



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 5013.11.1:2018

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- Australian Institute of Food Science and Technology
- Australian Society for Microbiology
- CSIRO
- Dairy Industry Association of Australia
- Department of Agriculture and Water Resources (Australian Government)
- Department of Health (WA)
- Department of Health and Human Services (Tas.)
- Department of Health and Human Services (Vic.)
- Meat and Livestock Australia
- National Association of Testing Authorities Australia
- Queensland Health Forensic and Scientific Services
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Preface

This Standard was prepared by the Standards Australia Committee FT-035, Food Microbiology, to supersede AS 5013.11.1—2004, *Food microbiology, 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*.

The objective of this Standard is to define general rules for the aerobic preparation of the initial suspension and of dilutions for microbiological examination of products intended for human or animal consumption.

This Standard excludes preparation of samples for both enumeration and detection test methods where preparation instructions are detailed in specific Standards.

This Standard is an adoption with national modifications, and has been reproduced from, ISO 6887-1:2017, *Microbiology of the food chain — 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*. The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to ISO 6887-1:2017 for the application of this Standard in Australia.

As this document has been reproduced from an International Standard, the following applies:

- (a) A full point substitutes for a comma when referring to a decimal marker.
- (b) Substitute “mL” for “ml” wherever it appears.

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 or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information.

Contents

Preface	ii
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	3
5 Diluents	3
5.1 Basic materials	3
5.2 Diluents for general use	3
5.2.1 Peptone salt solution	3
5.2.2 Buffered peptone water	4
5.2.3 Double-strength buffered peptone water	4
5.3 Diluents for special purposes	4
5.4 Distribution and sterilization of the diluent	4
5.5 Performance testing for diluents	5
6 Apparatus	5
7 Sampling	6
8 Preparation of samples	6
8.1 General	6
8.2 Frozen products	7
8.2.1 General	7
8.2.2 Small samples defrosted before testing	7
8.2.3 Large pieces or blocks sampled while frozen	7
8.3 Hard and dry products	8
8.4 Dehydrated and other low-moisture products	8
8.5 Liquid and non-viscous products	8
8.6 Acidic products	8
8.7 High-fat (over 20 %) foods	9
8.8 Multi-component products	9
8.9 Packaged products	9
8.10 Surface samples (swabs and other devices)	10
9 Specific procedures	10
9.1 Test portion and initial suspension (primary dilution)	10
9.2 Duration of the procedure	11
9.3 Pooling and compositing procedures for qualitative tests	11
10 Further dilutions	11
10.1 Decimal dilution series	11
10.2 Other dilution series	12
Annex A (informative) Illustrations of pooling and compositing procedures	13
Annex B (informative) Method for sampling frozen test pieces or blocks	18
Annex C (informative) Data showing reliability of test results according to size of test portions	20
Annex D (informative) Verification protocol for pooling samples for qualitative tests	23
Bibliography	26
Appendix ZZ (normative) Variations to ISO 6887-1:2017 for Australia	27

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 on 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 the following URL: 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 6887-1:1999), which has been technically revised.

A list of parts in the ISO 6887 series can be found on the ISO website.

Introduction

Because of the large variety of food and animal feed products, this horizontal method might not be appropriate in every detail for certain products. In this case, different methods which are specific to these products can be used if absolutely necessary for justified technical reasons.

When this document is next reviewed, account will be taken of all information then available regarding the extent to which this horizontal method has been followed and the reasons for deviations from this method in the case of particular products.

The harmonization of test methods cannot be immediate and for certain groups of products, International Standards and/or national standards may already exist that do not comply with this horizontal method. It is hoped that when such standards are reviewed, they will be changed to comply with this document so that eventually, the only remaining departures from this horizontal method will be those necessary for well-established technical reasons.

This document defines the general rules for the preparation of samples, initial suspensions and subsequent dilutions for microbiological examination. The remaining parts of ISO 6887 give specific rules for the preparation of samples and initial suspensions, each covering the variety of food and feed products and environmental samples to which ISO 6887 applies.

For a number of products, it is necessary to take special precautions, especially when preparing the initial suspension, because of the physical state of the product (such as dry products, highly viscous products) or the presence of inhibitory substances (such as spices, high salt content) or the acidity, etc. These are covered in general terms in this document.

Any special diluents or practices required for particular products or microorganisms in specific standard methods take priority over the general rules listed in the ISO 6887 series. These can include the following:

- specific rehydration procedures for foods of low water activity to minimize osmotic shock;
- the use of adequate temperatures to aid suspension of cocoa, gelatine, milk powder, etc.;
- resuscitation procedures for the improved recovery of stressed microorganisms resulting from food processing and storage;
- homogenization procedures and duration specific to certain products (e.g. cereals) and/or to certain determinations (e.g. yeasts and moulds).

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WARNING — The use of this document may involve hazardous materials, operations and equipment. It is the responsibility of the user of this document to establish appropriate safety and health practices and to determine the applicability of regulatory limitations before use.

1 Scope

This document defines general rules for the aerobic preparation of the initial suspension and of dilutions for microbiological examinations of products intended for human or animal consumption.

This document is applicable to the general case and other parts apply to specific groups of products as mentioned in the foreword. Some aspects might also be applicable to molecular methods where matrices can be associated with inhibition of the PCR steps and consequently affect the test result.

This document excludes preparation of samples for both enumeration and detection test methods where preparation instructions are detailed in specific International Standards.

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.

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

ISO 11133, *Microbiology of food, animal feed and water — Preparation, production, storage and performance testing of culture media*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

laboratory sample

sample prepared for sending to the laboratory and intended for inspection or testing

[SOURCE: ISO 7002:1986, A.19]