



**SLOVENSKI STANDARD**  
**SIST-TS CEN ISO/TS 15213-3:2024**

**01-julij-2024**

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**Mikrobiologija v prehranski verigi - Horizontalna metoda za ugotavljanje prisotnosti in števila Clostridium spp. - 3. del: Ugotavljanje prisotnosti Clostridium perfringens (ISO/TS 15213-3:2024)**

Microbiology of the food chain - Horizontal method for the detection and enumeration of Clostridium spp. - Part 3: Detection of Clostridium perfringens (ISO/TS 15213-3:2024)

Mikrobiologie der Lebensmittelkette - Horizontales Verfahren zum Nachweis und zur Zählung von Clostridium spp. - Teil 3: Nachweis von Clostridium perfringens (ISO/TS 15213-3:2024)

Microbiologie de la chaîne alimentaire - Méthode horizontale pour la recherche et le dénombrement de Clostridium spp. - Partie 3 : Recherche de Clostridium perfringens (ISO/TS 15213-3:2024)

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**CEN ISO/TS 15213-3**

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**Microbiology of the food chain - Horizontal method for the  
detection and enumeration of Clostridium spp. - Part 3:  
Detection of Clostridium perfringens (ISO/TS 15213-  
3:2024)**

Microbiologie de la chaîne alimentaire - Méthode  
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perfringens (ISO/TS 15213-3:2024)

Mikrobiologie der Lebensmittelkette - Horizontales  
Verfahren zum Nachweis und zur Zählung von  
Clostridium spp. - Teil 3: Nachweis von Clostridium  
perfringens (ISO/TS 15213-3:2024)

This Technical Specification (CEN/TS) was approved by CEN on 6 February 2024 for provisional application.

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<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>

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[SIST-TS CEN ISO/TS 15213-3:2024](https://standards.iteh.ai/catalog/standards/sist/7481135c-e890-464a-a890-d4b72a2c7ac6/sist-ts-cen-iso-ts-15213-3-2024)

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## European foreword

This document (CEN ISO/TS 15213-3:2024) has been prepared by Technical Committee ISO/TC 34 "Food products" in collaboration with Technical Committee CEN/TC 463 "Microbiology of the food chain" the secretariat of which is held by AFNOR.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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# Technical Specification

**ISO/TS 15213-3**

## Microbiology of the food chain — Horizontal method for the detection and enumeration of *Clostridium* spp. —

### Part 3: Detection of *Clostridium perfringens*

*Microbiologie de la chaîne alimentaire — Méthode horizontale  
pour la recherche et le dénombrement de Clostridium spp. —*

*Partie 3: Recherche de Clostridium perfringens*

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## ISO/TS 15213-3:2024(en)

## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>2</b>
<b>3 Terms and definitions</b> .....	<b>2</b>
<b>4 Principle</b> .....	<b>3</b>
4.1 General.....	3
4.2 Enrichment in selective liquid medium.....	3
4.3 Isolation on selective solid medium.....	3
4.4 Confirmation.....	3
<b>5 Culture media and reagents</b> .....	<b>3</b>
<b>6 Equipment and consumables</b> .....	<b>3</b>
<b>7 Sampling</b> .....	<b>4</b>
<b>8 Preparation of test sample</b> .....	<b>4</b>
<b>9 Procedure</b> .....	<b>5</b>
9.1 General.....	5
9.2 Test portion and initial suspension.....	5
9.3 Selective enrichment.....	5
9.4 Isolation.....	5
9.5 Confirmation of <i>C. perfringens</i> .....	5
9.5.1 Selection of colonies for confirmation.....	5
9.5.2 Acid phosphatase test.....	6
9.5.3 Sulfite indole motility (SIM) agar test.....	6
9.5.4 Differentiation between human pathogenic and non-pathogenic <i>C. perfringens</i> strains (optional).....	6
9.5.5 Interpretation.....	7
<b>10 Expression of results</b> .....	<b>7</b>
<b>11 Indicative performance characteristics of the method</b> .....	<b>7</b>
11.1 Validation based on principles of ISO 17468.....	7
11.2 Indicative performance characteristics.....	7
<b>12 Test report</b> .....	<b>9</b>
<b>13 Quality assurance</b> .....	<b>10</b>
<b>Annex A (normative) Flow diagram of the procedure</b> .....	<b>11</b>
<b>Annex B (normative) Culture media and reagents</b> .....	<b>12</b>
<b>Annex C (informative) Indicative performance characteristics of the method using TSC isolation agar and acid phosphatase confirmation test</b> .....	<b>21</b>
<b>Annex D (informative) Indicative performance characteristics of the method using TSC isolation agar and SIM agar test</b> .....	<b>24</b>
<b>Annex E (informative) Indicative performance characteristics of the method using LENA isolation agar and acid phosphatase confirmation test</b> .....	<b>27</b>
<b>Annex F (informative) Indicative performance characteristics of the method using LENA isolation agar and SIM agar confirmation test</b> .....	<b>30</b>
<b>Annex G (informative) Molecular differentiation between pathogenic and non-pathogenic <i>Clostridium perfringens</i></b> .....	<b>33</b>
<b>Bibliography</b> .....	<b>34</b>

## ISO/TS 15213-3:2024(en)

### Foreword

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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 document 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)).

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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).

A list of all parts in the ISO 15213 series can be found on the ISO website.

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## ISO/TS 15213-3:2024(en)

### Introduction

*Clostridium (C.) perfringens* is a gram-positive, anaerobic, spore-forming bacterium. As a ubiquitous bacterium, *C. perfringens* is predominantly found in soil, but also in the intestinal tract of humans and animals. Therefore, the presence of *C. perfringens* in high numbers can be an indication of inadequate preparation or handling of food.

High numbers of *C. perfringens* in ready-to-eat-food can cause human illness, mainly diarrhoea. The strains are classified into toxin types, depending on the ability to produce different so called “major” and “minor” toxins. Food poisonings related to *C. perfringens* are mostly caused by *C. perfringens* isolates with the ability to produce *C. perfringens* enterotoxin (CPE).

A characteristic feature is the heat resistance of the spores; they have the ability to germinate and multiply in ready-to-eat food after the cooking process. Ingestion of contaminated food is followed by gastrointestinal disease, when enzyme-resistant *C. perfringens* enterotoxins are set free during sporulation in the small intestine. The strains are classified into different types.

This document describes the horizontal method for the detection of *C. perfringens* in food, feed, environmental samples and samples from the primary production stage. The method for the enumeration of sulfite-reducing *Clostridium* spp. is described in ISO 15213-1 and ISO 15213-2 describes the method for the enumeration of *C. perfringens*. These three parts are published as a series of International Standards because the methods are closely linked to each other. These methods are often conducted in association with each other in a laboratory.

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<https://standards.iteh.ai/catalog/standards/sist/7481135c-e890-464a-a890-d4b72a2c7ac6/sist-ts-cen-iso-ts-15213-3-2024>

