

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS OF CHEMICAL AND PHYSICAL TESTING FOR THE DAIRYING INDUSTRY

AS 2300.1.8.1

GENERAL METHODS AND PRINCIPLES— ANALYTICAL QUALITY ASSURANCE OF INSTRUMENTAL METHODS— PROTEIN IN MILK

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.

It is the purpose of this Standard to provide the means by which the results for the protein content of liquid milk from an instrument 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.

This Standard makes no attempt to describe routine procedures for the operation of instruments; this is left to the manufacturer's manual of instructions and the expectation that good laboratory practice will be used. The assumption is made that the instruments are designed to operate on sound physico-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

1 SCOPE. This Standard describes a procedure for evaluating the suitability of an individual instrument for measuring protein in liquid milk.

NOTE: This Standard is intended for instruments with multi-component capability such as those that can also determine fat and lactose. However the Standard does not validate the instrument's capabilities for measuring analytes other than protein.

2 APPLICATION. The procedure is applicable to all instruments capable of analysing for both crude and true protein (see Clause 3) in liquid milk. It is intended to verify that an instrument is capable of performing a single analysis on a sample of milk to produce a result of comparable precision and accuracy to that obtained when the protein content of the milk is estimated from the nitrogen content, determined by the reference Kjeldahl method set out in AS 2300.1.2.1.

3 DEFINITIONS. For the purpose of this Standard, the following definitions apply.

3.1 Crude protein—the total nitrogen content of the sample multiplied by the factor 6.38.