PD CEN/TS 17061:2019

BSI Standards Publication

Foodstuffs – Guidelines for the calibration and quantitative determination of pesticide residues and organic contaminants using chromatographic methods

bsi.

National foreword

This Published Document is the UK implementation of CEN/TS 17061:2019. It supersedes PD CEN/TS 17061:2017, which is withdrawn.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.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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English Version

Foodstuffs - Guidelines for the calibration and quantitative determination of pesticide residues and organic contaminants using chromatographic methods

Produits alimentaires - Lignes directrices pour l'étalonnage et le dosage des résidus de pesticides et contaminants organiques par des méthodes chromatographiques

Lebensmittel - Anleitung zur Kalibrierung und quantitativer Bestimmung von Pflanzenschutzmittelrückständen und organischen Kontaminanten mit chromatographischen Verfahren

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.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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

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European foreword

This document (CEN/TS 17061:2019) 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 17061:2017.

Compared to CEN/TS 17061:2017, the following changes have been made:

— Annex A (informative) containing a list of abbreviations was added;

— The document has been editorially revised.

— Annex A (informative) contains a list of abbreviations.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This Technical Specification gives guidelines for the execution of calibration and quantitative evaluation of chromatographic procedures for the determination of pesticides and organic contaminants in residue analysis. In addition, the essential requirements for calibration are outlined.

The calibration of analytical procedures and the evaluation of analytical results need to be conducted according to uniform principles in order to allow for a comparison of analytical results (even from different analytical procedures). They constitute the basis of any method validation and of the quality assurance within laboratories [1], [2], [3].

This Technical Specification does not consider issues of identification/qualification and extraction efficiency.

2 Normative references

There are no normative references in this document.

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

This document describes the approach for the calibration of chromatographic procedures. The following types of calibration are discussed in more detail:

— external calibration with linear calibration function;

— external calibration with quadratic calibration function;

— calibration with internal standard and linear calibration function;

— calibration with internal standard and quadratic calibration function;

— calibration with standards labelled with stable isotopes (isotopic dilution analysis);

— standard addition to final extract;

— standard addition to sample.

For this purpose, the calibration function and the selection criteria are illustrated on the basis of examples. The calculation formulae refer to the final extract ready for analysis (“test solution”).

The description is rounded off by essential items of quality assurance, e.g. the qualification of chromatographic systems or the quality control chart.

5 General

Calibration of a system is understood as the determination of a functional relationship between a measurable quantity and a concentration to be determined. The chosen type of calibration depends on