Australian Standard®

Methods of chemical and physical testing for the dairying industry

Method 1.8: General methods and principles—Assessment of instrumental methods—Protein in milk and infrared spectrometric analysis of milk

PREFACE

This Standard was prepared by the Standards Australia Committee FT-024, Food Products and Subcommittee FT-024-05, Dairy Products, to supersede AS 2300.1.8.1, *Methods of chemical and physical testing for the dairying industry*—Method 1.8.1: *General, methods and principles—Analytical quality assurance of instrumental methods—Protein in milk* and AS 2300.1.8.2, *Methods of chemical and physical testing for the dairying industry*—Method 1.8.2*: General methods and principles—Assessment of instrumental methods—Infrared spectrometric analysis of milk*.

After a periodic review, the Committee recommended to amalgamate two parts into one Standard to provide procedures to assess the capabilities of instrumental methods for the determination of protein in milk. This edition confirms the method without technical changes, but updates the referenced documents and reflects the current editorial style. It 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 milk
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

STANDARDS Australia

FOREWORD

The increasing use of instrumental methods for estimation of the composition of milk has made it necessary for a standard procedure to be devised to assess the capabilities of instrumental methods compared with accepted standard chemical methods.

The purpose of Section 2 of this Standard is to provide a means by which the protein content of liquid milk from an instrumental method can be related to the results obtained by a standard chemical method. When reporting results obtained by an instrumental test method, the analyst may quote that the instrument has been validated in accordance with this Standard.

Section 3 of this Standard deals with the assessment of the performance of mid-infrared instruments for analyzing milk.

This Standard makes no attempt to describe routine procedures for their operation; this is left to the manufacturer's manual of instructions and regulatory or local requirements for calibration, with the expectation that good laboratory practice will be used. Further information on routine procedures for operation of the instruments is also given in International Dairy Federation (IDF) Provisional Standard 141 (Ref. 1). The assumption is also made that the instruments are designed to operate on sound physical and chemical principles. While instrumental methods are less susceptible to operator bias, a rigid discipline of check procedures as described in the manufacturer's manual is essential to ensure that the instrument functions at all times within its design limits.

METHOD

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard describes a procedure to assess the capabilities of instrumental methods with accepted standard chemical methods.

1.2 REFERENCED DOCUMENTS

The following Standards are referred to in this Standard.

AS

2300	Methods of chemical and physical testing for the dairying industry
2300.1.2.1	Method 1.2.1: General methods and principles—Determination of nitrogen—Reference Kjeldahl method
2300.1.2.2	Method 1.2.2: General methods and principles—Determination of nitrogen—Nitrogen fractions from milk
2300.1.3	Method 1.3: General methods and principles—Determination of fat—Gravimetric method
2300.2.6	Method 2.6: Liquid milks—Determination of lactose