



BSI Standards Publication

**Foods of plant origin – Multimethod for
the determination of pesticide residues in
vegetable oils by LC-MS/MS (QuOil)**

National foreword

This Published Document is the UK implementation of CEN/TS 17062:2019. It supersedes BS CEN/TS 17062:2017, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AW/275, Food analysis - Horizontal methods.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

**Foods of plant origin - Multimethod for the determination
of pesticide residues in vegetable oils by LC-MS/MS
(QuOil)**

Aliments d'origine végétale - Multiméthode de
détermination des résidus de pesticides dans les huiles
végétales par CL-SM/SM (QuOil)

Pflanzliche Lebensmittel - Multiverfahren zur
Bestimmung von Pestizidrückständen in pflanzlichen
Ölen mit LC-MS/MS (QuOil)

This Technical Specification (CEN/TS) was approved by CEN on 14 July 2019 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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Contents	Page
European foreword.....	3
1 Scope.....	4
2 Normative references.....	4
3 Terms and definitions	4
4 Principle	4
5 Reagents	4
6 Apparatus.....	7
7 Procedure.....	8
7.1 Extraction.....	8
7.2 Clean-up.....	8
7.3 Determination by liquid chromatography with tandem mass spectrometry (LC-MS/MS).....	9
8 Evaluation of results	9
8.1 Identification and quantification	9
8.2 Calculation of residue concentrations using the internal standard.....	10
8.3 Calculation of residue concentrations without internal standards.....	10
8.4 Calculation of residue concentration using the standard additions approach	10
9 Precision.....	10
10 Test report.....	11
Annex A (informative) Examples of experimental conditions.....	12
Annex B (informative) Precision data and recovery	15
Annex C (informative) Scheme of procedure (for 2 g of sample).....	24
Annex D (informative) Recovery studies.....	25
Annex E (informative) Abbreviations.....	26
Bibliography.....	28

European foreword

This document (CEN/TS 17062:2019) has been prepared by Technical Committee CEN/TC 275 “Food analysis - Horizontal methods”, the secretariat of which is held by DIN.

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 will supersede CEN/TS 17062:2017.

Compared to CEN/TS 17062:2017, the following changes have been made:

- Annex E (informative) containing a list of abbreviations was added;
- The document has been editorially revised.
- Annex E (informative) contains a list of abbreviations.

WARNING — The application of this Technical Specification may involve hazardous materials, operations and equipment. This Technical Specification does not claim to address all the safety problems associated with its use. It is the responsibility of the user of this Technical Specification to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

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1 Scope

This Technical Specification describes a method for the analysis of pesticide residues in fatty oils of plant origin (essential oils are excluded). It has been validated in an interlaboratory test with olive oil. However, laboratory experiences have shown that this method is also applicable to other kinds of oils such as sunflower seed oil, sesame oil, flax seed oil, rape seed oil, grape seed oil, thistle oil and pumpkin seed oil.

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 — Guideline for the calibration and quantitative determination of chromatographic methods for the determination of pesticide residues and organic contaminants*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 Principle

The homogeneous sample is extracted with acetonitrile. After centrifugation, an aliquot of the organic phase is cleaned-up by dispersive solid phase extraction (D-SPE; sorbents PSA and C18). To separate co-extracted fat a freeze-out step of the acetonitrile phase can be applied. After clean up an additional centrifugation step is performed. The extracts are acidified by adding a small amount of formic acid, to improve the storage stability of certain base-sensitive pesticides. The final extract can be directly used for LC-MS/MS analysis. A scheme of the procedure is given in Annex C.

NOTE In contrast to the method described in EN 15662 [1], this procedure does not include any addition of water.

5 Reagents

Unless otherwise specified, use reagents of recognized analytical grade. Take every precaution to avoid possible contamination of water, solvents, sorbents, inorganic salts, etc.

5.1 Water, HPLC quality.

5.2 Acetonitrile, HPLC quality.

5.3 Methanol, HPLC quality.

5.4 Acetic acid.

5.5 Ammonium formate.

5.6 Formic acid solution in acetonitrile, volume concentration $\sigma = 5$ ml formic acid/100 ml :