

STN	Charakterizácia odpadov. Stanovenie vybraných polychlórovaných bifenylov (PCB) v tuhom odpade plynovou chromatografiou s detektorom elektrónového záchytu alebo hmotnostnou spektrometriou.	STN EN 15308 83 8265
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Characterization of waste - Determination of selected polychlorinated biphenyls (PCB) in solid waste by gas chromatography with electron capture or mass spectrometric detection

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/17

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Podľa zákona č. 264/1999 Z. z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov v znení neskorších predpisov sa slovenská technická norma a časti slovenskej technickej normy môžu rozmnožovať alebo rozširovať len so súhlasom slovenského národného normalizačného orgánu.

EUROPEAN STANDARD
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EN 15308

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English Version

**Characterization of waste - Determination of selected
polychlorinated biphenyls (PCB) in solid waste by gas
chromatography with electron capture or mass
spectrometric detection**

Caractérisation des déchets - Détermination de
polychlorobiphényles (PCB) sélectionnés dans les
déchets solides par chromatographie en phase gazeuse
avec détection par capture d'électrons ou
spectrométrie de masse

Charakterisierung von Abfällen - Bestimmung
ausgewählter polychlorierter Biphenyle (PCB) in
festem Abfall unter Anwendung der Kapillar-
Gaschromatographie mit Elektroneneinfang-Detektion
oder massenspektrometrischer Detektion

This European Standard was approved by CEN on 21 September 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

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Contents

Page

European foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Principle	7
5 Reagents	8
5.1 General.....	8
5.2 Reagents for extraction and drying.....	8
5.3 Reagents for clean-up procedures	8
5.4 Reagents for gas chromatographic analysis.....	10
5.5 Standard compounds.....	10
5.5.1 Calibration standards.....	10
5.5.2 Internal and injection standards.....	10
6 Apparatus.....	11
6.1 Extraction and clean-up procedures.....	11
6.1.1 General.....	11
6.1.2 Extraction procedures.....	11
6.1.3 Clean-up procedures.....	12
6.2 Gas chromatograph	12
6.3 Capillary columns	12
7 Safety precautions	12
8 Interferences	13
9 Sample storage.....	13
10 Pretreatment	13
10.1 General.....	13
10.2 Drying.....	13
10.3 Particle size reduction.....	13
11 Procedure.....	14
11.1 Blank.....	14
11.2 Extraction.....	14
11.2.1 Extraction by shaking or sonification	14
11.2.2 Soxhlet extraction	14
11.3 Clean-up.....	15
11.3.1 General.....	15
11.3.2 Aluminium oxide clean-up.....	15
11.3.3 Silica cartridge clean-up	15
11.3.4 Silica H ₂ SO ₄ clean-up	15
11.3.5 Florisil® clean-up.....	15
11.3.6 TBA clean-up.....	16
11.3.7 Pyrogenic copper clean-up	16

11.3.8	AgNO ₃ /silica clean-up	16
11.3.9	DMSO/n-hexane partitioning clean-up.....	17
11.3.10	Benzenesulfonic acid/silica cartridge clean-up	17
11.4	Gas chromatographic analysis.....	17
11.4.1	General	17
11.4.2	Optimizing the gas chromatograph.....	17
11.4.3	Detectors.....	17
11.4.4	Check on method performance	18
11.4.5	GC-MS determination	19
11.4.6	GC-ECD determination	21
12	Calculation	22
13	Test report	22
Annex A	(informative) Performance characteristics.....	23
A.1	General	23
A.2	Type of samples and sample preparation	23
A.3	Homogeneity and stability	24
A.4	Extraction	25
A.5	Clean-up	25
A.6	Detection.....	25
A.7	PCB standard solution	25
Annex B	(informative) Examples of GC-MS chromatograms of a calibration standard solution and a contaminated soil sample	29
Annex C	(informative) Examples of GC-ECD chromatograms of a calibration standard solution and a cable shredder sample	36
Annex D	(normative) Calculation method for the estimation of total PCB content.....	39
Annex E	(informative) Summary of general requirements and recommendations.....	48
Bibliography		49

European foreword

This document (EN 15308:2016) has been prepared by Technical Committee CEN/TC 444 “Test methods for the characterization of solid matrices”, the secretariat of which is held by NEN.

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 April 2017, and conflicting national standards shall be withdrawn at the latest by April 2017.

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 15308:2008.

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

Introduction

Polychlorinated biphenyls (PCB) have been widely used as additives in industrial applications where chemical stability has been required. This stability on the other hand creates environmental problems when PCBs are eventually released into the environment. Since some of these PCB compounds are highly toxic, their presence in the environment (air, water, soil, sediment and waste) is regularly monitored and controlled. At present determination of PCB is carried out in these matrices in most of the routine laboratories following the preceding steps for sampling, pretreatment, extraction, clean-up by measurement of specific PCB by means of gas chromatography in combination with mass spectrometric detection (GC-MS) or gas chromatography with electron capture detector (GC-ECD).

Taking into account the different matrices and possible interfering compounds, this European Standard does not contain one single possible way of working. Several choices are possible, in particular relating to clean-up. Detection with both Mass Spectrometry and Electron Capture is possible. Two different extraction procedures and nine clean-up procedures are described. The use of internal and injection standards is described in order to have an internal check on choice of the extraction and clean-up procedure. This European Standard has been validated on seven solid waste which are typically contaminated with PCB (building debris, cable shredder, contaminated soil, electronic waste, sealant waste, shredder light fraction and waste wood). Validation data are given in Annex A (informative).

1 Scope

This European Standard specifies a method for quantitative determination of seven polychlorinated biphenyl congeners (PCB-28, PCB-52, PCB-101, PCB-118, PCB-138, PCB-153 and PCB-180) in solid waste using high-resolution gas chromatography with electron capture or mass spectrometric detection. The basic content of this standard is identical to that of the Horizontal PCB-standard and is therefore also applicable to soil, sludge and treated bio-waste. The detection and the quantification limits in this method are dependent on sample intake, the level of interferences as well as instrumental limitations. Under the conditions specified in this standard, minimum amounts of individual PCB congeners equal or above 0,01 mg/kg dry matter can typically be determined with no interferences present.

NOTE For the analysis of PCB in insulating liquids, petroleum products, used oils and aqueous samples is referred to EN 61619, EN 12766-1 and EN ISO 6468 respectively.

The method may be applied to the analysis of other PCB congeners not specified in the scope, but its suitability should be proven by proper in-house validation experiments.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12766-1, *Petroleum products and used oils - Determination of PCBs and related products - Part 1: Separation and determination of selected PCB congeners by gas chromatography (GC) using an electron capture detector (ECD)*

EN 12766-2, *Petroleum products and used oils - Determination of PCBs and related products - Part 2: Calculation of polychlorinated biphenyl (PCB) content*

EN 14346, *Characterization of waste - Calculation of dry matter by determination of dry residue or water content*

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