SRI LANKA STANDARD 735: PART 2 : 1987

UDC 637.1/.3

METHODS OF TEST FOR

MILK AND MILK PRODUCTS

PART 2 — DETERMINATION OF TITRATABLE ACIDITY

SRI LANKA STANDARDS INSTITUTION

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Gr. 3

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SRI LANKA STANDARD

METHODS OF TEST FOR MILK AND MILK PRODUCTS

PART 2 : DETERMINATION OF TITRATABLE ACIDITY

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1987-01-07, after the draft, finalized by the Drafting Committee on Milk and Milk Products had been approved by the Agricultural and Food Products Divisional Committee.

In order to accomodate the large number of test methods within the scope of one standard, this standard is published in several parts.

This standard forms Part 2 of Sri Lanka Standard Methods of Test for Milk and Milk Products.

The standard values used in this standard are given in SI units.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with CS 102.

1 SCOPE

This part of the standard prescribes the method of determination of titratable acidity for all milk and milk products.

2 REFERENCES

CS 102 Presentation of numerical values

ISO/R 707 Milk and milk products sampling

3 SAMPLING

Test samples for use in the test specified in this part shall be obtained in accordance with ISO/R 707.

4 PREPARATION OF TEST SAMPLES

4.1 Dried milk

Transfer the laboratory sample to a clean, dry container (provided with an air-tight lid) of capacity about twice the volume of the sample. Close the container immediately and thoroughly mix by repeatedly shaking and inverting the container. During preparation of the test sample, avoid exposure to the atmosphere as far as possible to minimise the absorption of moisture.

Proceed as for liquid milk (see 6) after stirring 10 ml of hot water (80 °C) with 1 g of sample(s).

4.2 Evaporated milk and sweetened condensed milk

4.2.1 *Evaporated milk*

Open the container after shaking and inverting the container sufficiently. Pour the milk slowly into a second container (provided with an air-tight lid) and mix by repeated transferring (to incorporate in the sample any fat or other constituent adhering to the wall and ends of the first container). Finally transfer the milk as completely as possible to the second container. Close the container with the air-tight lid.

If fat separates, start with a fresh sample. In the case of a sealed can, warm the unopened can, in a water bath at 30 °C to 40 °C.

To obtain the test sample reconstitute the milk according to instructions given on label and proceed as in 6.

4.2.2 *Sweetened condensed milk*

Open the container and thoroughly mix the milk with a spoon or spatula. Using an up-and-down rotary movement in such a way that the top layers and the lower layers of the container are mixed. Take care to incorporate into sample any milk adhering to the wall and ends of the container. Transfer the milk as completely as possible to a second container (provided with an air-tight lid). Close the container.

Open, scrape out all milk adhering to the interior of the can, transfer to a dish sufficiently large to permit thorough stirring, and mix until the whole mass is homogeneous.

To obtain the test sample reconstitute the milk according to instructions given on label and proceed as in 6.

4.3 Milk

4.3.1 Allow the laboratory sample to reach ambient temperature. Mix the milk thoroughly but gently by repeatedly inverting the sample bottle without causing frothing or separation of the fat. If there is difficulty in dispersing a cream layer, or if the milk shows evidence of slight separation, warm the milk slowly to 34 °C to 40 °C in a water bath and mix gently. When a uniform distribution of the fat has been achieved, quickly adjust the temperature of the milk to approximately ambient temperature and allow the milk to stand for 3 to 4 minutes.

NOTE - If, after the preparation of the test sample, white particles are visible on the walls of the sample bottle, or liquid fat is visible on the surface of the sample, a reliable value for fat content cannot be expected.

4.3.2 Immediately after the preparation of the test sample, analysis should be started and completed without interruption.

5 REAGENTS

5.1 *Phenolphthalein indicator*

Dissolve 1 g of phenolphthalein in 110 ml of ethyl alcohol (95 per cent *V/V*) and add 0.1 mol/l sodium hydroxide solution until one drop gives a faint pink coloration. Make up to 200 ml with distilled water.

5.2 *Rosaniline acetate stock Solution A*

Dissolve 0.12 g of rosaniline acetate in 50 ml of ethyl alcohol (95 per cent *V/V*) containing 0.5 ml of glacial acetic acid. Make up to 100 ml with ethyl alcohol (95 per cent *V/V*) store in the dark.

5.3 *Bench Solution B*

Dilute 1 ml of Solution A to 500 ml with a mixture of ethyl alcohol (95 per cent *V/V*) and distilled water in equal proportions by volume.

6 PROCEDURE

Pipette 10 ml of milk into each of two porcelain basins *C* and *S*. To the colour control basin *C* add 1 ml of rosaniline Solution B and stir. Then to sample basin *S* add 1 ml of the phenolphthalein indicator and titrate with 0.1 mol/l sodium hydroxide, stirring continuously, until the colour of *S* matches the colour of *C*. Calculate the acidity as lactic acid (per cent *m/V*)

1 ml 0.1 mol/l sodium hydroxide = 0.0090 g lactic acid.

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Printed at SLSI (Printing Unit)

SRI LANKA STANDARDS INSTITUTION

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