STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 2300.4.10—1994
Methods of chemical and physical testing for dairying industry
Method 4.10: Dried milk and dried milk products—Determination of lactose—Titrimetric method

RECONFIRMATION NOTICE

Technical Committee FT-024 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 22 November 2016.

The following are represented on Technical Committee FT-024:

Australian Chamber of Commerce and Industry
Australian Institute of Food Science and Technology
Meat and Livestock Australia
National Association of Testing Authorities Australia
National Measurement Institute

NOTES

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Reconfirmed 2016

Australian Standard®

Methods of chemical and physical testing for the dairying industry

Method 4.10: Dried milk and dried milk products—Determination of lactose—Titrimetric method

PREFACE

This Standard was prepared by the Standards Australia Committee on Chemical Analysis of Dairy Products to supersede a corresponding method given in AS 1629—1974, *Methods for the analysis of dried milk and whey*, and is technically identical with the method in AS 1629.

METHOD

1 SCOPE This Standard sets out a titrimetric method for the determination of the lactose content of dried milk and dried milk products.

NOTE: This method is not suitable for products containing added reducing sugars.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

2165	Burettes and bulb burettes
2300	Methods of chemical and physical testing for the dairying industry
2300.4.1	Method 4.1: Dried milk and dried milk products—General information and preparation of samples

3 PRINCIPLE The fat and protein in the reconstituted sample are precipitated by tungstic acid and removed by filtration. The filtrate, which contains the lactose, is treated with chloramine T reagent, which slowly liberates hypochlorous acid and preferentially oxidizes the lactose.

After complete oxidation of the lactose the solution is acidified and the excess hypochlorous acid reacts with iodide to liberate iodine, which is determined by titration with standard sodium thiosulphate solution.

A blank test determines the total iodine-liberating capability of the chloramine T.

The difference between the sodium thiosulphate titrations of the blank and of the sample is proportional to the amount of lactose in the sample.

4 REACTIONS

(a) $C_{12}H_{22}O_{11} + HOCl \longrightarrow C_{12}H_{22}O_{12} + H^+ + Cl^-$

(b) $2I^- + H^+ + HOCl \longrightarrow I_2 + H_2O + Cl^-$

(c) $I_2 + 2S_2O_3^{2-} \longrightarrow 2I^- + S_4O_6^{2-}$