Ministry of Food Processing Industries
Government of India

सत्यमेव जयते

NIFTEM
Knowledge. Innovation. Outreach

# PACKAGING OF COOKIES

AATMANIRBHAR BHARAT

PM Formalisation of Micro Food Processing Enterprises Scheme (PM FME Scheme)

# PACKAGING

## 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.

- 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 own 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.
- The transfer of moisture and water vapor serves as a primary element impacting shelf life.

## ➢ Proper Storage

- When food products are not properly stored, they are spoiled by other food products that are bad for health.
- As germs begin to grow on it, food products stored for a long time get spoiled.
- Spoilage is a phase in which food goods deteriorate to the point that human food is not edible.
- "In most cases it has been seen that these Maida-based instant noodles take a toll on the digestive process.
- Its remnants may reach the appendix area of the body and trigger infection."

# PACKAGING



➢ **The bad fats**

- Sadly, most processed foods, including saturated fatty acids or trans fats, are filled with not-so-good fats.
- The fats that are safe for you are both monounsaturated fatty acids and polyunsaturated fatty acids.
- Instant noodles have saturated fats that can increase the amount of cholesterol in the blood if eaten excessively.

- Food and water can be germ-infected. Germs are borne by bees.
- They pass these germs on to our food while they are sitting on our food.
- There are various causes, such as bacteria, mould, yeast, moisture, light, temperature, and chemical reaction, that are responsible for food spoilage.

# PACKAGING



## Cookies Packaging:

- The packaging material- Both practical and marketing specifications.

- In order to ensure the consistency of the noodles shape and size during handling, transport, storage, and delivery.

- Packaging Specifications:
  - To protect the product from spillage and spoilage.
  - To provide protection against atmospheric factors such as light, heat, humidity, and oxygen.
  - The selected packaging materials should have high water vapour and oxygen barriers.

- The packaging material should have a high barrier property to prevent aroma/flavour losses and in gross of external odour.

- Therefore, the wrapping material should be resistant to grease and oil and be compliant with the commodity.

- The packaging content should, in addition to the above practical specifications, have good machinability, printability and be readily available and disposable.

- The packaging material should have a high barrier property to prevent aroma/flavour losses and in gross of external odour.

- Therefore, the wrapping material should be resistant to grease and oil and be compliant with the commodity.

- The packaging content should, in addition to the above practical specifications, have good machinability, printability and be readily available and disposable.

# 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 odour/taste to the product
- Must be FDA approved.

# TYPES OF PACKAGING

## Fundament classification:

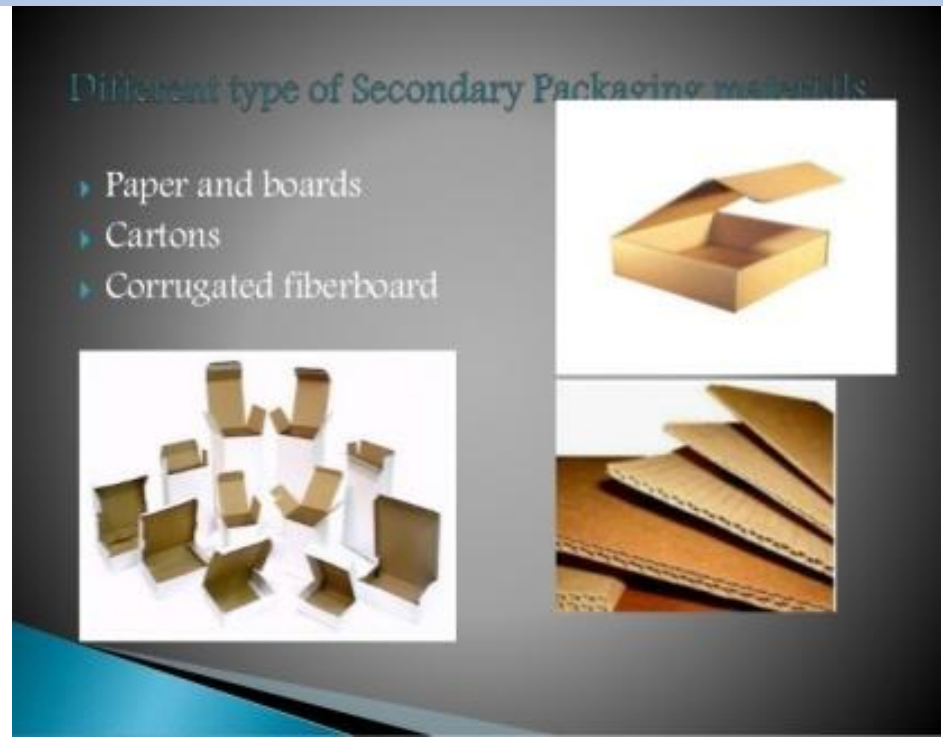
Packaging refers to the act of designing and producing the container or wrapper of a product. It is one of the most important parts of marketing.

- **Primary packaging:**

  Primary packaging is packaging which 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.

# TYPES OF PRIMARY PACKAGING

## ✓ 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 in an attractive way.

## ✓ 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, many pouches stand up on their own, which helps you improve your shelf appearance.

## ESSENTIALS

- ✓ Shelf-life duration, i.e. the degree of protection required by the commodity against pick-up of moisture, preservation of aroma retention, decolouration, etc (in case taste maker is added)
- ✓ During packaging, transportation, and delivery, environmental conditions.
- ✓ Business type/sector
- ✓ Preferences for users
- ✓ Printability and appeal of aesthetics

**The package types generally used as consumer packs are:**

- ✓ Plastic cups of various sizes and shapes with labels and provided with metal or plastic caps.
- ✓ The plastic lids have added inbuilt features of tamper evidence, dispensing, grinding, etc.
- ✓ Printed tinplate container with/without dispensing systems.

- ✓ Printed tinplate container with/without dispensing systems.
- ✓ Plastic containers with plugs and caps with dispensing and tamper evidence features.
- ✓ Printed flexible pouches – pillow pouch, gusseted pouch, stand-up pouch.
- ✓ Lined cartons

# MATERIAL OF PACKAGING

- The most common choice of packaging medium is plastic (generally flexible).
- It provides the required protection and preservation, grease resistance, physical strength, machinability, and printability.
- Polythene, polypropylene, laminated pouches, PVC wrapped trays and plastic jars were the various packaging materials used.
- In terms of preserving consistency during the storage era, the suitability and adoptability of these packaging materials have been examined.

**PLASTIC-BASED PACKAGING MATERIALS THAT CAN BE USED FOR NOODLES ARE LISTED BELOW.**

- **Polyethylene (PE)**

- It is considered to be the backbone of packaging films.
- Polyethylene with its low water vapor transmission is of definite interest.
- Polyethylene films are fairly free of plasticizers and other additives and are quite extensively used as a part of lamination.
- Its ability to heat seal increases its value.
- A copolymer of polyethylene and polyvinyl alcohol and EVOH has outstanding gas barrier properties especially when dry.

## ➢ Polypropylene-

- Polypropylene films have better clarity than polyethylene and enjoy superior machinability due to stiffness.
- Lack of good saleability 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 have the ability to lock in position after twisting.

## ➢ 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.

## ➢ Metallised Films

- When polymeric films are metalized there is an improvement in their barrier properties.
- Metallization is also used for decorative purposes and aesthetics.
- The films, which are used for metallization, are PVC, PET, PP, and polyamides.


For More details Contact:

National Institute of Food Technology and Entrepreneurship and Management
Ministry of Food Processing Industries
Plot No. 97, Sector-56, HSIIDC, Industrial Estate, Kundli,
Sonipat, Haryana-131028

Website: http:www.niftem.ac.in

Email: pmfmecell@niftem.ac.in
Call: 0130-2281089