

Australian Standard®

AS 2300.2.10—2008

Methods of chemical and physical testing for the dairying industry

Method 2.10: Liquid milks—Determination of titratable acidity

PREFACE

This Standard was prepared by the Standards Australia Committee FT-024, Food Products and Subcommittee FT-024-05, Dairy Products, to supersede AS 2300.2.10—1988.

After a periodic review, the Committee recommended a new edition. This edition confirms the method without technical changes, but updates the referenced documents and reflects the current editorial style and includes a clause on uncertainty of measurement.

AS 2300 comprises a series of methods and related Standards for chemical and physical testing of milk and dairy products, including the preparation of samples for testing.

Standards in the AS 2300 series are divided into categories according to type of product to be tested, as follows:

AS

- 2300.1 General methods and principles
- 2300.2 Liquid milks
- 2300.4 Dried milk and dried milk products
- 2300.5 Condensed milk
- 2300.6 Cheese
- 2300.7 Butter
- 2300.8 Anhydrous milk fat
- 2300.9 Analysis of ice-cream and frozen milk products
- 2300.10 Caseins, caseinates and coprecipitates
- 2300.11 Cultured milk products

METHOD

1 SCOPE

This Standard sets out a method for the determination of the titratable acidity of liquid milks. The method is applicable to raw milk, pasteurized milk, homogenized milk, reconstituted milk, skim or low fat milk, UHT milk, sterilized milk, and cream.

2 REFERENCED DOCUMENT

The following document is referred to in this Standard.

AS/NZS

2243 Safety in laboratories

2243.2 Part 2: Chemical aspects

3 PRINCIPLE

A known mass of the milk sample is titrated with standardized sodium hydroxide solution to a controlled indicator colour.

WARNING: THE USE OF THIS STANDARD MAY INVOLVE THE USE OF HAZARDOUS MATERIALS, OPERATIONS, AND EQUIPMENT. THIS STANDARD DOES NOT PURPORT TO ADDRESS ALL THE SAFETY RISKS ASSOCIATED WITH ITS USE. IT IS THE RESPONSIBILITY OF THE USER OF THIS STANDARD TO ESTABLISH APPROPRIATE SAFETY AND HEALTHY PRACTICES AND DETERMINE THE APPLICABILITY OF LOCAL REGULATORY LIMITATIONS PRIOR TO USE. SEE AS/NZS 2243.2 FOR MORE DETAILS REGARDING LABORATORY SAFETY.

4 REAGENTS

Use only reagents of recognized analytical reagent quality, and freshly distilled water or water of equivalent purity. The following reagents are required:

- (a) *Rosaniline acetate solution*—dissolve 0.12 g of rosaniline acetate in 50 mL of ethanol (95 percent) containing 0.5 mL of glacial acetic acid, and dilute to 100 mL with ethanol (95 percent). Dilute 1.0 mL of this solution to 500 mL with a mixture containing equal volumes of ethanol (95 percent) and water.

NOTES:

- 1 Both solutions should be stored in the dark in brown bottles securely closed with rubber stoppers.
 - 2 Rosaniline acetate is more commonly known as pararosaniline acetate.
- (b) *Phenolphthalein solution*—dissolve 1 g of phenolphthalein in 110 mL of ethanol (95 percent) and add 80 mL of water. Add sodium hydroxide solution (approximately 0.1 mol/L) until one drop gives a faint pink coloration, then dilute to 200 mL with water.
- (c) *Sodium hydroxide solution* (0.1 mol/L)—carbonate-free, standardized regularly.

5 APPARATUS

The following apparatus is required:

Burette—10 mL, fitted with a soda-lime guard tube.

6 PREPARATION OF TEST SAMPLE

Warm the sample to 35 ± 5 °C and mix thoroughly but gently by repeated inversion of the container, so that any cream layer is uniformly dispersed without churning the fat. After mixing, cool the sample to between 20°C and 25°C. Invert the container three or four times immediately before taking a test portion for the determination. Reject the sample if it cannot be mixed satisfactorily.