Australian Standard™

Food microbiology

Method 17: Milk and milk products—General guidance for the preparation of test samples, initial suspensions and decimal dilutions for microbiological examination

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee FT-004, Food Microbiology to supersede part of AS 1766.1.2:1991, *Food microbiology,* Method 1.2: *General procedures and techniques—Preparation of dilutions.*

This Standard is identical to and reproduced from ISO 8261:2001(IDF 122), *Milk and milk products—General guidance for the preparation of test samples, initial suspensions and decimal dilutions for microbiological examination.*

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee FT-004. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to describe general guidelines for the preparation of test samples, initial suspensions and decimal dilutions for the microbiological examination of milk and milk products, including milk-based infant foods.

As this Standard is reproduced from an International Standard, the following applies:

(a) In the source text, ‘this International Standard’ should read ‘this Australian Standard’.

(b) A full point substitutes for a comma when referring to a decimal marker.

(c) Substitute ‘mL’ for ‘ml’ wherever it appears.

(d) In Clause 8.2.8 Custard, desserts and sweet cream, instead of using a flask containing glass beads, a peristaltic-type blender (stomacher-test equipment) may be used to prepare the test sample.

STANDARDS AUSTRALIA

References to International Standards should be replaced by references to equivalent Australian Standards as follows:

Reference International Standard		*Australian Standard*	
ISO		AS	
6887	Microbiology of food and animal feeding stuffs—Preparation of test samples, initial suspension and decimal dilutions for microbiological examination	5013	Food microbiology
		5013.11.1	Method 11.1: Microbiology of food and animal feeding stuffs—Preparation of test samples, initial suspension and decimal dilutions for microbiological examination—General rules for the preparation of the initial suspension and decimal dilutions
6887-1	Part 1: General rules for the preparation of the initial suspension and decimal dilutions		
7218	Microbiology of food and animal feeding stuffs—General rules for microbiological examinations	5013.14	Method 14: Microbiology of food and animal feeding stuffs—General rules for microbiological examinations

The laboratory should have a clearly defined quality control system to ensure that the apparatus, culture media, reagents and technique are suitable for the test. Use of positive controls is part of this system.

INTRODUCTION

This International Standard is mainly based on ISO 6887-1. The necessary adaptations to microbiological laboratory practice in the dairy industry and instructions specific to dairy products, especially in relation to sample preparation, have been introduced.

The question of which diluent or diluents to specify has been the subject of discussion for some time. In this International Standard the peptone/saline solution, as well as the buffered peptone water solution as used in ISO 6887-1, is specified. Three other diluents which are commonly used in dairy microbiological laboratories are also specified for general use. Furthermore, six diluents are specified for special purposes in dairy microbiological laboratories.

NOTES

1 Scope

This International Standard describes general guidelines for the preparation of test samples, initial suspensions and decimal dilutions for the microbiological examination of milk and milk products, including milk-based infant foods.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6887-1, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 1: General rules for the preparation of the initial suspension and decimal dilutions*.

ISO 7218, *Microbiology of food and animal feeding stuffs — General rules for microbiological examinations*.

3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

3.1
initial suspension
primary dilution
suspension, solution or emulsion obtained after a weighed or measured quantity of the product under examination (or of a test sample prepared from the product) has been mixed, if necessary, using a blender and observing appropriate precautions, with a nine-fold quantity of dilution fluid (diluent), allowing large particles, if present, to settle

NOTE 1 In certain cases and in particular for products giving an initial 1 + 9 suspension which is too viscous or too thick, it may be necessary to add more diluent. On the other hand, a more concentrated primary dilution than 1 + 9 may be required for results of tests to relate to certain specification criteria. These factors should be taken into account for subsequent operations and/or in the expression of results.

NOTE 2 The use of the first dilution is the most appropriate for fitting the requirement of less than 10 microorganisms per gram. If it is desirable for some enumerations in some products to fall below this threshold, it is possible to use less diluent for the suspension. However, inoculation of this suspension may result in an unbalanced inoculum/medium ratio.