AS 5013.23:2026

Australian STANDARD®

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Food microbiology

Method 23: Microbiology of the food chain — Horizontal method for the enumeration of psychrotrophic microorganisms (ISO 17410:2019, MOD)



AS 5013.23:2026

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ACT Health Directorate
Australian Society for Microbiology Incorporated
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Dairy Industry Association of Australia
Department of Agriculture, Fisheries and Forestry
Department of Health (TAS)
National Association of Testing Authorities Australia
National Measurement Institute
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Food microbiology

Method 23: Microbiology of the food chain — Horizontal method for the enumeration of psychrotrophic microorganisms (ISO 17410:2019, MOD)

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Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

This Standard is a modified adoption of an International Standard. It makes changes to the international text.

The changes to the international text are shown in boxes in the text. These boxes have the heading "National Variations".

To use this Standard in Australia/New Zealand, the changes in the national variation boxes need to be followed.

Preface

This Standard was prepared by the Standards Australia Committee FT-035, Food Microbiology, to supersede AS 5013.23—2004, *Food microbiology, Method 23: Microbiology of food and animal feeding stuffs —Horizontal method for the enumeration of psychrotrophic microorganisms*.

The objective of this document is to specify a horizontal method for the enumeration of psychrotrophic microorganisms that are able to grow and form colonies on a solid agar culture medium after aerobic incubation at 6.5 °C.

A list of all parts in the AS 5013 series can be found in the Standards Australia online catalogue.

This document is an adoption with national modifications, and has been reproduced from, ISO 17410:2019, *Microbiology of the food chain — Horizontal method for the enumeration of psychrotrophic microorganisms.* The modifications are additional requirements and are set out in national variation boxes (NVBs) which give instructions where the ISO content is to be modified for use in Australia. For copyright reasons, it is not possible to directly modify the international content.

As this document has been reproduced from an international document, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 9, *Microbiology*.

This second edition cancels and replaces the first edition (ISO 17410:2001), which has been technically revised. It also replaces ISO 6730:2005 | IDF 101:2005[2] and ISO 8552:2004 | IDF 132:2004[4]. The main changes compared with the previous edition are as follows:

— the surface-plating technique is used, as opposed to the pour-plate technique used in ISO 6730:2005 | IDF 101:2005 and ISO 8552:2004 | IDF 132:2004, as psychrotrophic microorganisms are sensitive to heat;

— one horizontal method is used for the enumeration of psychrotrophic microorganisms in a) products intended for human consumption, b) products intended for animal feeding, c) environmental samples in the area of food and feed production, handling, and d) samples from the primary production stage;

— the rapid method has been included as an annex for the estimation of psychrotrophic plate count in raw and pasteurized milk (originating from ISO 8552:2004 | IDF 132:2004);

— performance testing of the culture medium, plate count agar (PCA), has been introduced;

— the expression of results has been changed to be in accordance with ISO 7218 .

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Psychrotrophic microorganisms are able to grow at low temperatures. These microorganisms may cause decay of refrigerated foods (except gas-packaged foods) due to odour and taste deviations. Some psychrotrophic microorganisms present in raw milk are also capable of producing heat stable enzymes. When heated (pasteurization or sterilization) these enzymes are insufficiently inactivated, causing quality defects in the heated product (fat or protein degradation).

For the revision of this document, no performance characteristics were included due to the lack of data and the fact that an interlaboratory study was not organized for the described method, since psychrotrophic microorganisms are a group of microorganisms that are mainly used for process monitoring and considered to be non-pathogenic.

The main technical changes listed in the Foreword, introduced in this document compared to ISO 17410:2001 , are considered as minor (see ISO 17468 [6]).

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Australian Standard®

Food microbiology

Method 23: Microbiology of the food chain — Horizontal method for the enumeration of psychrotrophic microorganisms (ISO 17410:2019, MOD)

1 Scope

This document specifies a horizontal method for the enumeration of psychrotrophic microorganisms that are able to grow and form colonies on a solid agar culture medium after aerobic incubation at 6,5 °C.

This document is applicable to

— products intended for human consumption,

— products intended for animal feeding,

— environmental samples in the area of food and feed production, handling, and

— samples from the primary production stage.

NOTE Annex B specifies a rapid method for the estimated enumeration of psychrotrophic microorganisms in raw and pasteurized milk.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NATIONAL VARIATIONS

1. In Clause 2, after the first paragraph, *add* the following:

The Australian Standards listed below are modified adoptions of, or not equivalent to, the ISO normative references and are required for the application of this document. All references in the source text to the ISO normative reference shall be replaced by references to the corresponding Australian Standards.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably.

2. *Delete* "ISO 6887 (all parts), *Microbiology of the food chain — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination*" and *replace* with the following:

AS 5013.11.1:2018, *Food microbiology, Method 11.1: Microbiology of the food chain—Preparation of test samples, initial suspension and decimal dilutions for microbiological examination—General rules for the preparation of the initial suspension and decimal dilutions (ISO 6887-1:2017, MOD)*

AS 5013.11.2:2017, *Food microbiology, Part 11.2: Microbiology of the food chain—Preparation of test samples, initial suspension and decimal dilutions for microbiological examination—Specific rules for the preparation of meat and meat products*

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