Australian Standard®

Method of chemical and physical testing for the dairy industry

Method 1.6: General methods and principles—Determination of pH

PREFACE

This Standard was prepared by the Standards Australia Committee FT-024, Food Products and Subcommittee FT-024-05, Dairy Products (Constituted) to supersede AS 2300.1.6—1989.

There is no ISO Standard other than ISO 5546 which covers only caseins and caseinates.

After a periodic review, the Committee recommended a new edition. This edition confirms the method without technical changes, but updates the referenced documents and reflects the current editorial style and 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 milks
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

The term 'normative' has been used in this Standard to define the application of the appendix to which it applies. A 'normative' appendix is an integral part of a Standard.

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METHOD

1 SCOPE

This Standard sets out a method for determining the pH value of dairy products.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
1166 Milk and milk products—Guidance in sampling

AS/NZS
2243 Safety in laboratories
2243.2 Part 2: Chemical aspects

BS
2586 Glass and reference electrodes for measurement of pH

3145 Laboratory pH meters

3 PRINCIPLE

The pH is measured with a glass electrode, a reference electrode and a pH meter calibrated with standard buffer solutions of known pH.

4 REAGENTS

WARNING: THE USE OF THIS STANDARD MAY INVOLVE THE USE OF HAZARDOUS MATERIALS, OPERATIONS, AND EQUIPMENT. THIS STANDARD DOES NOT PURPORT TO ADDRESS ALL THE SAFETY RISKS ASSOCIATED WITH ITS USE. IT IS THE RESPONSIBILITY OF THE USER OF THIS STANDARD TO ESTABLISH APPROPRIATE SAFETY AND HEALTHY PRACTICES AND DETERMINE THE APPLICABILITY OF LOCAL REGULATORY LIMITATIONS PRIOR TO USE. SEE AS/NZS 2243.2 FOR MORE DETAILS REGARDING LABORATORY SAFETY.

4.1 Phthalate buffer solution pH 4.0

Accurate to 0.01 pH units (see Appendix A).

4.2 Phosphate buffer solution about pH 7

Accurate to 0.01 pH units (see Appendix A).

NOTES:

1 The exact pH of the buffers at the proposed temperature of measurement must be known to two decimal places.

2 For routine use, buffer solutions of satisfactory accuracy are commercially available. In work where accuracy is vital, the buffer solutions should be checked against buffer solutions made up in accordance with Appendix A.

4.3 Water—distilled water or water of equivalent purity, free from carbon dioxide.

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