

Australian Standard[®]

AS 5013.27—2009

Food microbiology

Method 27: Examination of specific products— Cultured dairy products

PREFACE

This Standard was prepared by the Standards Australia Committee FT-024, Food Products and Subcommittee FT-24-01, Food Microbiology (Constituted) to supersede AS 1766.3.12—1992, *Food microbiology*, Method 3.12: *Examination of specific products—Cultured dairy products*.

The objectives of this revision are—

- (a) to update the references and transfer the procedure to the AS 5013 series;
- (b) to incorporate technical variations on the apparatus used in the test technique; and
- (c) to incorporate the procedure for direct microscopic count without defatting which was previously published as, (now withdrawn) AS 1766.3.10—1994, *Food microbiology* Method 3.10: *Examination of specific products—Liquid milks—Direct microscopic count*.

METHOD

1 SCOPE

This Standard sets out microbiological methods for the examination of cultured dairy products.

2 APPLICATION

The methods apply to yogurts, other cultured milks, and sour creams. They do not apply to frozen cultured dairy products, such as frozen yogurt.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

1166 Milk and milk products—Guidance on sampling

2300 Methods of chemical and physical testing for the dairying industry

2300.1.6 Method 1.6: General methods and principles—Determination of pH

AS

5013 Food microbiology

5013.11.1 Method 11.1: Microbiology of food and animal feeding stuffs—Preparation of test samples, initial suspension and decimal dilutions for microbiological examination—General rules for the preparation of the initial suspension and decimal dilutions

5013.14 Method 14: Microbiology of food and animal feeding stuffs—General rules for microbiological examinations

5013.28 Method 28: Examination of specific products—Liquid milks and creams

4 CULTURE MEDIA AND DILUENTS

The following culture media and diluents are required:

- (a) Peptone salt solution.
- (b) Sodium citrate, 20 g/L aqueous solution.
- (c) Ammonium hydroxide, 150 g/L aqueous solution.

5 APPARATUS**5.1 Sampling equipment**

The following sampling equipment is required:

- (a) Sample containers, spoons and other items used for subsampling laboratory samples.
- (b) Blender or stomacher.

5.2 Sterilization of sampling equipment

Sampling equipment shall be sterilized as specified in AS 5013.14.

NOTE: Sterile disposable apparatus is an acceptable alternative to glassware if it has a similar specification.

6 SAMPLING AND SAMPLES**6.1 General**

Sampling and sample preparation are specified only as they apply to the sample for test received at the laboratory.

NOTES:

- 1 It is assumed for the purposes of these methods that the laboratory sample is representative of the bulk of the subject material.
- 2 Methods for rate and technique of sampling of dairy products are prescribed in AS 1166. The size of the sample taken in accordance with AS 1166 may be adjusted in order to provide a sufficient quantity for the required tests.

6.2 Storage of laboratory samples

The laboratory samples shall be maintained at a temperature of less than 5°C, but without freezing, until tested. Testing shall commence within 24 h of receipt.

7 PROCEDURE**7.1 Physical condition of container**

Observe the physical condition of the container and record any abnormalities.

7.2 Opening retail containers

The procedure shall be as follows:

- (a) Liquid products should be mixed before the retail container is opened (see Clause 7.4.1).
- (b) Clean the surface of the container, and swab particularly around the seal, with absorbent material, for example, cotton wool soaked in ethanol, either 70% w/v or 80% v/v. Allow the container to air dry. Aseptically open the container to a sufficient extent to allow the product to be removed without contaminating the sample.

7.3 Observation of physical condition

The physical condition of the product shall be observed and any abnormalities shall be recorded.

7.4 Preparation of test sample

7.4.1 General

The procedures for sample preparation for cultured dairy products shall be as set out in this Clause (7.4).

7.4.2 Liquid cultured milks (e.g. flavoured drinking yogurt, cultured buttermilk)

Shake the sample 25 times for about 12 s through an arc of about 30 cm. If the headspace is insufficient for efficient mixing, aseptically transfer the contents to a larger container for mixing.

7.4.3 Plain or flavoured yogurt

Stir the sample thoroughly with a spoon or spatula.

7.4.4 Products containing particulate matter (e.g. fruit yogurt)

Transfer the entire contents of the container to a blender or stomacher bag and mix the sample for 1 min. For samples which are too large to be accommodated by the mixing apparatus, stir the sample thoroughly with a spoon or spatula and then transfer as much as practicable to a blender or stomacher for mixing.

7.4.5 Sour creams

Stir the sample thoroughly with a spoon or spatula and transfer to a screw-capped jar. Warm the sample to about 45°C, but not above, in a waterbath and, without delay, mix by stirring. Prepare dilutions (see Clause 7.5) immediately after mixing.

NOTE: Total time at 45°C should not exceed 10 min.

7.5 Preparation of dilutions

Dilutions of the test sample shall be prepared as follows:

- (a) Weigh 10.0 ± 0.1 g of sample into a suitable container.
- (b) Except for sour cream samples, add 90 mL of peptone salt solution (4(a)). For sour cream samples, add 90 mL of 2% sodium citrate solution (4(b)) warmed to 45°C (see Note to Clause 7.4.5).
- (c) Mix the sample well. If the first dilution is in a bottle, mix the contents by shaking 25 times in about 12 s through an arc of 30 cm.
- (d) Prepare further decimal dilutions using 9 mL volumes of peptone salt solution (4(a)), as described in AS 5013.11.1 For sour cream, prewarm the peptone salt solution to 45°C (see Note to Clause 7.4.5).