

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية
GCC STANDARDIZATION ORGANIZATION (GSO)

مشروع تحديث لائحة نهائي

GSO 984/1998

Prepared by GSO Technical Sub-Committee No. TC05/SC2

الحليب المبستر
PASTEURIZED MILK

PASTEURIZED MILK

Date of GSO Board of Directors' Approval : 1419H-05-24 (1998-09-15)
Issuing Status : Technical Regulation

PASTEURIZED MILK

1- SCOPE AND FIELD OF APPLICATION

This standard is concerned with pasteurized (Cow – Camel – Goat) milk and standardized pasteurized milk.

2- COMPLEMENTARY REFERENCES

- 2.1 GSO 9 “Labelling and prepackaged Foods”.
- 2.2 GSO 10 “Dried Milk”.
- 2.3 GSO 21 “Hygienic Regulations for Food plants and their personnel”.
- 2.4 GSO 174 “Raw Milk”.
- 2.5 GSO 569 “Sampling of Milk and Milk products”.
- 2.6 GSO 570 “Methods of physical and Chemical Analysis of Milk”.
- 2.7 GSO 571 “Methods of Microbiological Examination of Milk”.
- 2.8 GSO 383 "Maximum Limits for Pesticide Residues in Agricultural and Food Products ".
- 2.9
- 2.10 GSO 839 " Package of Food Products - Part 1. General Requirements".
- 2.11 GSO 1102 " Milk paperboard Containers ".
- 2.12 GSO 323 "General Requirements for Transportation and Storage of Chilled and Frozen Foods".
- 2.13
- 2.14 GSO 985"Sterilized Milk".
- 2.15 GSO841 "Maximum Limits for Afla Toxins Residues Permitted in Agriculture and Food Products".
- 2.16 GSO 1863 " Package of Food Products- Part 2: Plastic Containers".
- 2.17 GSO 988 "Limits of Radiation Levels Allowed in Food Products – Part 1".
- 2.18 GSO 998 "Detection Methods of Limits of Radiation Levels in Foodstuffs – Part 1".
- 2.19 GSO 1016 "Microbiological Limits of Food Articles and Foodstuffs – Part 1".
- 2.20 GSO Standard to be approved by the organization on "Hygienic Regulations for Production and Processing of Milk".

- 2.21 GSO Standard to be approved by the organization on "Glass Containers".
- 2.22 GSO Standard to be approved by the organization on "Methods for the determination of Pesticide Residues in Agricultural and Food Products".
- 2.23 GSO Standard to be approved by the organization on "Maximum Limits for Hormones and Antibiotics Residues in Food Products".
- 2.24 GSO Standard to be approved by the organization on "Methods for the Determination of Hormones and Antibiotics Residues in Food Products".

3- DEFINITIONS

3.1 **Pasteurized Milk**

Homogenized raw or dried milk after being reconstituted and homogenized, and which all its ingredients have been exposed to a pasteurization by heating to between 63⁰C 66⁰C to 30 min. or 72⁰C - 74⁰C to 15 sec., then immediately cooled to a temperature not less than 4⁰C and not more than 8⁰C to ensure extermination of all pathogenic organisms including mycobacterium tuberculosis.

3.2 **Standardized pasteurized milk**

Raw or dried milk after being reconstituted and homogenized, in which fat content is standardized by adding skimmilk, concentrated milk, or dried milk or by partial removal of fat by mechanical ways then exposed to pasteurization as in item 3/1.

3.3 **Pasteurized**

It is heating the milk to certain temperature for Limited time, then immediately cooled to a temperature not less than 4⁰C and not more than to ensure extermination of all pathogenic organisms including microbacterium tuberculosis and to ensure that pasteurized make less change in chemical, physical & organoleptic properties.

3.4 Homogenization

The breaking up of fat globules in milk, by a homogenizer to smaller globules the average diameter of globules is from 2-6 micrometer to increase the degree of emulsification to prevent fat from rising to the surface to form cream layer.

4- REQUIREMENTS

The following shall be met in pasteurized milk:

- 4.1 It shall be produced from raw milk complying with the GSO standard on raw milk or produced by reconstituting dried milk complying with GSO standard No. 10 "Dried Milk".
- 4.2 The hygienic requirements and rules mentioned in the GS.No. 21 "hygienic Regulations for Food plants and their personnel", shall be observed during its production.
- 4.3 It shall be clean, natural in colour, taste, consistency odour and shall be free from impurities.
- 4.4 It shall be free from impurities, antibiotics, vitamins, hormones, pesticides and any food additives.
- 4.5 It shall not curdle by boiling or by alcohol.
- 4.6 It shall give a negative result in phosphates test.
- 4.7 The total acidity calculated as lactic acid shall not exceed 0.18%.
- 4.8 The content of milk fat and solid not fat materials in the types of pasteurized cow milk shall be as shown in the following table:

| Source of milk | Milk Type | Fat | Milk solids not fat |
|----------------|----------------------------|--------------|---------------------|
| Cow | Whole fat pasteurized milk | 3 % (min.) | 8.5 % (min.) |
| | Low fat pasteurized milk | 1-2 % (min) | 8.5 % (min.) |
| | Skimmed pasteurized milk | 0.5 % (Max.) | 8.5 % (min.) |
| Camel | Whole fat pasteurized milk | 2.5 % (min.) | 8 % (min.) |
| | Low fat pasteurized milk | 1-2 % (min) | 8 % (min.) |
| | Skimmed pasteurized milk | 0.5 % (Max.) | 8 % (min.) |
| Goat | Whole fat pasteurized milk | 3 % (min.) | 8.5 % (min.) |
| | Low fat pasteurized milk | 1-2 % (min) | 8.5 % (min.) |
| | Skimmed pasteurized milk | 0.5 % (Max.) | 8.5 % (min.) |

- 4.9 The reduction time for the colour of methylene blue solution added to milk after incubation for 16 hours at temperature of 22°C. Shall not be less than half an hour.

- 4.10 Without prejudice to the provisions GS No. 1016 “Microbiological criteria for foodstuffs – Part I” the criteria the microbiological shall be as following:
- 4.10.1 The coliform bacteria count shall not exceed 10 cell / ml.
- 4.10.2 The total count of bacteria at direct consumption shall not exceed 100,000 cell/ ml for pasteurized milk and 50000 cell / ml for standardized pasteurized milk as determined by the standard plate count method.
- 4.10.3 It shall be free from pathogenic microorganisms and its poison.
- 4.11 Vitamins A, D shall be added as:
- 2000 I.U.Vitamin A/L of milk.
 - 400 I.U Vitamin D/L of milk.
- 4.12 The milk, which have not been sold, should not be used to produce any dairy products.
- 4.13 The raw milk shall not be mixed with powder milk to produce pasteurized milk.
- 4.14 Escherichia coli bacteria should give a negative result.
- 4.15 Limits of radiation in the milk shall be in accordance with GSO mentioned in item 2.17.
- 4.16 Limits of aflatoxins shall be in accordance with GSO mentioned in item 2.15.
- 4.17 Hormones and antibiotics residues shall be in accordance with GSO mentioned in item 2.23.
- 4.18 Pesticides residues shall be in accordance with GSO mentioned in item 2.8.

5- SAMPLING

Samples shall be taken according to GSO mentioned in item 2.5.

6- METHODS OF TESTS

Tests shall be carried out on representative samples taken according to item 5 above to determine its compliance with this standard according to GSO mentioned in items (2.6, 2.7, 2.18, 2.22, 2.24).

7- PACKAGING

- 7.1 Containers of pasteurized milk and standardized pasteurized milk shall be clean, and cause no change in its properties and conform to the relevant GSO standards.
- 7.2 Packaging shall be mechanically done to prevent any external contamination, (including direct contact by personnel).
- 7.3 The container shall be tightly closed in a manner that prevents any contamination.

8- LABELLING

Without prejudice to the provisions of GSO mentioned in Items 2.1 and 2.9., the following information shall be labeled on the containers :

- 8.1 Name and type of product (pasteurized milk, or standardized pasteurized milk).
- 8.2 Source of milk used in the processing (raw cow milk, or dried cow milk - Camel milk - Goat milk), in case of use powder milk should be written (produced from powder milk).
- 8.3 Fat percentage, as mentioned in item 4.8.
- 8.4 Production and expiry dates.
- 8.5 Information on how to preserve the product.
- 8.6 List of the ingredients, declared on it the water and powder milk as ingredients in case of using powder milk to produce pasteurized milk.
- 8.7 Type of product regarding fat content (whole, low fat or skim milk).

9- TRANSPORTATION AND STORAGE

The following shall be observed in transportation and storage of pasteurized milk:

- 9.1 Transportation and storage of pasteurized milk and standardized pasteurized milk shall be carried out at a temperature not exceeding 5⁰C.
- 9.2 Pasteurized milk and standardized milk shall not be sold or handled to 5 days after packaging.
- 9.3 Pasteurized milk and standard pasteurized milk shall not be kept in the plant for more than 23 hours after pasteurization. Packaging shall be done directly after pasteurization, and don't give any period between pasteurization and packaging.