
Kompost in degestat - Določanje policikličnih aromatskih ogljikovodikov (PAH) s plinsko kromatografijo (GC) in s tekočinsko kromatografijo visoke ločljivosti (HPLC)

Compost and digestate - Determination of polycyclic aromatic hydrocarbons (PAH) by gas chromatography (GC) and high performance liquid chromatography (HPLC)

Kompost und Gärreste - Bestimmung von polycyclischen aromatischen Kohlenwasserstoffen (PAK) mittels Gaschromatographie (GC) und Hochleistungs-Flüssigkeitschromatographie (HPLC)

Compost et digestat - Dosage des hydrocarbures aromatiques polycycliques (HAP) par chromatographie en phase gazeuse (CG) et chromatographie liquide à haute performance (HPLC)

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Contents	Page
European foreword	4
Introduction	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	7
4 Principle	9
5 Interferences	9
5.1 Interference with containers.....	9
5.2 Interference with GC-MS	10
5.3 Interference with the HPLC.....	10
6 Safety remarks	10
7 Reagents	10
7.1 General.....	10
7.2 Reagents for extraction	11
7.3 Reagents for clean-up.....	11
7.4 Reagents for chromatographic analysis.....	12
7.5 Standards.....	12
7.5.1 General.....	12
7.5.2 Calibration substances and internal standards.....	12
7.5.3 Injection standard	13
7.6 Preparation of standard solutions.....	14
7.6.1 General.....	14
7.6.2 Preparation of calibration standard solutions for GC-MS.....	14
7.6.3 Preparation of internal standard solution for GC-MS.....	14
7.6.4 Preparation of injection standard solution for GC-MS	14
7.6.5 Preparation of calibration standard solutions for HPLC.....	14
7.6.6 Preparation of extraction standard solution for HPLC	15
8 Apparatus	15
8.1 Extraction and clean-up procedures.....	15
8.2 Gas chromatograph	16
8.2.1 General.....	16
8.2.2 Capillary columns	16
8.3 High-performance liquid chromatograph	16
8.3.1 General.....	16
8.3.2 Analytical separation column.....	16
9 Sampling.....	16
10 Sample storage and preservation	17
10.1 Sample storage.....	17
10.2 Sample pre-treatment.....	17
11 Procedure	17
11.1 Safety	17
11.2 Blank test	18

11.3	Extraction	18
11.3.1	General	18
11.3.2	Extraction procedure 1: acetone/hexane-like solvent and agitation or sonication ..	18
11.3.3	Extraction procedure 2: Soxhlet extraction	19
11.3.4	Extraction procedure 3: Pressurized liquid extraction (PLE).....	19
11.3.5	Extraction procedure 3: acetone/hexane-like solvent/sodium chloride and agitation	19
11.4	Concentration	20
11.4.1	General	20
11.4.2	For HPLC analysis	20
11.5	Clean-up of the extract.....	21
11.5.1	General	21
11.5.2	Clean-up A - Aluminium oxide.....	21
11.5.3	Clean-up B - Silica gel.....	22
11.5.4	Clean-up C - Gel permeation chromatography.....	22
11.6	Addition of the injection standard	22
11.7	GC-MS analysis	22
11.7.1	Settings of the gas chromatograph.....	22
11.7.2	Mass spectrometric (MS) conditions.....	23
11.7.3	Calibration of the method using an internal standard.....	24
11.7.4	Measurement	25
11.7.5	Identification.....	25
11.7.6	Check on method performance	26
11.7.7	Calculation	27
11.8	High-performance liquid chromatographic analysis (HPLC)	27
11.8.1	General	27
11.8.2	Setting the HPLC.....	28
11.8.3	Detection.....	28
11.8.4	Calibration.....	29
11.8.5	Measurement	29
11.8.6	Calculation	30
12	Performance characteristics	30
13	Precision	30
14	Test report	30
15	Validation of the method	31
15.1	Validation in accordance with ISO 5725-2	31
15.2	Performance characteristics	31
Annex A	(informative) Examples of instrumental conditions and chromatograms.....	32
A.1	Measurement of PAH with GC-MS	32
A.2	Measurement of PAH with HPLC fluorescence.....	38
A.3	Example for measurement conditions of PAH with GC-MS/MS	43
Annex B	(informative) Performance characteristics of the method	45
Bibliography		62

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This document is currently submitted to CEN Enquiry.

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Introduction

This document is applicable for compost and digestate.

Polycyclic aromatic hydrocarbons (PAH) are ubiquitous because they are released in appreciable quantities every year into the environment through the combustion of organic matters such as coal, fuel oils, petrol, wood, refuse and plant materials. Since some of these PAH compounds are carcinogenic or mutagenic, their presence in the environment (air, water, soil, sediment and waste) is regularly monitored and controlled. At present determination of PAH is carried out in these matrices in most of the routine laboratories following the prescribed steps specified for sampling, pre-treatment, extraction, clean-up by measurement of specific PAH by means of gas chromatography in combination with mass spectrometric detection (GC-MS or GC-MS/MS) or by high performance liquid chromatography (HPLC) in combination with UV-DAD- or fluorescence detection (HPLC-UV-DAD/FLD). Both the GC-MS and the HPLC methods are included in this horizontal standard.

This document was developed in accordance with EN 17503:2022.

Considering the different matrices and possible interfering compounds, this document does not contain one single possible way of working. Several choices are possible, relating to clean-up. Quantification with both GC-MS-detection and HPLC-DAD-UV/FLD is possible. Three different extraction procedures are described and three clean-up procedures. 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. The method is as far as possible in agreement with the method described for polychlorinated biphenyls (PCB) (EN ISO 18475).

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