STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS OF CHEMICAL AND PHYSICAL TESTING FOR THE DAIRYING INDUSTRY

AS 2300.1.4.2 GENERAL METHODS AND PRINCIPLES—DETERMINATION OF FAT CONTENT OF MILKS AND LIQUID DAIRY PRODUCTS BY THE BABCOCK METHOD—METHODOLOGY

PREFACE

This Standard was prepared by the Association's Committee on Chemical Analysis of Dairy Products to supersede the following Standards:

AS
1938 *Method for the determination of the fat content of milk on a mass per volume basis*

N26 *Glassware and methods for the determination of the percentage of fat in milk, skim milk, separated milk, buttermilk, and cream by the Babcock method*

The method has been extended to test products other than those covered in the above Standards.

The specifications for Babcock glassware in AS N26 and AS 1938 have been revised and issued as AS 2300.1.4.1.

METHOD

1 SCOPE. This Standard sets out the Babcock method (modified where appropriate) for the determination of the fat content of milks and liquid dairy products.

2 APPLICATION. The method is suitable for testing the products listed below provided that the sample readily forms a homogeneous mixture when agitated:

(a) Non-homogenized milk raw or pasteurized.

(b) Skim milk, separated milk, buttermilk.

NOTE: Only applicable to these products for obtaining comparative values. If an accurate determination is required, the gravimetric method should be used.

(c) Cream (but not sour or cultured creams).

(d) Homogenized milk and homogenized flavoured milk except chocolate-flavoured milk.

3 PRINCIPLE. Fat is separated from the aqueous phase by digestion of the solids-not-fat with sulphuric acid, followed by recovery and estimation of the fat by centrifugation into a graduated column. For certain products further treatment may be necessary to assist separation of the fat. When a mass/mass result is required, a 17.6 mL pipette is used to measure the milk sample assuming that this volume of milk with an average density of 1.030 g/mL at 20°C weighs 18 g. When a mass/volume result is required, an 18 mL pipette is used to deliver 18 mL of milk with no assumption of the density of milk.

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