

Coffee and coffee products - Determination of acrylamide - Methods using high-performance liquid chromatography with tandem mass spectrometric detection (HPLC-MS/MS) and gas chromatography with mass spectrometric detection (GC-MS) after derivatization (ISO 18862:2025)

EESTI STANDARDI EESSÕNA

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English Version

Coffee and coffee products - Determination of acrylamide -
Methods using high-performance liquid chromatography
with tandem mass spectrometric detection (HPLC-MS/MS)
and gas chromatography with mass spectrometric
detection (GC-MS) after derivatization (ISO 18862:2025)

Café et dérivés du café - Dosage de l'acrylamide -
Méthodes par chromatographie liquide à haute
performance avec détection par spectrométrie de
masse en tandem (CLHP-SM/SM) et chromatographie
en phase gazeuse avec détection par spectrométrie de
masse (CG-SM) après dérivation (ISO 18862:2025)

Kaffee und Kaffee-Erzeugnisse - Bestimmung von
Acrylamid - Verfahren mittels Hochleistungs-
Flüssigchromatographie mit massenspektrometrischer
Detektion (HPLC-MS/MS) und Gaschromatographie
mit massenspektrometrischer Detektion (GC-MS) nach
Derivatisierung (ISO 18862:2025)

This European Standard was approved by CEN on 17 November 2025.

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 18862:2025) has been prepared by Technical Committee ISO/TC 34 "Food products" in collaboration with Technical Committee CEN/TC 275 "Food analysis - Horizontal methods" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2026, and conflicting national standards shall be withdrawn at the latest by June 2026.

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.

This document supersedes EN ISO 18862:2019.

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Endorsement notice

The text of ISO 18862:2025 has been approved by CEN as EN ISO 18862:2025 without any modification.

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Foreword

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The committee responsible for this document is ISO/TC 34, *Food products*, Subcommittee SC 15, *Coffee*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 275, *Food analysis - Horizontal methods*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 18862:2016), which has been technically revised.

The main changes are as follows:

- [Annex D](#) with examples for sample preparation and chromatographic conditions using HPLC-MS/MS has been added.

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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1 Scope

This document specifies methods for the determination of acrylamide in coffee and coffee products by extraction with water, clean-up by solid-phase extraction (SPE) and determination by high-performance liquid chromatography with tandem mass spectrometric detection (HPLC-MS/MS) and gas chromatography with mass spectrometric detection (GC-MS) after derivatization. The methods were validated in a validation study for roasted coffee, soluble coffee, coffee substitutes and coffee products with ranges from 53 µg/kg to 612,1 µg/kg.

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 3696, *Water for analytical laboratory use — Specification and test methods*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 Principle

The coffee sample is extracted with water or, in the case of soluble products, dissolved in water. A clean-up by SPE is employed to remove interfering matrix compounds. Two alternative methods can be used for the determination: HPLC-MS/MS or, after a bromination of the acrylamide, GC-MS. In both cases, solutions of isotopic labelled internal standard are used.