

BHUTAN MANDATORY STANDARD FOR MILK

1. PREAMBLE

This Standard is issued pursuant to the Food Rules and Regulations of Bhutan 2017.

2. SCOPE

This Standard applies to Milk of Cows/Buffaloe. Milk includes products such as pasteurized milk, recombined milk, reconstituted milk, Skimmed milk, standardized milk, ultra high temperature (UHT) milk.

3. DEFINITION:

Boiled Milk means milk which has been brought to boil.

Double toned Milk means the product prepared by admixture of cow or buffalo milk or both with fresh skimmed milk, or by admixture of cow or buffalo milk or both that has been standardized to fat and solids-not-fat percentage given below by adjustment of milk solids. It shall be pasteurized and shall show a negative Phosphatase Test. When fat or dry non-fat milk solids are used, it shall be ensured that the product remains homogeneous and no deposition of solids takes place on standing.

Flavoured Milk, by whatever name called, may contain nuts (whole, fragmented or ground) chocolate, coffee or any other edible flavour, edible food colours and cane sugar, artificial sweeteners. Flavoured milk shall be pasteurized, sterilized or boiled. The type of milk shall be mentioned on the label.

Full Cream Milk means milk or a combination of buffalo or cow milk or a product prepared by combination of both that has been standardized to fat and solids-not-fat percentage, given below, by adjustment/addition of milk solids, Full Cream Milk shall be pasteurized. It shall show a negative phosphates test. It shall be packed in clean, sound and sanitary containers properly sealed so as to prevent contamination.

Milk means the mammary secretion of cows and buffaloe obtained from one or more milkings for consumption as liquid milk or for further processing, without either addition to it or extraction from it (unless otherwise provided in the regulation) but excluding colostrums;Milk of different classes and of different designations shall conform to the standards laid down below

Mixed Milk means a combination of milk of cow, buffalo, sheep, goat or any other milch animal and maybe a combination of any of this milk which has been made and conforms to the standards given below.

Pasteurization, Pasteurized and similar terms shall be taken to refer to the process of heating every particle of milk of different classes to at least 63.0 C and holding at such temperature continuously for at least 30 minutes or heating it to at least 71.5 degree C and holding at such temperature continuously for at least 15 seconds or an approved temperature time combination that will serve to give a negative Phosphatase Test. All pasteurized milk of different classes shall be cooled immediately to a temperature of 100 degree C, or less

Recombined Milk means the homogenized product prepared from milk fat, non-fat-milk solids and water. Recombined milk shall be pasteurized and shall show a negative Phosphatase test.

Reconstituted milk means milk reconstituted by combining dry whole milk solids with appropriate amount of potable water.

Skimmed Milk means the product prepared from milk from which almost all the milk fat has been removed mechanically.

The term “**sterilization**” when used in association with milk, means heating milk in sealed container continuously to a temperature of either 115.0 C for 15 minutes or at least 130.0 C for a period of one second or more in a continuous flow and then packed under aseptic condition in hermetically sealed containers to ensure preservation at room temperature for a period not less than 15 days from the date of manufacture;

Standardized Milk means cow milk or buffalo milk or sheep milk or goat milk or a combination of any of this milk that has been standardized to fat and solids-not-fat percentage given below by the adjustment of milk solids. Standardized milk shall be pasteurized and shall show a negative Phosphatase Test.

Toned Milk means the product prepared by admixture of cow or buffalo milk or both with fresh skimmed milk; or by admixture of cow or buffalo milk or both that has been standardized to fat and solids-not-fat percentage given below in by adjustment of milk solids. It shall be pasteurized and shall show a negative Phosphatase Test. When fat or dry non-fat-milk solids are used, it shall be ensured that the product remains homogeneous and no deposition of solids takes place on standing.

Ultra High Temperature (UHT) means heating the milk using commercially sterile equipment and filling it under aseptic conditions into hermetically sealed packaging. The product is termed "shelf stable" and does not need refrigeration until opened.

4. DESCRIPTION

Descriptions of milk of each category of the product are as per the definition

.5. ESSENTIAL COMPOSITION AND QUALITY FACTORS

In general the organoleptic properties of the milk shall be normal appearance, taste and smell.

Buffaloe milk, raw, pasteurized, boiled, flavoured, sterilized: Minimum percent of milk fat shall be 5.0 and milk solids not fat shall be 9.0.

Cow milk, raw, pasteurized, boiled, flavoured, and sterilized: Minimum percent of milk fat not less than 3.0 and milk solids not fat shall be 8.5.

Mixed milk, raw, pasteurized, boiled, flavoured, and sterilized: Minimum percent of milk fat shall be 4.5 and milk solids not fat shall be 8.5

Standardized milk, pasteurized, flavoured, sterilized: Minimum percent of milk fat shall be 4.5 and milk solids not fat shall be 8.5

Recombined milk, pasteurized, flavoured, sterilized: Minimum percent of milk fat shall be 3.0 and milk solids not fat shall be 8.5

Toned milk, pasteurized, flavoured, sterilized: Minimum percent of milk fat shall be 3.0 and milk solids not fat shall be 8.5

Double toned milk, pasteurized, flavoured, sterilized: Minimum percent of milk fat shall be 1.5 and milk solids not fat shall be 9.0

Skimmed milk, raw, pasteurized, boiled, flavoured, and sterilized: Minimum percent of milk fat shall be not more than 0.5 and milk solids not fat shall be 8.7

Full cream: pasteurized and sterilized Minimum percent of milk fat shall be not more than 6.0 and milk solids not fat shall be 9.0

Note: In case of all the above standards when milk is offered for sale without indication of the class, the standards prescribed for buffalo milk shall apply.

(ii) The heat treatment for the various designated milk shall be as follows:

<i>Designation</i>	<i>Heat treatment</i>
Raw	Nil
Pasteurized	Pasteurization
Boiled	Boiling
Flavoured	Pasteurization or sterilization
Sterilized	Sterilization
UHT	Heating at high temperature, sterilization

Should be free from adulterants such as added water, skimmed milk, sugar, starch, whey, sodium bicarbonate, formalin, preservatives, added solids, added antibiotics, melamine

Total urea content in the milk shall not be more than 700 ppm

6. FOOD ADDITIVES

Food additives should be as per Bhutan Mandatory Standard for Food Additives.

7. MICROBIOLOGICAL REQUIREMENTS

The microbial load of milk should be as low as achievable, using good milk production practices, taking into account the technological requirements for subsequent processing.

8. CONTAMINANTS

The products covered by Technical Regulation shall comply with the residue limits for Bhutan Mandatory Standard for Mycotoxins, Bhutan Mandatory Standard for Veterinary Drug Residues and Bhutan Mandatory Standard for Pesticides Residues.

9. HYGIENE

The production, processing and handling of milk shall follow the Hygiene Practice established for Code of Hygiene Practice for Milk and Milk Products (CAC/RCP 57-2004)

10. PACKAGING

The milk shall be packed in appropriate containers aluminium or stainless steel containers, food grade plastic pouches, glass containers.

11. LABELLING

The labeling provisions of the Bhutan standard for labeling shall apply. The names covered in the definition of this Technical Regulation e.g. Double Toned Milk etc shall be declared in the label.

12. STORAGE

Milk shall be stored under appropriate storage conditions depending on the local temperatures.