AS 5013.15—2006

Australian Standard®

Food microbiology

Method 15: Microbiology of food and animal feeding stuffs—Horizontal method for the detection and enumeration of presumptive *Escherichia coli*—Most probable number technique

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Food microbiology

Method 15: Microbiology of food and animal feeding stuffs—Horizontal method for the detection and enumeration of presumptive *Escherichia coli*—Most probable number technique

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PREFACE

This Standard was prepared by the Standards Australia Committee FT-024, Food Products and Subcommittee FT-024-01, Food Microbiology to supersede AS 5013.15—2004, *Food microbiology*, Method 15: *Microbiology—General guidance for enumeration of presumptive Escherichia coli—Most probable number technique*.

This Standard is identical with, and has been reproduced from ISO 7251:2005, *Microbiology of food and animal feeding stuffs—Horizontal method for the detection and enumeration of presumptive Escherichia coli—Most probable number technique*.

The objective of this Standard is to specify general guidelines for the detection and enumeration of presumptive *Escherichia coli* by means of the liquid-medium culture technique and calculation of the most probable number (MPN) after incubation at 37°C, then at 44°C.

Clauses 4 (Principle), 9 (Procedures) and 10 (Expression of results) of AS 5013.15—2004 have been technically revised. The main changes are as follows:

(a) The temperature of the second incubation is now 44°C ±1°C (see Clause 4.2.5).

(b) Detection (Clause 9.1) and enumeration (Clause 9.2) of presumptive *E.coli* are covered.

(c) The use of five tubes per dilution is allowed for some specific products (see Clause 9.2.2.1).

(d) Some products (dairy products) may hinder the collection of gas (see Clause 9.1.2 and Clause 9.2.2.5).

(e) The MPN calculation refers to ISO 7218 (see Clause 10).

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

(i) Its number does not appear on each page of text and its identity is shown only on the cover and the title page.

(ii) In the source text, 'this International Standard' should read 'this Australian Standard'.

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

(iv) Substitute 'mL' for 'ml' wherever it appears.

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

Reference to 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
6887-1	Part 1: General rules for the preparation of the initial suspension and decimal dilutions	5013.11.1	Method 11.1: Microbiology of food and animal feeding stuffs—Preparation of test sample initial suspension and decimal dilutions for microbiological examination—General rules for the preparation of the initial suspension and decimal dilutions

ISO		AS	
6887-2	Part 2: Specific rules for the preparation of meat and meat products	5013.11.2	Method 11.2: Microbiology of food and animal feeding stuffs—Preparation of test sample initial suspension and decimal dilutions for microbiological examination—Specific rules for the preparation of meat products
6887-3	Part 3: Specific rules for the preparation of fish and fishery products	5013.11.3	Method 11.3: Microbiology of food and animal feeding stuffs—Preparation of test sample initial suspension and decimal dilutions for microbiological examination—Specific rules for the preparation of fish and fishery products
6887-4	Part 4: Specific rules for the preparation of products other than milk and milk products, meat and meat products and fish and fishery products	5013.11.4	Method 11.4: Microbiology of food and animal feeding stuffs—Preparation of test sample initial suspension and decimal dilutions for microbiological examination—Specific rules for the preparation of products other than milk and milk products, meat and meat products and fish and fishery products
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
8261	Milk and milk products—General guidance for the preparation of test samples, initial suspensions and decimal dilutions for microbiological examination	5013.17	Method 17: Milk and milk products—General guidance for the preparation of test samples, initial suspensions and decimal dilutions for microbiological examination

With the exception of the above ISO documents, which have been adopted as Australian Standards, the ISO documents listed as normative references in Clause 2 have not been adopted as Australian Standards.

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. The use of positive controls is part of this system.

The method given in this Standard is for use for all foods for enumeration of presumptive *Escherichia coli.*

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

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INTRODUCTION

Because of the large variety of products within this field of application, these guidelines may not be appropriate in every detail for certain products, and for some other products it may be necessary to use different methods. Nevertheless, it is hoped that in all cases every attempt will be made to apply the provided guidelines as far as possible and that deviations from them will only be made if absolutely necessary for technical reasons.

When this International Standard is next reviewed, account will be taken of all information then available regarding the extent to which the guidelines have been followed and the reasons for deviations from them 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 these guidelines. In cases where International Standards already exist for the product to be tested, they should be followed, but it is hoped that when such standards are reviewed they will be changed to comply with this International Standard so that eventually the only remaining departures from these guidelines will be those necessary for well-established technical reasons.

NOTES

AUSTRALIAN STANDARD

Food microbiology

Method 15:
Microbiology of food and animal feeding stuffs—Horizontal method for the detection and enumeration of presumptive *Escherichia coli*—Most probable number technique

1 Scope

This International Standard gives general guidelines for the detection and enumeration of presumptive *Escherichia coli* by means of the liquid-medium culture technique and calculation of the most probable number (MPN) after incubation at 37 °C, then at 44 °C. This International Standard is applicable to

— products intended for human consumption and the feeding of animals, and

— environmental samples in the area of food production and food handling.

WARNING — Some pathogenic strains of *Escherichia coli* do not grow at 44 °C.

A limitation of the applicability of this International Standard is imposed by the susceptibility of the method to a large degree of variability (see Clause 10).

2 Normative references

The following referenced documents are indispensable for the application 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 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 6887-2, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 2: Specific rules for the preparation of meat and meat products*

ISO 6887-3, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 3: Specific rules for the preparation of fish and fishery products*

ISO 6887-4, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 4: Specific rules for the preparation of products other than milk and milk products, meat and meat products, and fish and fishery products*

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

ISO 8261, *Milk and milk products — General guidance for the preparation of test samples, initial suspensions and decimal dilutions for microbiological examination*

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