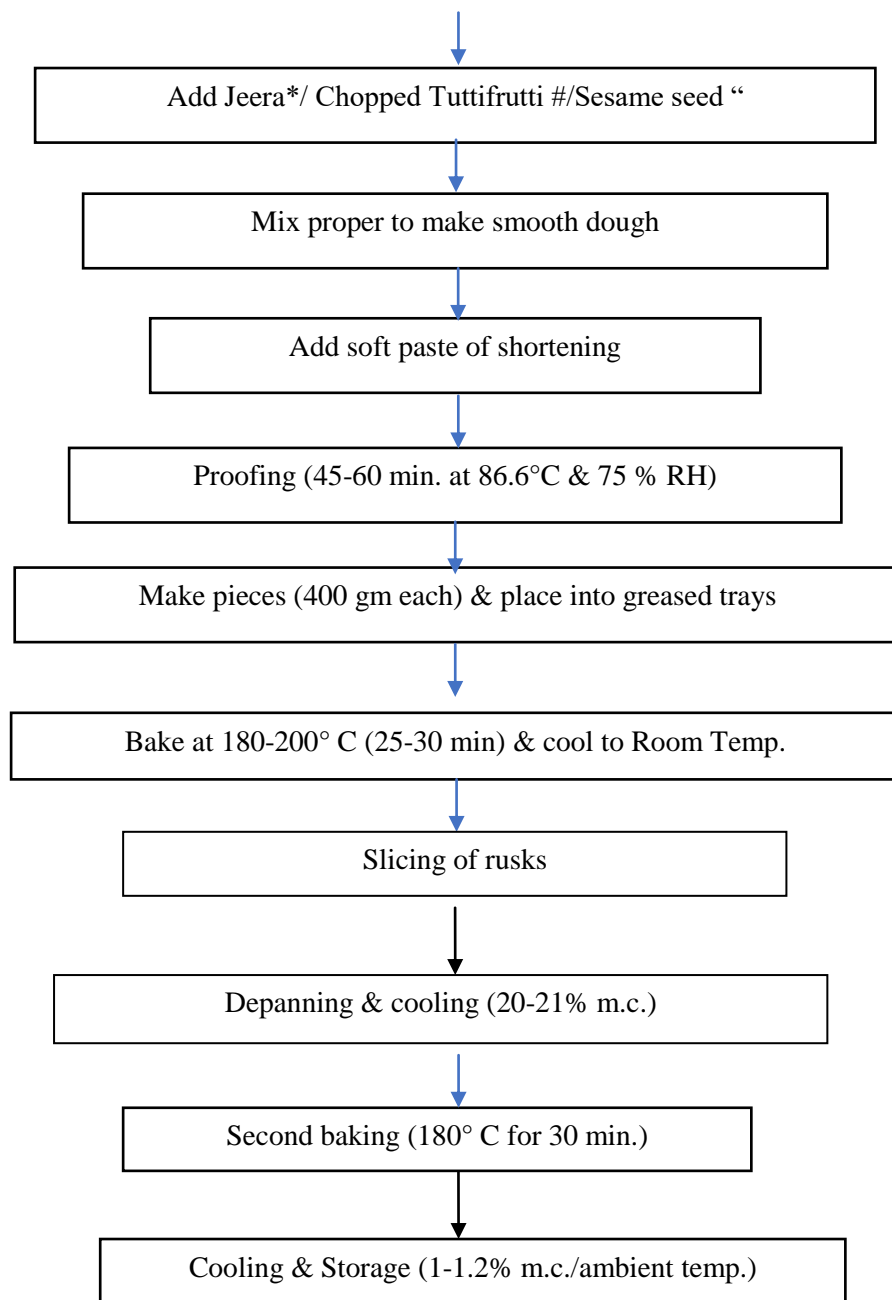





Table 1: Sample Recepte of a Rusk preparation Unit:


S.no	Raw Materials	Sponge (Kgs)	Dough (Kgs)
1	Bread Flour	72	0
2	Crystal Sugar	9.6	16.8
3	Palm Oil	0	9.6
4	Suji	2.4	0
5	Yeast	2.7	0
6	Skimmed Milk Powder	0	1.2

7	Iodised Salt	0	0.84
8	Wheat gluten	0.6	0
9	Lecithin	0	0.24
10	Flavors	0	312 ml
11	Bread Improver	0.24	0
12	Water	33-35 ltr	0

2.2 Plant & Machinery required for rusk industry

Machine	Machine Description	Image
Spiral Mixer	Spiral mixers are best suited for mixing dough because they keep the dough at a lower temperature given how the mixer bowl rotates as the spiral hook spins to knead the dough	
Rotary Rack Oven	They are ideal for baking a wide range of baked goods including bread, rusk, cookies, cake, and so much more	
Normal slicer	Used for slicing rusk into small size.	

PM FME – Processing of Rusk

<p>Swing tray oven</p>	<p>Used for first baking.</p>	
<p>Tunnel oven</p>	<p>Used for baking in a continuous process.</p>	
<p>Molds, storage tank, collection tank etc.</p>	<p>Used for storage of raw material & finished goods.</p>	

CHAPTER- 3

PACKAGING

3.1. Shelf Life of Product:

Bakeries or homemade cookies can be kept in the refrigerator at room temperature for two to three weeks or two months. When frozen for eight to 12 months in the fridge, cookies maintain their flavor. For seven days, moist bars, such as cheesecake and lemon bars, may be refrigerated. Store the bars in the freezer for two to three months for the highest consistency. For soft cookies, applying a slice of bread to an airtight jar will help prolong the shelf life. The extra attachment to the bag would not be appropriate for crispy treats, such as ginger snaps. The slice of bread stops the baked goods from losing moisture so that they can sit longer on the counter while smelling new.¹

Depending on the quality of the food, the longer food is processed, the flavor and nutrient quality reduces when first packaged. Studies have demonstrated, however, that freeze-dried and dehydrated foods, properly packed and sealed, preserve their calories, and calories, even if preserved beyond their allocated time, can sustain life in an emergency and avoid hunger.

The shelf life of stored foodstuffs depends on the following 4 major criteria:

- **Temperatures:** According to results from recent research, foods kept at room temperature or colder (75 °F/24 °C or lower) can be nutritious and edible for longer than commonly assumed. Foods processed (which is optimal) at 50 °F to 60 °F can last longer than foods stored at higher temperatures. Fire kills food and its nutritious value entirely. Proteins can break down and lose certain vitamins. The taste, color, and smell of certain foods can change as well.
- **Humidity:** The explanation for dehydrated or freeze-dried long-term food preservation is to remove moisture. Too much moisture fosters a climate in which microorganisms can flourish and chemical reactions in food cause degradation that can eventually make us ill.
- **Oxygen:** Too much oxygen, especially in fats, vitamins, and food colors, can degrade food and encourage the growth of microorganisms. That is the explanation for the dry packaging of your food items using oxygen absorbers.

- **Light:** Exposure to too much light will cause food to deteriorate. In specific, it influences the color of food, the lack of vitamins, fats, and oils, and proteins. Maintain long-term food storage in places with low light with the longest shelf life.

Usually, cookies have a moisture content of less than 4 percent and a long shelf life of six or more months. Shelf life is an essential property of all food, and from source to customer, it is of importance to anyone in the food chain. In the context of effective sensory analysis, well-designed and performed market acceptability assessments are an important aspect of every product's shelf life assessment. The transfer of moisture and water vapor serves as a primary element impacting shelf life.

3.2. Rusk Packaging:

To keep air and other toxins out, cookies should be kept in a tightly closed jar or covered in plastic wrap. You can freeze your cookies for a long-term alternative while retaining their flavor if you use an air-tight freezer-protected jar. After freezing, for a near replication of the just-baked flavor, aim to microwave them very quickly before feeding. Packaging refers to the act of designing and producing the container or wrapper of a product. It is one of the most important parts of marketing.

Many factors need to consider while selecting a suitable type of pack for the product:

- The product contents.
- The application of the product.
- Content stability.
- Protection from any environmental factors
- Acceptability of the pack to the customer.
- Regulatory, legal, and quality issues.

Characteristics of packaging material:

The material selected must have the following characteristics:

- ✓ Must meet tamper-resistance requirements
- ✓ Must not reactive with the product
- ✓ They must protect the preparation from environmental conditions
- ✓ Must be non-toxic

- ✓ Must not impart odor/taste to the product
- ✓ Must be FDA approved.

Biscuits are packed directly in gunny bags, gunny poly-line bags for bulk sale, and retail sales in laminated pouches or poly-bags.

- **Hanging Bags-** Hanging bags in grocery stores and other shopping outlets are commonly used. They are a type of plastic bag that is also sealed with a back-middle seam on both ends as well. Hanging bags have a pre-cut hole that makes it easier for them to hang from hooks so that they can be seen attractively.
- **Pillow bags -** A pillow bag is another typical type of package. The bags are named for their shape, which is like a cushion. They are found lying flat on grocery store shelves in the grocery store and were known to carry the items.
- **Gusseted Poly Bags-** Gusseted bags are often called flat-bottom bags because they feature a tucked-in pleat that's been pressed flat. It allows the bag to expand for greater carrying capacity and to keep the shape of a box if necessary. These types of poly bags can be heat sealed, tied, stapled, or taped shut. They're the perfect poly bag for anyone looking to get more flour in a single bag.
- **Flexible Pouches-** Flexible pouches are a perfect way to carry most packaged items. They can be made with zipper-seal closures, which tend to keep the inside contents fresh for use. Flexible pouches offer amazing printing capabilities, so you can add your attractive product branding to the pouch itself. Many pouches stand up on their own, which helps you improve your shelf appearance.

3.3. Packaging:

- **Primary packaging:** Primary packaging is packaging that is in close association with the product itself and is often referred to as a consumer unit. The main purpose of the primary packaging is to contain, protect and/or conserve the final product, in particular against contamination.
- **Secondary packaging:** Secondary packaging is the outer packaging of the main packaging, which connects packages and further covers or marks the prescription component.
- **Tertiary packaging:** Tertiary packaging is used for the handling, transportation, and delivery of bulk products.

3.4. Material of Packaging:

In addition to cellulose and Aluminium foil, a very large amount of polymeric materials is used for packaging products. Paper boards and metal containers are also used for such purposes. While a range of packaging materials are available, the ultimate option of the packaging depends on the appropriate shelf life, the efficiency of the packaging machine, and the cost that is purely based on the market segment targeted by the manufacturer. The most common choice of packaging medium is plastic (usually flexible) as it offers the requisite safety and preservation, resistance to grease, physical strength, machinability, and printability.

Plastics that are lighter in weight are also the most preferred material for the packaging of flour. There are changing trends in the packaging of Flour. Plastic films and their laminates are increasingly used due to better properties and aluminum laminates due to price and better flex crack properties. Plastic packaging products that can be used are described below.

Polypropylene- Polypropylene films have better clarity than polyethylene and enjoy superior machinability due to stiffness. Lack of good salability has been a problem; however, PVDC and vinyl coating have been used to overcome this problem. Some varieties of PP have been specially developed for twist-wrap applications as they can lock in position after twisting.

Poly Vinyl Chloride (PVC)- PVC is a stiff and clear film having a low gas transmission rate. PVC can be used as small wraps, bags, and pouches. PVC when co-polymerized with polyvinylidene chloride is known as Saran. Since it is a costly material, it is only used as a coating to obtain barrier properties and heat salability. PVC film is also used for twist wraps, as it has twist retention properties and is excellent on high-speed machines.

Polyesters (PET) and Polyamide (PA) - Polyethylene terephthalate film has high tensile strength, gloss, and stiffness as well as puncture resistance. It has moderate WVTR but is a good barrier to volatiles and gases. To provide heat seal property, PET is normally laminated to other substrates. Nylons or polyamides are similar to PET but have high WVTR.

CHAPTER-4

FOOD SAFETY REGULATIONS AND STANDARDS

4.1 Introduction to FSSAI:

The Food Safety and Standards Authority of India (FSSAI) has been established under Food Safety and Standards, 2006 which consolidates various acts & orders that have hitherto handled food-related issues in various Departments. The FSSAI is responsible for setting standards for food so that there is one body to deal with and no confusion in the minds of consumers, traders, manufacturers, and investors. The Act aims to establish a single reference point for all matters relating to food safety and standards, by moving from multi-level, multi-departmental control to a single line of command.

Highlights of the Food Safety and Standard Act, 2006-

Various central Acts like Prevention of Food Adulteration Act, 1954, Fruit Products Order, 1955, Meat Food Products Order, 1973, Vegetable Oil Products (Control) Order, 1947, Edible Oils Packaging (Regulation) Order 1988, Solvent Extracted Oil, De- Oiled Meal and Edible Flour (Control) Order, 1967, Milk and Milk Products Order, 1992, etc will be repealed after commencement of FSS Act, 2006.

The Act also aims to establish a single reference point for all matters relating to food safety and standards, by moving from multi-level, multi-departmental control to a single line of command. To this effect, the Act establishes an independent statutory Authority – the Food Safety and Standards Authority of India with head office at Delhi. Food Safety and Standards Authority of India (FSSAI) and the State Food Safety Authorities shall enforce various provisions of the Act.

Establishment of the Authority-

Ministry of Health & Family Welfare, Government of India is the Administrative Ministry for the implementation of FSSAI. The Chairperson and Chief Executive Officer of the Food Safety and Standards Authority of India (FSSAI) have already been appointed by the Government of India. The Chairperson is in the rank of Secretary to Government of India.

4.2 FSSAI Registration & Licensing Process:

According to Section 31(1) of the Food Safety and Standards (FSS) Act, 2006, Every Food Business Operator (FBO) in the country is required to be licensed under the Food Safety & Standards Authority of India (FSSAI).

As per FSS (Licensing & Registration) Regulations, 2011, Licenses and Registrations are granted to FBOs in a 3 tier system

- Registration - for petty FBOs with annual turnover less than Rs 12 lakhs
- State license - for medium-scale food manufacturers, processors, and transporters
- Central License - for large-scale food manufacturers, processors and transporters

FSSAI registration is done online on the FSSAI website through Food Safety Compliance System (FoSCoS)

- FoSCoS has replaced the Food Licensing and Registration System (FLRS).
- Petty food business operators are required to obtain FSSAI Registration Certificate
- “Petty Food Manufacturer” means any food manufacturer, who manufactures or sells any article of food himself or a petty retailer, hawker, itinerant vendor or temporary stallholder (or) distributes foods including in any religious or social gathering except a caterer;

or

- Other food businesses including small scale or cottage or such other industries relating to food business or tiny food businesses with an annual turnover not exceeding Rs. 12lakhs and/or whose production capacity of food (other than milk and milk products and meat and meat products) does not exceed 100 kg/ltr per day

Any person or entity that does not classify as a petty food business operator is required to obtain an FSSAI license for operating a food business in India.

FSSAI License - two types - State FSSAI License and central FSSAI License

Based on the size and nature of the business, the licensing authority would change.

- Large food manufacturers/processors/transporters and importers of food

products require a central FSSAI license

- Medium-sized food manufacturers, processors, and transporters require a state FSSAI license.
- License period: 1 to 5 years as requested by the FBO.
- A higher fee for obtaining an FSSAI license for more years.
- If an FBO has obtained the license for one or two years, renewal may be done, no later than 30 days before the expiry date of the license.

Sanitary and hygienic requirements for food manufacturer/ processor/handler

The place where food is manufactured, processed, or handled shall comply with the following requirements:

1. The premises shall be located in a sanitary place and free from filthy surroundings and shall maintain an overall hygienic environment. All new units shall set up away from environmentally polluted areas.
2. The premises to conduct food business for manufacturing should have adequate space for manufacturing and storage to maintain an overall hygienic environment.
3. The premises shall be clean, adequately lighted and ventilated, and sufficient free space for movement.
4. Floors, Ceilings, and walls must be maintained in a sound condition. They should be smooth and easy to clean with no flaking paint or plaster.
5. The floor and skirted walls shall be washed as per the requirement with an effective disinfectant the premises shall be kept free from all insects. No spraying shall be done during the conduct of business, but instead, fly swats/flaps should be used to kill spray flies getting into the premises. Windows, doors, and other openings shall be fitted with a net or screen, as appropriate to make the premise insect-free The water used in the manufacturing shall be potable, and if required chemical and bacteriological examination of the water shall be done at regular intervals at any recognized laboratory.

6. A continuous supply of potable water shall be ensured on the premises. In the case of intermittent water supply, adequate storage arrangements for water used in food or washing shall be made.
7. Equipment and machinery when employed shall be of such design which will permit easy cleaning. Arrangements for cleaning of containers, tables, working parts of machinery, etc. shall be provided.
8. No vessel, container, or other equipment, the use of which is likely to cause metallic contamination injurious to health shall be employed in the preparation, packing, or storage of food. (Copper or brass vessels shall have proper lining).
9. All equipment shall be kept clean, washed, dried, and stacked at the close of business to ensure freedom from the growth of mold/ fungi and infestation.
10. All equipment shall be placed well away from the walls to allow proper inspection.
11. There should be an efficient drainage system and there shall be adequate provisions for disposal of refuse.
12. The workers working in processing and preparation shall use clean aprons, hand gloves, and head wears.
13. Persons suffering from infectious diseases shall not be permitted to work. Any cuts or wounds shall remain covered at all times and the person should not be allowed to come in direct contact with food.
14. All food handlers shall keep their fingernails trimmed, clean, and wash their hands with soap, or detergent, and water before commencing work and every time after using the toilet. Scratching of body parts, hair shall be avoided during food handling processes.
15. All food handlers should avoid wearing, false nails or other items or loose jewelry that might fall into food and also avoid touching their face or hair.
16. Eating, chewing, smoking, spitting and nose blowing shall be prohibited within the premises especially while handling food.

17. All articles that are stored or are intended for sale shall be fit for consumption and have proper cover to avoid contamination.
18. The vehicles used to transport foods must be maintained in good repair and kept clean.
19. Foods while in transport in packaged form or containers shall maintain the required temperature.
20. Insecticides/disinfectants shall be kept and stored separately and away from food manufacturing / storing/ handling areas.

4.3 Labelling Standards (Regulation 2.5 of FSS)

Labeling requirements for packaged food products as laid down in Part 2.4 of the Prevention of Food Adulteration (PFA) Rules, 1955, and the Standards of Weights and

Measures (Packaged Commodities) Rules of 1977, require that the labels contain the following information:

1. Name, trade name, or description
2. Name of ingredients used in the product in descending order of their composition by weight or volume
3. Name and complete address of manufacturer/packer, importer, country of origin of the imported food (if the food article is manufactured outside India, but packed in India)
4. Nutritional Information
5. Information Relating to Food Additives, Colors, and Flavors
6. Instructions for Use
7. Veg or Non-Veg Symbol
8. Net weight, number, or volume of contents
9. Distinctive batch, lot, or code number
10. Month and year of manufacture and packaging

11. Month and year by which the product is best consumed

12. Maximum retail price

Provided that — (i) the nutritional information may not be necessary, in case of foods such as raw agricultural commodities, like, wheat, rice, cereals, flour, spice mixes, herbs, condiments, table salt, sugar, jaggery, or non –nutritive products, like, soluble tea, coffee, soluble coffee, coffee-chicory mixture, packaged drinking water, packaged mineral water, alcoholic beverages or flour and vegetables, processed and pre-packaged assorted vegetables, flours, vegetables and products that comprise of a single ingredient, pickles, papad, or foods served for immediate consumption such as served in hospitals, hotels or by food services vendors or halwais, or food shipped in bulk which is not for sale in that form to consumers.

Wherever applicable, the product label also must contain the following

The purpose of irradiation and license number in case of irradiated food. Extraneous addition of coloring material.

Non-vegetarian food – any food which contains whole or part of any animal including birds, freshwater or marine animals, eggs or product of any animal origin as an ingredient, not including milk or milk products – must have a symbol of a brown color-filled circle inside a

brown square outline prominently displayed on the package, contrasting against the background on the display label near the name or brand name of the food. Vegetarian food must have a similar symbol of the green color-filled circle inside a square with a green outline prominently displayed.

All declarations may be: Printed in English or Hindi on a label securely affixed to the package, or Made on an additional wrapper containing the imported package, or Printed on the package itself, or Maybe made on a card or tape affixed firmly to the package and bearing the required information before customs clearance.

Exporters should review Chapter 2 of the “FSS (Packaging and Labeling) Regulation 2011” and the Compendium of Food Safety and Standards (Packaging and Labeling) Regulation before designing labels for products to be exported to India. FSSAI revised the labeling Regulation and a draft notification to that effect was published on April 11, 2018, inviting comments from WTO member countries

and the comments received are under review and the publication date remains unknown.

CHAPTER - 4

OPPORTUNITIES FOR MICRO/UNORGANIZED ENTERPRISES

PM-FME Scheme:

Ministry of Food Processing Industries (MoFPI), in partnership with the States, has launched an all India centrally sponsored "PM Formalisation of Micro Food Processing Enterprises Scheme (PM FME Scheme)" for providing financial, technical, and business support for up-gradation of existing micro food processing enterprises. The objectives of the scheme are:

- I. Support for capital investment for up-gradation and formalization with registration for GST, FSSAI hygiene standards, and Udyog Aadhar;
- II. Capacity building through skill training, imparting technical knowledge on food safety, standards & hygiene, and quality improvement;
- III. Handholding support for the preparation of DPR, availing bank loan and up-gradation;
- IV. Support to Farmer Producer Organizations (FPOs), Self Help Groups (SHGs), producers cooperatives for capital investment, common infrastructure, and support branding and marketing.

ⁱ <http://www.eatbydate.com/grains/baked-goods/cookies-shelf-life-expiration-date/>