



ISO 12966-4

Animal and vegetable fats and oils — Gas chromatography of fatty acid methyl esters —

**Part 4:
Determination by capillary gas chromatography**

Corps gras d'origines animale et végétale — Chromatographie en phase gazeuse des esters méthyliques d'acides gras —

Partie 4: Détermination par chromatographie capillaire en phase gazeuse

**Second edition
2026-03**

This is a preview of ISO 12966-4:2026. [Click here to purchase the full version from the ANSI store.](#)



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Published in Switzerland

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This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 11, *Animal and vegetable fats and oils*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 307, *Oilseeds, vegetable and animal fats and oils and their by-products - Methods of sampling and analysis*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 12966-4:2015), which has been technically revised.

The main changes are as follows:

- the Scope has been extended to the separation of fatty acid methyl esters from C4 to C24;
- ruminant fat has been added to the Scope,
- quantification by area (%) or by mass (g/100 g) using internal standards and corrections factors calculated with a quantitative fatty acid methyl esters standard mixture containing *cis* and *trans* fatty acid methyl esters from C4:0 to C22:6; has been added
- quantification of total *trans* fatty acid methyl esters by mass (g/100 g) has been added;
- the use of 100 m, 0,25 mm ID, 0,20 µm film thickness columns are now required to separate most C18:1 *trans*- and *cis*-isomers;
- a method has been added for determination of the composition of fatty acid methyl esters expressed by area % in liquid vegetable oils.

A list of all parts in the ISO 12966 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.

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This document is one part of a series of four International Standards for the preparation and determination of fatty acid methyl esters (FAMES) by gas chromatography in animal and vegetable fats and oils. The ISO 12966 series is applicable to crude, refined, partially hydrogenated, or fully hydrogenated fats, oils, and fatty acids derived from animal and vegetable sources, and fats extracted from foodstuff.

The ISO 12966 series is not suitable for milk and milk products (or fat coming from milk and milk products), or products supplemented with conjugated linoleic acid (CLA). Furthermore, it is not intended to be applied to polymerized and oxidized fats and oils.

This document gives the conditions for the analysis of FAMES by capillary gas chromatography, while ISO 12966-2 and ISO 12966-3 cover the preparation of FAMES by different methods. ISO 12966-1 is a guideline to the modern gas chromatography of FAMES.