Ministry of Food Processing Industries
Government of India

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PACKAGING OF GHEE

AATMANIRBHAR BHARAT

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

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INTRODUCTION

As per FSSR-2011, ghee means the pure heat clarified fat derived solely from milk or curd or from desi (cooking) butter or from cream to which no coloring matter or preservative has been added.

- Generally Ghee has a long keeping quality; it can be stored for 6 to 12 months under ambient temperature provided proper packaging and filling.

- Exposure of ghee to light, air, water vapor and metals causes deterioration of ghee which resulted into off flavor and rancidity.

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FACTORS INFLUENCING KEEPING QUALITY OF GHEE

a) Temperature of storage: must be stored at low temperature.
b) Initial moisture content: must have less moisture content.
c) Initial acidity must be less
d) Exposure to metals: Metals like, iron and copper act as catalytic agents for oxidation.
e) Exposure to light / sunlight causes oxidation of ghee.
f) Method of packaging: Higher the air-content in the head-space resulted in the lower keeping quality.

DESIRABLE CHARACTERISTICS OF PACKAGING MATERIAL FOR GHEE

a) must compile Food Safety and Standards (Packaging and Labelling) Regulations, 2011
b) packaging material should not react with ghee
c) available at low cost
d) non toxic packaging material
e) should not allow printing ink to penetrate into the product
f) protect against tempering
g) protects against spoilage causing agents
h) withstand wear and tear during transportation
i) convenience in use
j) should be reuse or recyclable
k) compatible with the packaging machine

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PACKAGING

- Packaging is an important part of food manufacturing process. It protect the food products from physical ,chemical, biological damages.
- Without packaging, materials handling would be a messy, inefficient and costly exercise and modern consumer marketing would be virtually impossible.
- Packaging Institute International defined packaging as the enclosure of products, items or packages in a wrapped pouch, bag, box, cup, tray, can, tube, bottle or other container form to perform one or more of the following functions: containment, protection, preservation, communication, utility and performance. If the device or container performed one or more of these functions, it was considered a package.

NEED OF PACKAGING

- **CONTAINMENT:** protecting the environment from the myriad of products that are moved from one place to another.
- **PROTECTION:** to protect its contents from outside environmental influences such as water, water vapor, gases, odors, microorganisms, dust, shocks, vibrations and compressive forces.
- **CONVENIENCE:** Products designed to increase convenience include foods that are prepared and can be cooked or reheated in a very short time, preferably without removing them from their primary package.

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NEED OF PACKAGING

COMMUNICATION

Packaging contains a lot of information such name of its manufacturer, product name, terms and uses, date of manufacturing, best before. nutritional information thus helping the consumer to be more informed.

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TYPES OF PACKAGING

- **PRIMARY PACKAGING:** Primary package are those package which directly came into contact with food products. It provides first or initial layer of protection to the food products. Examples of primary packaging includes parchment paper, greaseproof paper, paperboard cartons, and plastic pouches.
- **SECONDARY PACKAGE:** Secondary package are those package which surrounds or contains the primary package. Ex. Corrugated case, Boxes
- **TERTIARY PACKAGE :** It contains number of secondary package together. Mainly used for bulk handling of food products.

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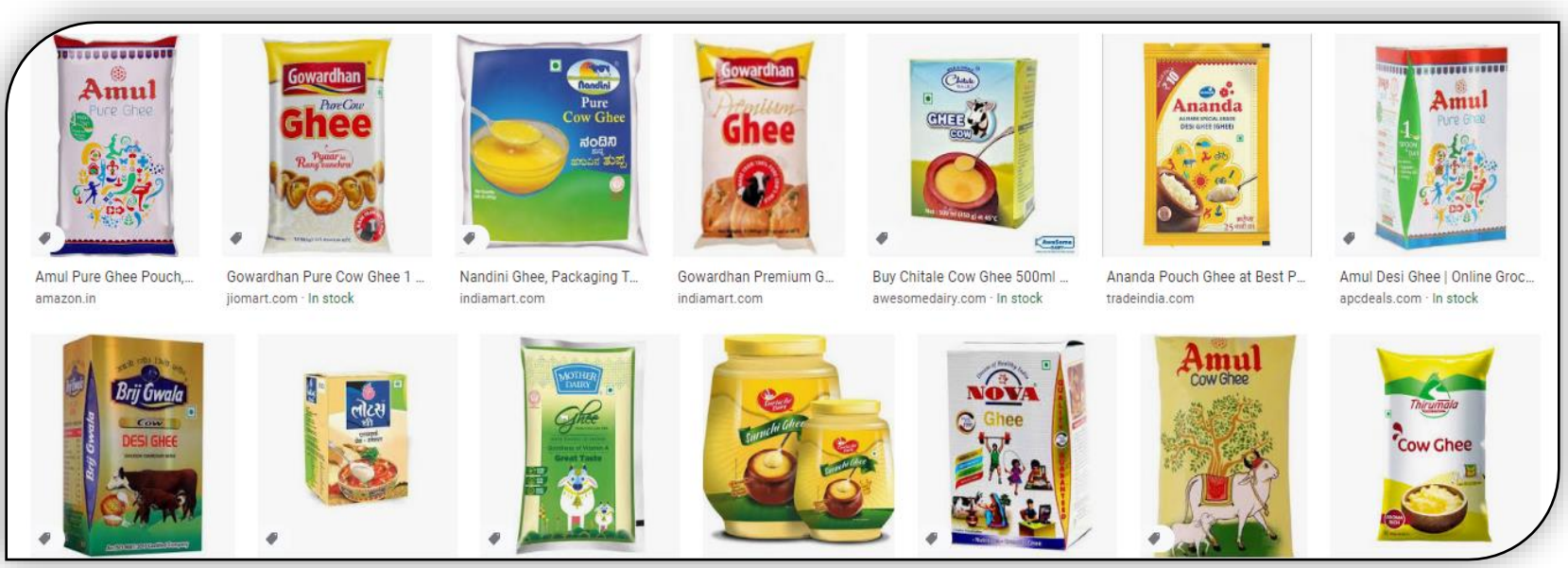
PACKAGING MATERIAL FOR GHEE

Packaging of ghee is mainly done to protect the ghee from outside environment especially air and sunlight, so that ghee can retain aroma, freshness for a longer period of time.



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PACKAGING MATERIAL FOR GHEE

Tin Cans

- used for bulk pack of 15 lit & 5 lit can.
- properly lacquered tin cans are must be use
- must be sealed properly to prevent oxidation in the product
- Higher cost is one of the drawback

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PACKAGING MATERIAL FOR GHEE

2. Glass Bottles / jars

- used for 100g to 500g. .
- provide excellent protection to the product
- not in much use because of their fragility and high weight.
- Higher cost is one of the drawback




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PACKAGING MATERIAL FOR GHEE

3. LINED CARTON OR CEKA PACK

- Used for 1 liter/500ml/200ml sizes
- Flexible pouch may be made from laminates or Aluminum along with box is widely used.
- Attractive and economical pack

PACKAGING MATERIAL FOR GHEE

4. HDPE

- Replacing tin plate containers
- Blow molded HDPE is available in the form of bottles (200, 400 g), jars (1kg and 2 kg.)
- provide a moderately long shelf life
- lightweight, economical and transport friendly.

PACKAGING MATERIAL FOR GHEE

5. PET or PVC

- ✓ Mostly used for ghee packaging because of excellent odor free and gas barrier properties.
- ✓ Blow molded bottles made up of PET or PVC is used
- ✓ Recyclable

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PACKAGING MATERIAL FOR GHEE

6. Flexible films/pouches/laminates

- ✓ made from laminates or multi layer films.
- ✓ may be in the form of pillow pouch or as self-standing pouches.
- ✓ cheapest than any other packaging system.
- ✓ selection of laminate or a multi layer film is governed primarily by the compatibility of the contact layer, heat-sealing ability and heat-seal strength and shelf life required.

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PACKAGING MACHINES

Jar Filling Machine

Vertical Form Fill Machine

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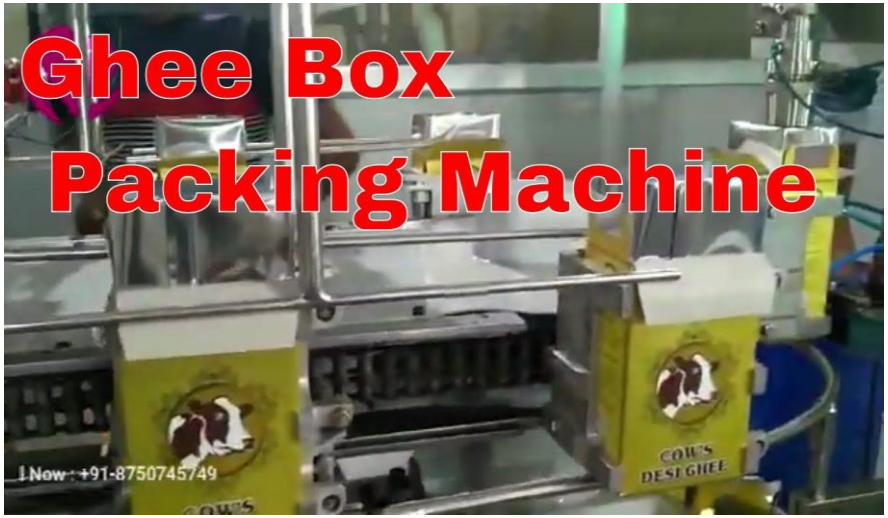
PACKAGING MACHINES (Tin filling)

Tin Can Filling Machine



Box Filling Machine

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SOME RECENT TRENDS IN PACKAGING

ASPECTIC PACKAGING

Aseptic packaging is the filling of sterile containers with a commercially sterile product under aseptic conditions, and then sealing the containers so that re-infection is prevented; that is, so that they are hermetically sealed.

- **Aseptic packaging are used for**
  - ✓ To take advantage of high temperature.
  - ✓ Increase shelf life of food products at normal temperature.
  - ✓ In package sterilization.

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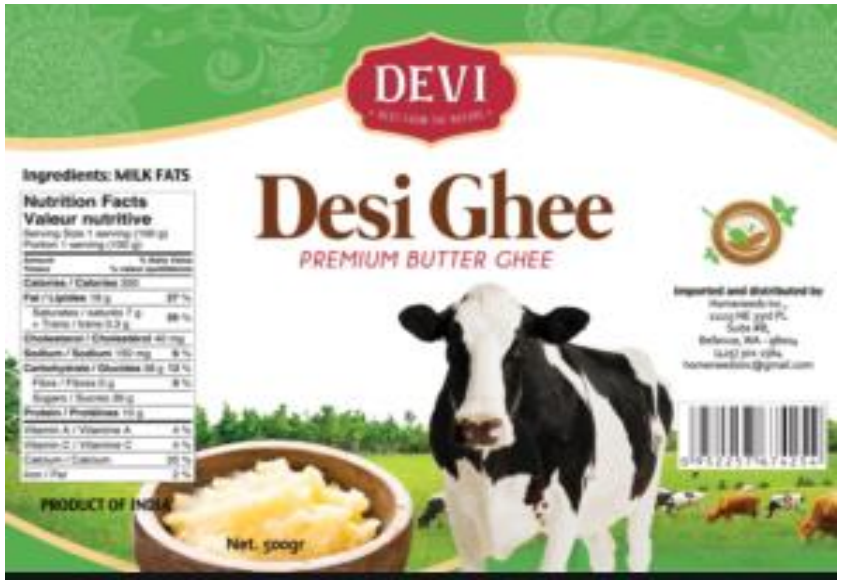
LABELING

Labeling is a means of performing the communication function of packaging, informing the consumer about nutritional content, net weight, product use and so on.

✓ Labeling acts as a silent salesman of a company

✓Shape and design of the container attracts the customers.



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PACKAGING & LABELING LAWS - FSSAI

General requirement for packaging

- A utensil or container made of the following materials or metals, when used in the preparation, packaging and storing of food shall be deemed to render it unfit for human consumption:—
- (a) containers which are rusty;
- (b) enameled containers which have become chipped and rusty;
- (c) copper or brass containers which are not properly tinned
- (d) containers made of aluminum not conforming in chemical composition to IS:20 specification for Cast Aluminum & Aluminum Alloy for utensils or IS:21 specification for Wrought Aluminum and Aluminum Alloy for utensils.

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PACKAGING & LABELING LAWS - FSSAI

Labeling should contain following information

- ✓ Name of the food product.
- ✓ List of ingredients,
- ✓ Nutritional information.
- ✓ Declaration of VEG and NON VEG., AGMARK, BIS
- ✓ Declaration of added food additives, Recycled, Promotions.
- ✓ Name and address of manufacturer.

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PACKAGING & LABELING LAWS - FSSAI

- ✓ Net quantity
- ✓ Code number
- ✓ Lot number/ Batch number.
- ✓ Date of manufacturing.
- ✓ Best before date
- ✓ Country of origin.
- ✓ Bar Code
- ✓ Brand Name etc

STORAGE OF GHEE

- Development of oxidized flavor is more pronounced at higher temperature of storage.
- Lower (refrigerated) temperature storage develops greasy and pasty texture to ghee.
- Ghee can be stored up to 12 months at 21°C which is a recommended temperature of storage.
- Ghee is more tend to oxidation induced changes during storage.

For More details Contact:

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