Foods of animal origin - Multimethod for the determination of pesticide residues using LC-based analysis following acetonitrile extraction/partitioning and clean-up by dispersive SPE

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NATIONAL FOREWORD

See Eesti standard EVS-EN 18082:2026 sisaldab Euroopa standardi EN 18082:2026 ingliskeelset teksti.	This Estonian standard EVS-EN 18082:2026 consists of the English text of the European standard EN 18082:2026.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 04.03.2026.	Date of Availability of the European standard is 04.03.2026.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

Foods of animal origin - Multimethod for the determination of pesticide residues using LC-based analysis following acetonitrile extraction/partitioning and clean-up by dispersive SPE

Aliments d'origine animale - Multiméthode de détermination des résidus de pesticides par analyse CL après extraction/partition avec de l'acétonitrile et purification par SPE dispersive

Tierische Lebensmittel - Multiverfahren zur Bestimmung von Pestizidrückständen mit LC nach Acetonitril-Extraktion/Verteilung und Reinigung mit dispersiver SPE

This European Standard was approved by CEN on 12 January 2026.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 18082:2026) has been prepared by 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of an identical text or by endorsement, at the latest by September 2026, and conflicting national standards shall be withdrawn at the latest by September 2026.

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1 Scope

This document specifies a method for the analysis of pesticide residues in foods of animal origin with a low fat content, such as meat/muscle, egg or milk by LC-MS/MS. Because of the low material requirements for miniaturized processing and the few work steps, the process is particularly time and cost-saving with high reliability and effectiveness. The method has been collaboratively studied on a number of commodity/pesticide combinations. Precision data are summarized in Table B.1. Guidelines for calibration are outlined in CEN/TS 17061:2019.

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.

CEN/TS 17061:2019, *Foodstuffs - Guidelines for the calibration and quantitative determination of pesticide residues and organic contaminants using chromatographic 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

Water is added to the homogeneous sample and is extracted with the help of acetonitrile. After addition of magnesium sulfate, sodium chloride and buffering citrate salts, the mixture is shaken intensively and centrifuged for phase separation. An aliquot of the organic phase is cleaned-up by dispersive solid phase extraction (D-SPE) with amino-sorbents (e.g. primary secondary amine sorbent, PSA) as well as magnesium sulfate for the removal of residual water. Following clean-up extracts are centrifuged. Fat contained in the sample is removed by freezing out by storing the purified acetonitrile extract in the freezer. The pesticides contained in the fat-free solution can be determined directly by LC-based analysis. For the analysis with LC hyphenations with tandem mass-spectrometry (LC-MS/MS) or high resolution mass-spectrometry (LC-HR-MS) are particularly suitable. Quantification may be performed using an internal standard, which is added to the test portion before the first extraction, but this is not mandatory. Details for calibration, see 7.2. Abbreviations and symbols are listed in Annex C.

5 Preparation and storage of the samples

5.1 General

Sample processing and storage procedures should be demonstrated to have no significant effect on the residues present in the test sample (sometimes also called “analytical sample”). Processing should also ensure that the test sample is homogeneous enough so that portion to portion (sub-sampling) variability is acceptable. If a single analytical portion is unlikely to be representative of the test sample, larger or replicate portions shall be analysed, to provide a better estimate of the true value. The degree of comminution should support a quantitative residue extraction. Otherwise, the extraction shall be carried out with the aid of a mechanical shredding device (e.g. a homogenizing rod).