STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS OF CHEMICAL AND PHYSICAL TESTING FOR THE DAIRYING INDUSTRY

AS 2300.2.8 LIQUID MILKS— DETERMINATION OF CHLORIDE

PREFACE

This Standard was prepared by the Association's Committee on Chemical Analysis of Dairy Products to supersede AS 1084—1974, *Methods for the analysis of liquid milk and cream,* Section 8, *Determination of chloride*.

This Standard is technically identical with the superseded Standard but with some rearrangement of material to comply with the format of the AS 2300 series.

METHOD

1 SCOPE. This Standard sets out a method for the determination of the chloride content of liquid milks.

2 APPLICATION. The method is applicable to raw milk, pasteurized milk, homogenized milk, reconstituted milk, skim or low fat milk, UHT milk and sterilized milk.

3 PRINCIPLE. A known amount of silver nitrate is added to the milk sample and, after digestion with nitric acid, the excess silver nitrate is back-titrated with potassium thiocyanate solution.

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

(a) *Indicator solution*—dissolve 50 g of ammonium ferric sulphate dodecahydrate ($NH_4Fe(SO_4)_2.12H_2O$) in 100 mL of water. Add 1 mL of 5 mol/L nitric acid.

(b) *Nitric acid*—(ρ20 1420 kg/m^3).

(c) *Silver nitrate solution* (0.05 mol/L)—store in a brown bottle.

(d) *Potassium thiocyanate solution*—standardized slightly above 0.05 mol/L as follows:

Pipette 10.0 mL of the silver nitrate solution into a 250 mL conical flask and add 30 mL of water, 1 mL of concentrated nitric acid and 1 mL of indicator solution. Titrate with the potassium thiocyanate solution as described below, and calculate its strength in mol/L KCNS.

5 APPARATUS. The following apparatus is required:

(a) *Glass beads or anti-bumping granules.*

(b) *Burette*—capacity 10 mL, graduated to 0.02 mL.

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. Discard the sample if it cannot be mixed satisfactorily.

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