

Industrial Manufacturing Process for Flavored Milk



AGENDA

1

Introduction

2

Purpose

3

Types of Milk

4

Process of Manufacturing

5

Quality Control

1. Introduction

- Flavor milk refers to nutrient rich beverage in which some flavors have been added.
- It is a ready to drink product which is produced from skim milk, added sugar and natural flavors (e.g. banana, pineapple, orange, chocolate etc.).
- When the term “milk” is used, the product should contain a milk fat percentage at least equal to the minimum legal requirement for market milk.
- When the fat percentage is lower than 1-2% , the term “drink” is used



2. Purpose

- To make milk more palatable to those who do not relish it as such
- To stimulate the sale of milk
- To put skim milk to profitable use.



3. Types of Milk

There are basically two categories of flavored milk available in market:

1. Chocolate Flavour

The ingredients used for chocolate milk are

1. **Cocoa Powder:** 1 -1.5 %
2. **Sugar:** 5 -7 %
3. **Stabilizer :** 0.2 %

Sodium Alginate is used as Stabilizer in this.

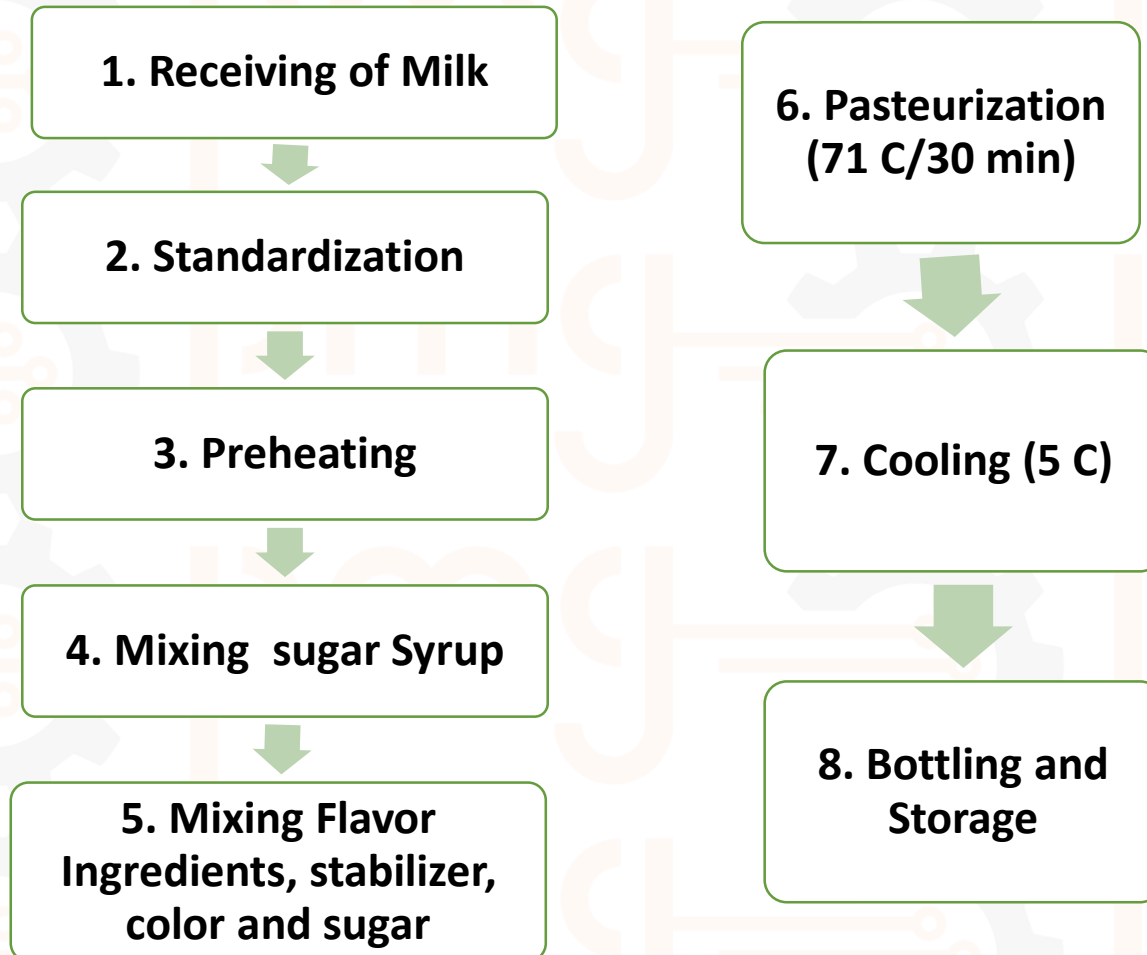


2. Fruit Flavoured Milk:

- Permitted fruit flavours/essences, together with permitted matching colours and sugars are used.
- The common flavours used are strawberry, mango, vanilla, banana etc.



4. Process for Manufacturing



5. Quality Control

5.1 Hygiene and Raw Material Control

The main hygienic requirements for preventing spoilage and transfer of pathogenic bacteria to consumers are:

- 1) thoroughly clean and sterilize (with chlorine solution or boiling water) all equipment and utensils before and after
- 2) strict enforcement of personal hygiene measures,
- 3) filter milk after milking to remove visible dirt and any 'ropiness',
- 4) cool milk immediately to control further growth of micro-organisms and enzyme activity.

5. Quality Control

5.2 Process Control

- The main control points are the temperature and time involved in heating and cooling the milk.
- Overheating and slow cooling causes changes to flavor, color and nutritional value;
- Underheating may result in inadequate destruction of enzymes and micro-organisms leading to a reduced shelf life and the risk of food poisoning.



5. Quality Control

5.3 Packaging and Storage

- During packaging the most important quality control check is to ensure that filling equipment, bottles and caps are thoroughly cleaned and sterilized for preventing recontamination of the heat-treated milk.
- It becomes more important if the bottles are reused.
- Bottle fill weights should be accurately controlled, and storage temperatures should be controlled below 10° C.



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