Australian Standard®

Methods of chemical and physical testing for the dairying industry

Method 2.3: Liquid milks—Determination of the iodide content of milk—Selective ion electrode method

PREFACE

This Standard was prepared by the Standard Australia Committee, FT-02[illegible] Food Products and Subcommittee FT-024-05, Dairy Products to supersede AS 2300.2.3—1981.

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

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

METHOD

1 SCOPE

This Standard sets out a method, using an iodide-selective electrode, for the determination of the iodide content of raw liquid milk and pasteurized milk.

NOTE: The result may not include protein-bound iodine.

2 APPLICATION

The method is applicable to raw liquid milk which is fresh, or freshly thawed if the sample was frozen, and which contains no added preservative.

The method is not applicable to milk that has undergone heat treatment other than pasteurization.

The method is not suitable for determining concentrations of iodide below 100 μg/L.

3 REFERENCED DOCUMENT

The following documents are referred to in this Standard.

AS
2300 Methods of chemical and physical testing for the dairying industry
2300.1.3 Method 1.3: General methods and principles—Determination of fat—Gravimetric method

AS/NZS
2243 Safety in laboratories
2243.2 Part 2: Chemical aspects

4 PRINCIPLE

The method uses an iodide-selective electrode in combination with a reference electrode. The interaction between the iodide ion and the iodide-selective electrode produces an electric potential which, under certain conditions, is related to the iodide concentration. A millivoltmeter may be used to measure this potential, from which the iodide concentration is calculated or, alternatively, a specific ion meter may be used to read iodide concentration directly.

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.

5 REAGENTS

5.1 General requirements

Use only reagents of recognized analytical reagent grade and which, except for potassium iodide, are free of iodide.

Water shall be freshly distilled or of equivalent purity.

5.2 Reagents

5.2.1 *Ionic strength adjuster (ISA)*

Dissolve 5.0 g potassium chloride (KCl) in water and make up to 100 mL.

