STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 2300.4.4—1994
Methods of chemical and physical testing for the dairying industry
Method 4.4: Dried milk and dried milk products—
Determination of insolubility index

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Certain documents referenced in the publication may have been superseded since the original date of publication.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 10 October 2019.

The following are represented on Technical Committee FT-024:

Australian Institute of Food Science and Technology
Consumers Federation of Australia
CSIRO
Meat and Livestock Australia
National Association of Testing Authorities Australia
National Measurement Institute
NSW Food Authority
Royal Australian Chemical Institute

NOTES

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Australian Standard®

Methods of chemical and physical testing for the dairying industry

Method 4.4: Dried milk and dried milk products—Determination of insolubility index

PREFACE

This Standard was prepared by the Standards Australia Committee on Chemical Analysis of Dairy Products to supersede a method for determination of solubility index given in AS 1629—1974, *Methods for the analysis of dried milk and whey*. This method is based on ISO 8156, *Dried milk and dried milk products—Determination of insolubility index*.

FOREWORD

For routine purposes, including grading, the most widely used procedure for determining the solubility of dried milk has been the solubility index method of the American Dry Milk Institute (ADMI), in which a test portion is mixed with water and the reconstituted product is centrifuged. The volume, in millilitres, of the sediment obtained, i.e. the insoluble residue, is the solubility index. The superseded method in AS 1629 is based on the ADMI method.

Although the ADMI solubility index has been widely used for a considerable period it has become evident that its precision (repeatability and reproducibility) is unsatisfactory with some types of roller-dried milk and milk products. A joint group of experts from the International Dairy Federation (IDF), the International Organization for Standardization (ISO) and the Association of Official Analytical Chemists (AOAC) investigated alternative methods and also ways to improve the precision of the ADMI method. In order to keep most of the existing ADMI solubility index specifications for grading, the IDF/ISO/AOAC Group of Experts (Group E2—Physical properties of dried milk products) directed its effort to improving the precision of the ADMI method. However, since the method provides a measure of the insoluble residue it seemed more rational to adopt the term ‘insolubility index’ to designate what is determined by the modified sediment-volume method.

In sediment-volume solubility tests on dried milks or dried milk products, the temperature at which the test portion is reconstituted is the main factor influencing the result. In the ADMI method a reconstituting temperature of 24°C (75°F) is specified. In modifying the method the IDF/ISO/AOAC Group of Experts decided that the product should be reconstituted in either ‘cold’ water or ‘warm’ water according to normal practice or to the product’s quality specification. The reconstituting temperatures chosen are, in general, 24°C for spray-dried products and 50°C for roller-dried products. Exceptions to this general rule may be spray-dried milk-based baby food, and perhaps in some instances spray-dried whole milk or partly skimmed milk, intended to be reconstituted in warm water. However, it is important to note that if the insolubility index of spray-dried fat-containing milks is determined at 50°C, all values obtained will tend to be very small because the method will no longer detect products which have been subjected to excessive dry heat through faulty manufacture or storage.