



# PACKAGING OF SOYA MILK



**AATMANIRBHAR BHARAT**

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



## PACKAGING

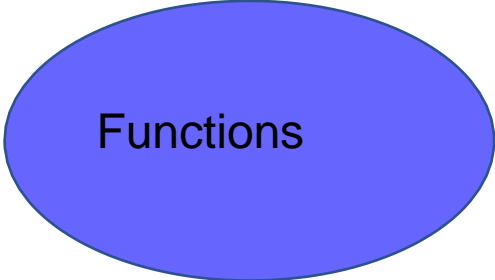
- “An industrial and marketing technique for containing, protecting, identifying and facilitating the sale and distribution of agricultural, industrial and consumer products”
- Contains and protects the food we purchase
- Forms the core of modern food industry
- “Unnecessary evil or an unnecessary cost”
- “Serious waste of resources and an environmental menace”



# FUNCTIONS OF PACKAGING MATERIALS

Containment

Protection



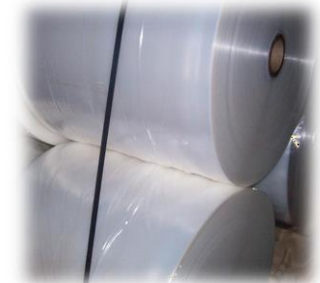
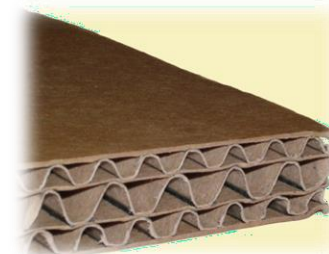
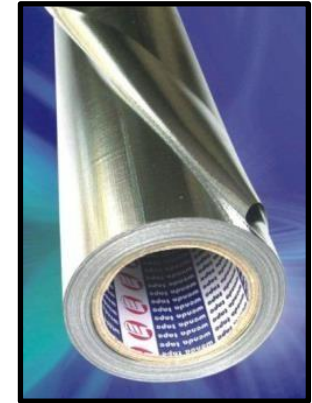
Convenience

Communication



## TYPES OF PACKAGING MATERIAL

- **Glass**
- **Metals**
- **Paper & paper-based**
- **Plastics**
- **Laminates**
- **Biopolymer-based**





# LEVELS OF PACKAGING

- **Primary packaging**



- **Secondary packaging**



- **Tertiary packaging**

- **Quaternary packaging**



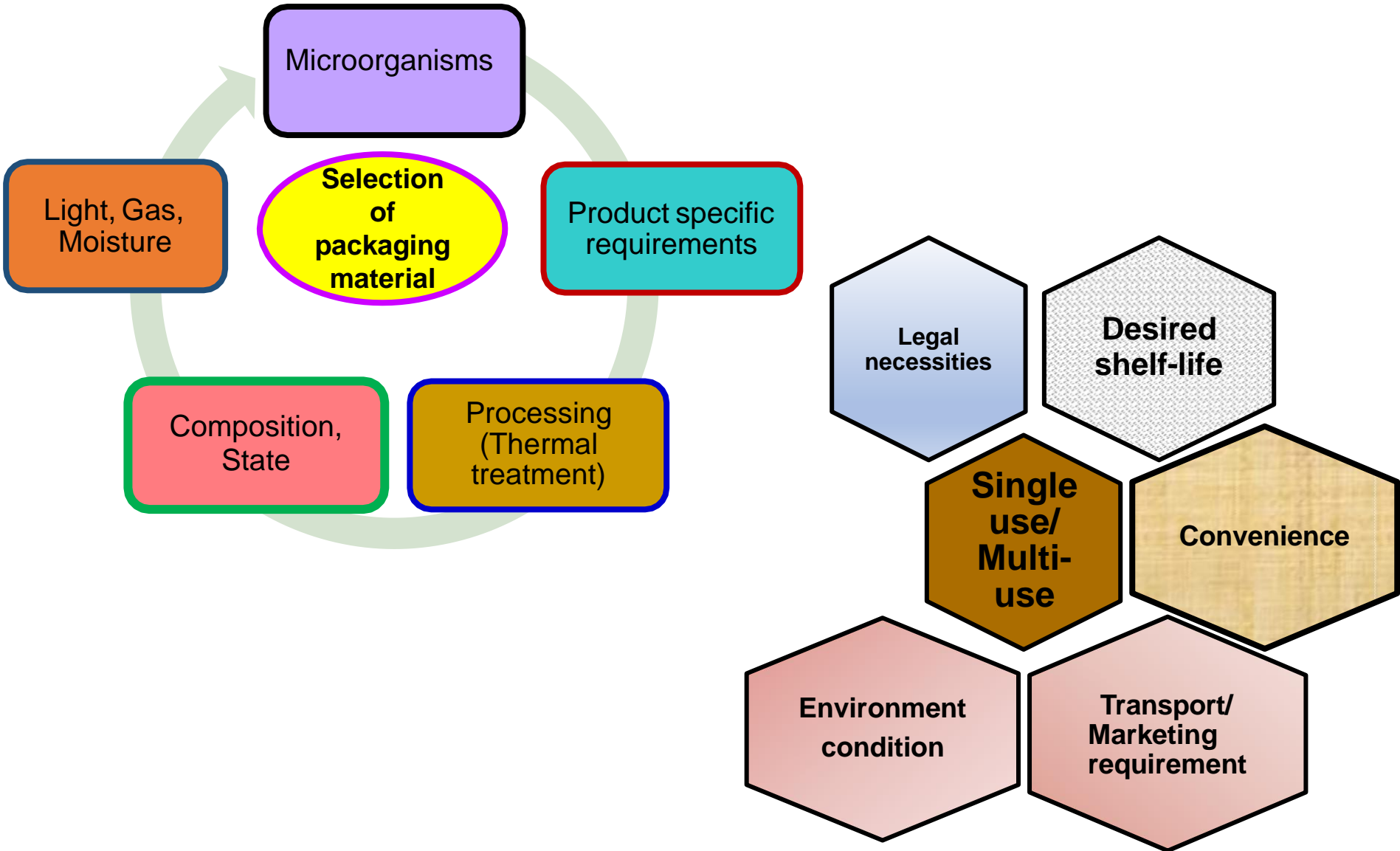


## STATUS OF PACKAGING MATERIAL

- \* Packaging- Third largest industry sector, next to food and petrochemical industries
- \* Top five industries in almost all countries with an annual growth rate of 3-5%
- \* Value of the packaging is forecasted to increase from US \$ 851 billion in 2017 to US \$ 980 billion in 2022 (Smithers Pira, 2018)
- \* Asia-Pacific region (China, India and Japan) is the biggest global market



# SELECT PACKAGING MATERIAL





# PACKAGING MATERIAL FOR DAIRY MILK

- Low OTR, WVTR and high light barrier properties
- Refillable glass bottles
- Paperboard cartons
- Plastic containers- HDPE milk bottles (Unpigmented or  $\text{TiO}_2$  pigmented (1.5%))
- Clear PET bottles, PET bottles with UV blockers, PET bottles with exterior labels
- Light blockers- Inhibit lipid oxidation and vitamin A degradation
- LDPE pouches (60 $\mu$ - 500 mL and 75 $\mu$ - 1 L)
- Multilayer HDPE with carbon black and  $\text{TiO}_2$ - Best overall protection
- Paperboard cartons- No light transmission- Less off-flavours
- Bactofugated pasteurized milk- PET bottles with UV blocker or LDPE coated paperboard cartons



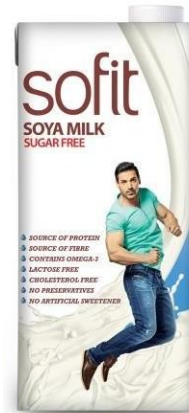
# PACKAGING MATERIALS FOR SOYA MILK



**LDPE Pouches**



**HDPE bottles**



**6-layered carton**



**Metal can**

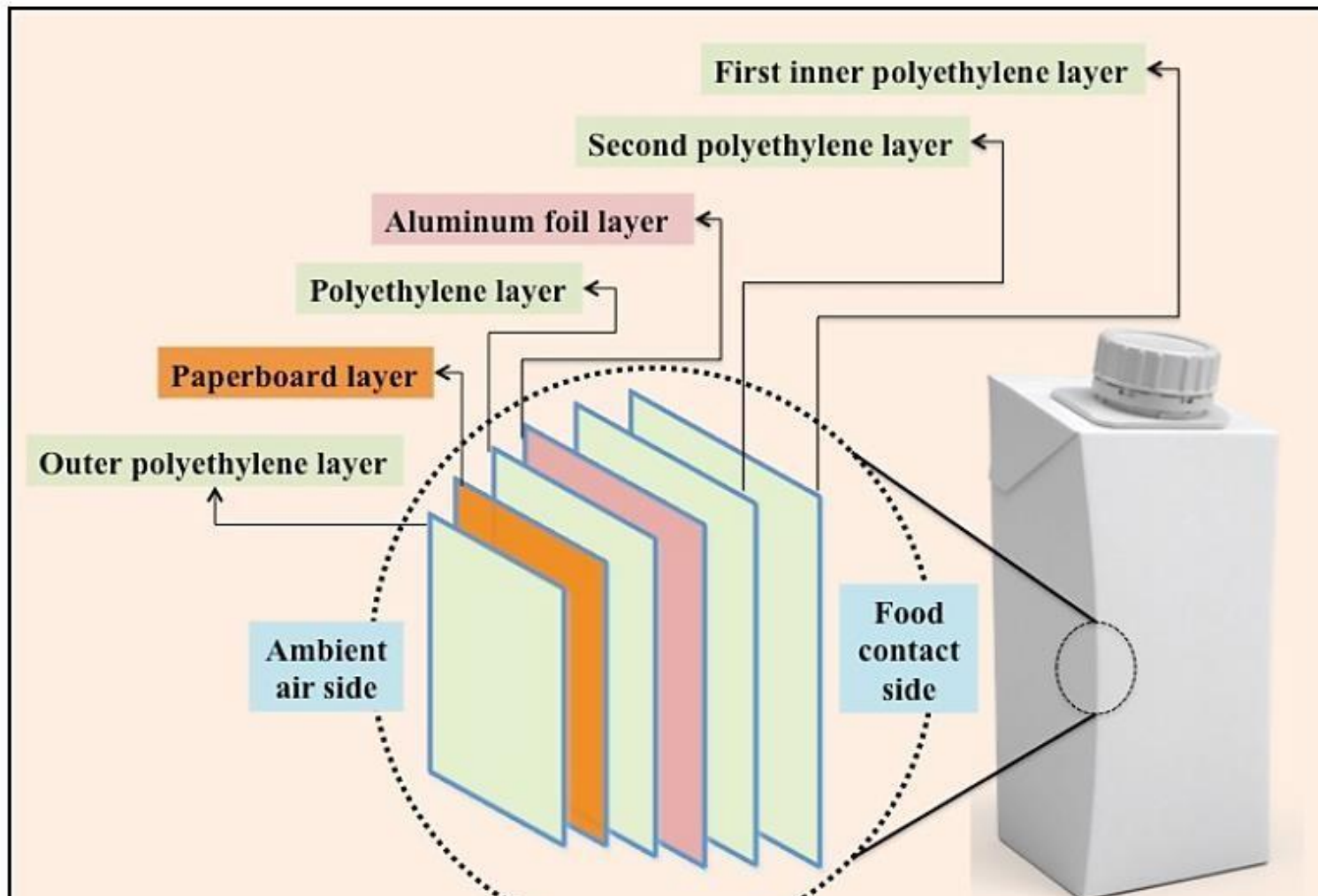


**Glass bottles**



**PET bottles with PP/HDPE lid**

# ASEPTIC PACKAGING SYSTEM





## 1. Utensil or container unfit for human consumption

- ✓ Rusty
- ✓ Chipped or rusted enameled containers
- ✓ Improperly tinned copper or brass container
  - Aluminum and its alloy shall confirm to IS:20 & IS:21

## 2. Plastic materials in contact with foodstuffs

- ✓ IS:10146 (PE)
- ✓ IS:10142 (PS)
- ✓ IS:10151 (PVC)
- ✓ IS:10910 (PP)
- ✓ IS:12252 (PET)
- ✓ IS:12247 (Nylon)
- ✓ IS:11434 (Ionomer resins)
- ✓ IS:11704 (EAA- Ethylene Acrylic Acid)
- ✓ IS:13601 (EVA)
- ✓ IS:13576 (EMAA- Ethylene Metha Acrylic Acid)
- ✓ Tin and plastic containers once used shall not be used for packing edible oils and fats



## GENERAL REQUIREMENTS

### 3. Canned products

- ✓ All containers shall be securely packed and sealed
- ✓ Exterior of the cans shall be free from major dents, rust, perforations and seam distortions
- ✓ Cans shall be free from leaks



## **LABELLING - GENERAL REQUIREMENTS**

1. Every pre-packaged food shall carry a label containing information
  - ✓ Particulars of declaration required shall be in English or Hindi or Devanagari script & nothing prevent the use of other language in addition
  - ✓ Pre-packaged food shall not be described or presented on any food label or in any labelling manner that is false, misleading or deceptive
  - ✓ Label is pre-packaged foods shall be applied in such a manner that they will not become separated from the container
  - ✓ Contents on the label shall be clear, prominent, indelible and readily legible by the consumer
  - ✓ Where the container is covered by a wrapper, the wrapper shall carry the necessary information or the label on the container



## **LABELLING - GENERAL REQUIREMENTS**

- Labelling of pre-packaged foods
- Nutritional information
- Declaration regarding Veg or Non-veg
- Declaration regarding food additives
- Name and complete address of the manufacturer
- Net quantity
- Lot / Code / Batch information
- Date of manufacturing or packing
- Best Before and Use By Date
- Country of origin for imported food
- Instructions for use



## LABELLING- GENERAL REQUIREMENTS

- Name of the food shall include trade name or description of food contained
- List of Ingredients: **Except for single ingredient foods**, a list of ingredients shall be declared on the label in the following manner :
- List of ingredients shall contain an appropriate title, such as the term “Ingredients”
- Name of ingredients used- Listed in descending order of their composition by weight or volume, as the case may be, at the time of its manufacture
- A specific name shall be used for ingredients in the list of ingredients

Classes	Class Titles
Cheese or mixture of cheeses constitutes an ingredient of another food and provided that the labelling and presentation of such food does not refer to a specific type of cheese	Cheese
All types of Caseinates	Caseinates



## **LABELLING OF PRE-PACKAGED FOOD PRODUCTS**

- Compound ingredients- Ingredient itself is product of two or more ingredients- Shall be declared in the list of ingredients, and accompanied by a list in brackets of its ingredients in descending order of weight or volume
- Compound ingredient constituting less than 5% of the food- List of ingredients of the compound ingredient, other than food additive, need not to be declared
- Added water shall be declared in the list of ingredients except in cases where water forms part of an ingredient, such as, brine, syrup or broth, used in the compound food





- Water or volatile ingredients evaporated during manufacture need not to be declared
- Bottle containing liquid milk or liquid beverage having milk as an ingredient, soft drink, carbonated water or ready-to-serve fruit beverages- Declarations with regard to addition of fruit pulp and fruit juice shall invariably appear on the body of the bottle
- Returnable new glass bottle used for packing beverages on or after 19<sup>th</sup> March, 2009- List of ingredient and nutritional information shall be given



## NUTRITIONAL INFORMATION

- Nutritional Information or nutritional facts per 100 gm or 100ml or per serving
  - Energy value in kcal
  - Protein, carbohydrate (specify quantity of sugar) and fat in gram (g) or ml
  - Any other nutrient for which a nutrition or health claim is made
- Numerical information on vitamins and minerals- Expressed in metric units
- Nutrition declaration per serving- Amount in g or mL shall be included for serving measure

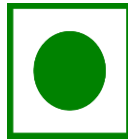


## NUTRITIONAL INFORMATION

- Food claimed to be enriched with nutrients, such as, minerals, proteins, vitamins, metals, amino acids or enzymes shall give the quantities of such nutrients on the label
- Claim is made regarding the amount or type of fatty acids or cholesterol
  - Saturated fatty acids, MUFAs and PUFAs, trans fatty acid in (g)
  - Cholesterol in (mg) shall be declared
- Hydrogenated vegetable fats or bakery shortening used- Contains trans fats
- Health claim of 'trans fat free'- NMT 0.2 gm per serving of food
- Saturated fat free health claims- NMT 0.1 gm per 100 gm or 100 ml of food

## VEG OR NON-VEG DECLARATION

- Vegetarian and non-vegetarian food shall bear a declaration by a symbol and color code
- Square with **brown/green outline** having sides double the diameter of the circle (in Table)



Veg Symbol



Non - Veg Symbol

Area of principal display panel	Minimum size of diameters in mm
Upto 100 cms. Square.	3
Above 100 cms. square upto 500 cms square.	4
Above 500 cms square upto 2500 cms square.	6
Above 2500 cms. Square.	8



## VEG OR NON-VEG DECLARATION

- Article of food contains egg only as non-Vegetarian ingredient, the manufacturer, or packer or seller may give declaration to this effect in addition to symbol
- Symbol shall be prominently displayed
  - ✓ on the package having contrast background on principal display panel
  - ✓ just close in proximity to the name or brand name of the product
  - ✓ on the labels, containers, pamphlets, leaflets, advertisements in any media
- Not applicable to mineral water or packaged drinking water or carbonated water or alcoholic drinks, or liquid milk and milk powders



## FOOD ADDITIVES

- Class titles with specific names or recognized international numerical identifications (INS no.)

### **Ingredients**

- Acidity Regulator, Acids, Anticaking Agent, Antifoaming Agent, Antioxidant, Bulking Agent, Color, Color Retention Agent, Emulsifier, Emulsifying Salt, Firming Agent, Flour Treatment Agent, Flavour Enhancer, Foaming Agent, Gelling Agent, Glazing Agent, Humectant, Preservative, Propellant, Raising Agent, Stabilizer, Sweetener, Thickener
- Extraneous addition of coloring matter- Capital letters- Just beneath the list of



## NAME AND ADDRESS OF MANUFACTURER

- Name and complete address of the manufacturer and manufacturing unit if these are located at different places
- When manufacturer is not the packer/bottler- Name and complete address of the packing unit
- Where an article of food is manufactured or packed or bottled by a person or a company under the written authority of some other manufacturer or company, under his or its brand name, the label shall carry the name and complete address of the manufacturing or packing or bottling unit as the case may be, and also the name and complete address of the manufacturer or the company, for and on whose behalf it is manufactured or packed or bottled



## NAME AND ADDRESS OF MANUFACTURER

- Food imported into India shall carry the name and complete address of the importer
- Food article manufactured outside India if packed or bottled in India, shall bear on label:
  - Name of the country of origin
  - Name and complete address of the importer
  - Premises of packing or bottling in India





## NET QUANTITY

- Net quantity by weight or volume or number- Weight of wrappers and packaging materials shall be excluded
- Liquid medium food- Net weight and drained weight
- “Liquid medium” include water, aqueous solutions of sugar and salt, fruit and vegetable juices or vinegar, either singly or in combination
- Where a package contains a large number of small items of confectionery, each of which is separately wrapped and it is not reasonably practicable to exclude from the net weight of the commodity, the weight of such immediate wrappers of all the items of the confectionery contained in the package.



## Lot/Code or Batch Number

- Batch or code or lot number- Mark of identification by which the food can be traced in the manufacture and identified in the distribution
- Packages containing bread and milk including sterilized milk exempted

## Date of manufacturing

- Date, month and year in which the commodity is manufactured, packed or pre-packed, shall be given on the label
- Month and year of manufacture- “Best Before Date” of the products is more than 3 months
- Date, month and year- Shelf life of less than 3 months



## BEST BEFORE AND USE BY DATE

- Month and year in capital letters up to which the product is best for consumption
- Package or bottle containing sterilized or ultra high temperature treated milk, soya milk, flavored milk, bread, dhokla, bhelpuri, pizza, doughnuts, khoa, paneer, or any uncanned package of fruits, vegetable, meat, fish or any other like commodity
- Declaration of best before date for consumption shall not be applicable to
  - ✓ wines and liquors
  - ✓ alcoholic beverages containing 10 percent or more by volume of alcohol
- Infant milk substitute and infant foods instead of Best Before date, Use by date/ recommended last consumption date/expiry date.



## COUNTRY OF ORIGIN

- Country of origin of the food shall be declared on the label of food imported into India
- When a food undergoes processing in a *second country* which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling

## INSTRUCTIONS FOR USE

- Instruction for use including reconstitution, where applicable, shall be included on the label, if necessary, to ensure correct utilization of the food
- Size of letters for instructions of use shall not be less than 3 mm



## GENERAL CONDITIONS

- Every declaration on the package shall have
  - ❖ Legible and prominent, definite, plain and unambiguous declaration
  - ❖ Conspicuous as to size and number
  - ❖ Contrasting color
  - ❖ No false or misleading statement or information- Not applicable to established trade or fancy names of confectionery, biscuits or sweets such as Bull's eye, cream cracker or aerated waters such as Ginger Beer or Gold-Spot or any other brand
- No declaration shall be made to read through any liquid commodity contained in package
- Package with an outside container or wrapper- Container or wrapper shall contain all the declarations except where such container or wrapper itself is transparent



## BIS SPECIFICATIONS FOR SOYA MILK

- BIS doesn't specify any specifications for soya milk

## CODEX STANDARDS FOR SOYA MILK

- The term 'soybean milk' is also inconsistent with the use of terminology in the Codex General Standard for Food Additives, CODEX STAN 192, (GSFA), section 06.8.1 which uses the term 'Soybean-based beverages' and does not use the term 'Soybean milk'. Furthermore, the GSFA 06.8.1 acknowledges that in a number of countries the category 'Soybean-based beverage' includes products referred to as 'soybean milk' but does not use this terminology in the Codex standard. This approach is consistent with the spirit of the GSUDT (General Standards for the Use of Dairy Term) and is prudent.



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