



Butter oil manufacturing

Agenda

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What is Butter Oil ?

2.

Regulations and Standards

3.

General Characteristics

4.

Principles of Production

5.

Butteroil Vs Ghee

6.

Conclusion

1. What is Butter Oil?

- Butter oil is basically clarified milk fat.
- It is also known as Anhydrous milk fat.
- They have ancient traditional roots in many cultures.
- A good quality Butter oil is grater than or equal to 99.3% milk fat.
- A good quality butter oil is identified by it's rich golden yellow colour



2. Regulations and Standards (Codex Standards)

- Butteroil are fatty products derived exclusively from milk and/or products obtained from milk by means of processes which result in almost total removal of water and non-fat solids.
- Anhydrous butteroil must contain at least 99.8 % milk fat but can be made from cream or butter of different ages. Use of alkali to neutralize free fatty acids is permitted.
- Butteroil must contain 99.3 % milkfat. Raw material and processing specifications are the same as for anhydrous butteroil.



3. General Characteristics.

- Fat should be pure.
- Stable against oxidation
- Moisture content should not exceed 0.1%.
- Product should have deep yellow colour if it is from cow milk fat and white with green tinge from buffalo milk fat
- It should have characteristic bland smell.
- It should have fine crystalline texture.
- The packaging material should be clean, odourless and flavorless.



4. Principles Of Production.

- There are two methods of production :
 1. Direct from cream (milk)
 2. From Reworked butter.

4.1. Production of butteroil from cream

- Raw cream(35 – 40% fat) is pasteurized and is passed through cream separator to achieve a fat percent level of around 75%.
- Cream is then fed to homogenizer for phase inversion (breaks the fat globules to release the fat).
- After phase inversion product again pass-through centrifugal concentrator where the cream fat level is rise to 99.5%.



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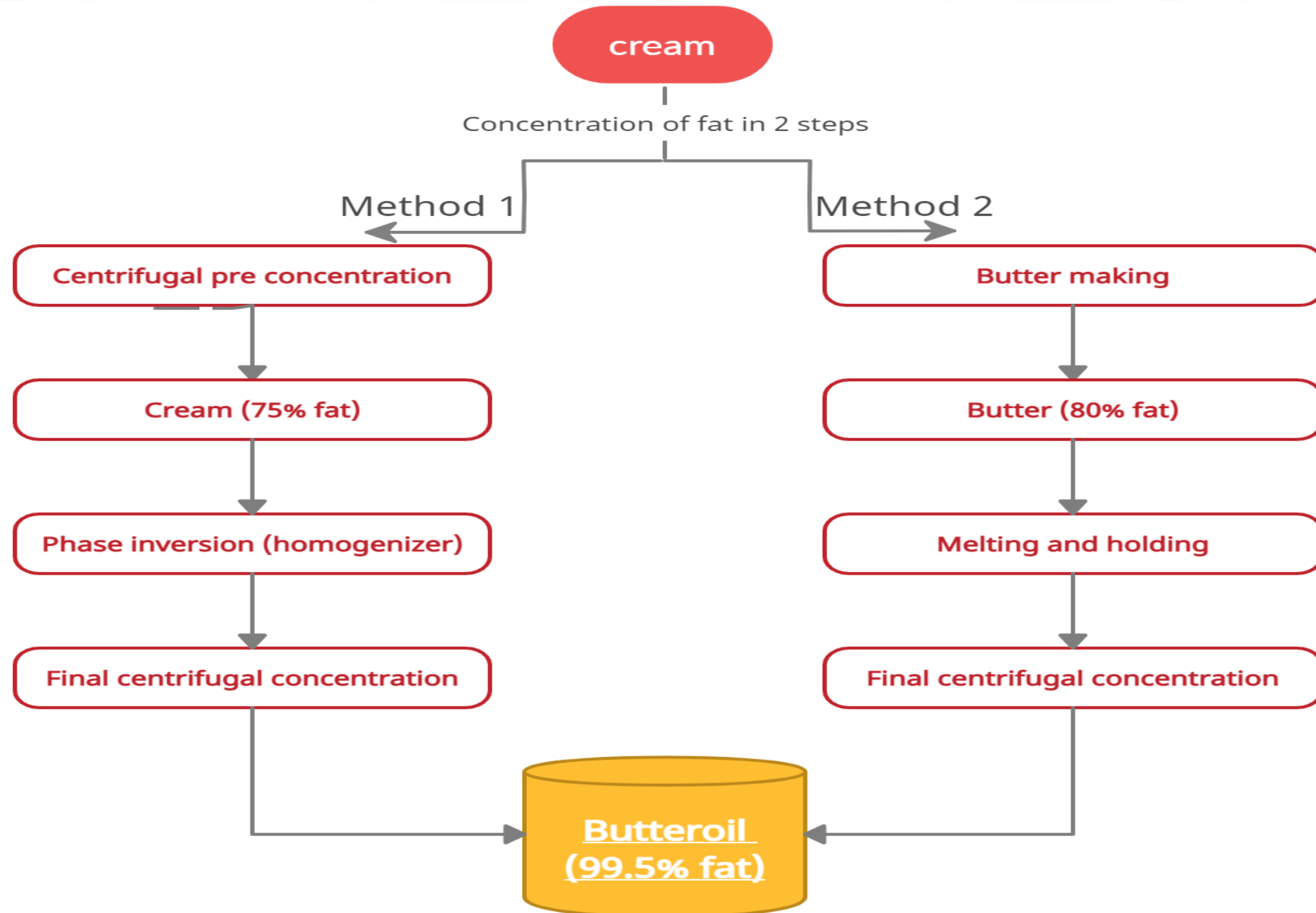


- Heating is to be done at 95 to 98°C in a plate heat exchanger.
- The moisture content is reduced to 0.1% in vacuum chamber followed cooling to ambient temperature through PHE.

4.2 Production of Butteroil from Butter

- Butter is transferred to butter melting vat, where it is heated to 60°C to 80°C.
- Transferred to holding tank, where it is hold for 20- 30 min to facilitate protein aggregation.
- Then butter melt is transferred to centrifugal concentrator, where light phase is concentrated to 99.5% fat.
- Concentrated light phase is then pumped through plate heat exchanger (PHE) where it is heated to 90-95°C.
- Then to vacuum chamber for final moisture adjustment then back to PHE for cooling to 35 – 40°C for packing.

5. Process Flow chart.





4.3. Packing and storage of butter oil

- Butteroil is filled in containers of various sizes.
- Filling should be done up to the brim in the container in such a manner as to exclude maximum oxygen.
- For households and restaurants containers of 1 kg to 20 kg are available.
- For industrial uses drums of minimum 180kg are also available.
- An inert gas, nitrogen, is used for packing to prevent oxidation

6. Butter Oil and Ghee.

Ghee is traditional Indian Product.

Ghee is used in cooking and other dietary purposes.

Traditional Ghee has got rich flavour and aroma of diacetyl.

Butteroil is a western name for ghee.

The purpose of butter oil was storage.

It is often used for recombination of milk.

It has a bland flavour and no aroma.

7. Conclusion.

- Butter oil is essentially a milk fat saturated dairy product.
- It is used as a technique for the preservation of excess milk, and it is used as edible oil.
- It is rich in vitamin K2 and other antioxidants.
- The operation flood program of India was started with the recombination of butter oil and of skimmed milk powder over a projected period which was gifted by the European Economic Committee



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