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**Microbiology of the food chain —  
Preparation of test samples, initial  
suspension and decimal dilutions for  
microbiological examination —**

**Part 5:  
Specific rules for the preparation of  
milk and milk products**

*Microbiologie de la chaîne alimentaire — Préparation des  
échantillons, de la suspension mère et des dilutions décimales en vue  
de l'examen microbiologique —*

*Partie 5: Règles spécifiques pour la préparation du lait et des produits  
laitiers*



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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](http://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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 9, *Microbiology*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 463, *Microbiology of the food chain*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 6887-5:2010), which has been technically revised. The main changes compared with the previous edition are as follows:

- the document has been aligned with ISO 6887-1, ISO 6887-2, ISO 6887-3 and ISO 6887-4;
- cross references have been added to ISO 6887-1 where relevant.

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

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](http://www.iso.org/members.html).

# Microbiology of the food chain — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination —

## Part 5: Specific rules for the preparation of milk and milk products

**WARNING** — The use of this document can 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 specifies rules for the preparation of samples of milk and milk products and their suspensions for microbiological examination when the samples require a different preparation from the general methods specified in ISO 6887-1.

This document excludes the preparation of samples for both enumeration and detection test methods where preparation details are specified in the relevant International Standards.

This document is intended to be used in conjunction with ISO 6887-1.

This document is applicable to:

- a) milk and liquid milk products;
- b) dehydrated milk products;
- c) cheese and cheese products;
- d) casein and caseinates;
- e) butter;
- f) milk-based ice-cream;
- g) milk-based custard, desserts and sweet cream;
- h) fermented milks, yogurt, probiotics milk products and sour cream;
- i) dehydrated milk-based infant foods, with or without probiotics.

### 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 6887-1, *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*

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 terms and definitions given in ISO 6887-1 apply.

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

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

### 4 Principle

The general principles for sample preparation and subsequent steps are detailed in ISO 6887-1. This document describes specific sample preparation for milk and milk products.

### 5 Diluents

#### 5.1 List of diluents

Follow current laboratory practices as specified in ISO 7218. The composition of culture media and reagents and their preparation are specified in ISO 6887-1 or in the following procedures.

**5.1.1 Basic materials.** See ISO 6887-1.

**5.1.2 Diluents for general use.** Peptone salt solution, buffered peptone water and double-strength buffered peptone water are described in ISO 6887-1.

**5.1.2.1 Quarter-strength Ringer's solution.**

##### 5.1.2.1.1 Composition

Sodium chloride (NaCl) (CAS No. 7647-14-5)	2,25 g
Potassium chloride (KCl) (CAS No. 7447-40-7)	0,105 g
Calcium chloride anhydrous (CaCl <sub>2</sub> ) (CAS No. 10043-52-4)	0,06 g <sup>a</sup>
Sodium hydrogen carbonate (NaHCO <sub>3</sub> ) (Cas No. 144-55-8)	0,05 g
Water	1 000 ml

<sup>a</sup> Alternatively, use 0,12 g of CaCl<sub>2</sub>·6H<sub>2</sub>O (CAS No. 10035-04-8).

##### 5.1.2.1.2 Preparation

Dissolve the salts in the water. Adjust the pH, if necessary, so that after sterilization it is  $6,9 \pm 0,2$  at 25 °C.