

# Deutsche Akkreditierungsstelle GmbH

## Appendix to accreditation certificate D-PL-14170-01-00 in accordance with DIN EN ISO/IEC 17025:2018

**Valid from: 17.07.2020**

Issue date: 17.07.2020

Certificate holder:

**GBA Gesellschaft für Bioanalytik mbH**

at the locations

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Magnusstraße 11, 12489 Berlin  
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Glückaufstraße 56, 45896 Gelsenkirchen (Scholven)  
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Im Emscherbruch 11, 45699 Herten  
Daimlerring 37, 31135 Hildesheim  
Schelsenweg 24 a, 41238 Mönchengladbach  
Flensburger Straße 15, 25421 Pinneberg**

Tests in the areas of:

**physical, physico-chemical and chemical analysis of water, waste water, groundwater, surface water, running water, seepage water, bottled water, mineral water, swimming pool and bathing pool water, sewage sludge, sludges, waste, soils, compost, sediments, biota, chemical products (wood, chemical raw materials, intermediate and end products, mineral and synthetic building materials, flame retardants, gypsum, joint sealant, specific consumer products, salts, wax, acids), soil gas, room air, dust, insulating and waste oil, fuels, commodities, carbon dioxide, feedstuffs, foodstuffs**

**Selected sensory analysis of water, waste water, groundwater, surface water, seepage water, drinking water, carbon dioxide (gas), foodstuffs and feedstuffs**

Abbreviations used: see page 167

*The certificate, including the certificate appendix, reflects the status on the issue date. The current status of the scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH (DAKKS) at <https://www.dakks.de/en/content/directory-accredited-bodies>*

**This document is a translation. The definitive version is the original German annex to the accreditation certificate.**

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**Microbiological analysis of water, waste water, groundwater, surface water, running water, seepage water, bottled water, raw and drinking water, water from re cooler systems, foodstuffs, feedstuffs**

**Selected molecular biological and immunological analysis of foodstuffs and feedstuffs**

**Ecotoxicological analysis of water, waste water, groundwater, surface water, running water, seepage water, waste and compost**

**Selected cultural plant-based analysis of biowaste**

**Sampling of raw and drinking water, waste water, swimming pool and bathing pool water, surface water, water from aquifers, mineral springs and spas, sludges, sewage sludge, soils, soil gas, selected organic gaseous airborne substances, sediments, fuels, compost and waste**

**Analysis in accordance with the German drinking water ordinance with the exception of radioactive substances**

**Sampling and microbiological analysis of industrial water in accordance with Section 3 (8) 42nd BImSchV 2017;**

**Specialist modules for water, soil, contaminated sites and waste**

**Determination (sampling and analysis) of fibrous particles in indoor environments, solids and dusts**

**Determination (sampling and analysis) of moulds in indoor environments, material samples and on surfaces**

**Medicinal products and active ingredients**

**Test areas: Chemical, physico-chemical and biological analysis of medicinal products, active ingredients and excipients**

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The test methods are marked with the following symbols for the locations at which they are carried out:

- B = Berlin
- FG = Freiberg
- GE = Gelsenkirchen
- HE = Herten
- HH = Hamburg
- HI = Hildesheim
- HM = Hameln
- MG = Mönchengladbach
- PI = Pinneberg
- SV = Scholven

**Flexibility of the scope of accreditation**

**With the exception of all sampling methods, the specialist modules for water, soil, contaminated sites and waste, the testing laboratories are permitted to apply the listed standardised or equivalent test methods with different versions of the standards without obtaining prior notification and consent from DAkKS.**

**Within the specified test fields, the testing laboratory is permitted to do the following without obtaining prior notification and consent from DAkKS GmbH**

- \*) Freely select standard test methods or equivalent test methods.**
- \*\*\*) Modify test methods and develop new test methods.**

**The test methods listed are given by way of example.**

In addition to the test areas that are marked in the sections below as part of the flexible scope of accreditation (\*/\*\*), the test type/test parameter combinations set out in **Table 1** at the locations shown are also included across matrices.

**Table 1:** Part of the flexible scope of accreditation across matrices

<b>Matrix</b>	<b>Test parameters/test type</b>	<b>Location</b>
Water and eluates; drinking water; soil, sewage sludge, sludge, sediment; waste, biowaste/compost; dusts; chemical raw materials, intermediate and end products; specific consumer products; foodstuffs; carbon dioxide; mineral water and bottled water; chemical medicinal products, active ingredients and excipients	Determination of elements by inductively coupled plasma atomic emission spectrometry (ICP-OES) and inductively coupled plasma mass spectrometry (ICP-MS)	PI*

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<b>Matrix</b>	<b>Test parameters/test type</b>	<b>Location</b>
Water and eluates; drinking water; waste, biowaste/compost; dusts; mineral and synthetic building materials (gypsum); inorganic chemicals; mineral water and bottled water	Determination of anions by ion chromatography	PI*
Soil, sewage sludge, sludge, sediment; biota	Freeze-drying and determination of dry residue by freezing	PI*
Commodities, foodstuffs	Determination of hydrocarbons MOSH/MOAH and POSH/PAO by gas chromatography with conventional detectors (GC-ECD, FID)	HH**
Water and eluates, soil, sewage sludge, sludge, sediment, waste, biowaste/compost	Determination of hydrocarbons by gas chromatography with conventional detectors (GC-FID)	PI*
Water and eluates, drinking water, soil, sewage sludge, sludge, sediment, waste, biowaste/compost, wood	Determination of mercury by atomic absorption spectroscopy (K-AAS)	PI*
Water and eluates; drinking water; soil, sewage sludge, sludge and sediment; waste, biowaste/compost; biota; dusts; mineral and synthetic building materials (gypsum); inorganic chemicals	Gravimetric analysis of physico-chemical indicators and summary indices of actions and substances	PI*
Water and eluates; drinking water; soil, sewage sludge, sludge and sediment; waste, biowaste/compost; dusts; mineral and synthetic building materials (gypsum)	Electrode measurement of physico-chemical indicators and anions	PI*
Water and eluates; drinking water; soil, sewage sludge, sludge and sediment; waste, biowaste/compost; biota; dusts; mineral and synthetic building materials (gypsum)	Titrimetric analysis of physico-chemical indicators, summary indices of actions and substances and ions	PI*
Water and eluates, soil, sewage sludge, sludge and sediment, waste, biowaste/compost; acids	Elemental analysis of summary indices of actions and substances	PI*

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**The testing laboratory has an up-to-date list of all test methods within the flexible scope of accreditation.**

**1 Environmental analysis**

**1.1 Water and eluates (waste water, surface water, groundwater, raw water, leachate and aqueous eluates and water from re cooler systems)**

**1.1.1 Sampling of water (WA, WW, SW, GW, RW, CW, LW)**

DIN EN ISO 5667-1 (A 4) 2007-04	Water quality – Sampling – Part 1: Guidance on the design of sampling programmes and sampling techniques	B, GE, PI
DIN 38402-A 11 2009-02	Sampling of waste water (Deviation: Matrix also leachate)	B, FG, GE, HI, PI, SV
DIN 38402-A 12 1985-06	Sampling from barrages and lakes	B, GE, HI, PI
DIN 38402-A 13 1985-12	Sampling from aquifers	B, GE, HI, PI
DIN ISO 5667-5 (A 14) 2011-02	Water quality – Sampling – Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems	B, FG, GE, HI, PI
DIN 38402-A 15 2010-04	Sampling from running waters	GE, HI, PI
DIN EN ISO 5667-6 (A 15) 2016-12	Water quality – Sampling – Part 6: Guidance on sampling of rivers and streams	GE, HI, PI
DIN 38402-A 18 1991-05	Sampling of water from mineral springs and spas	GE, HI, PI
DIN EN ISO 5667-3 (A 21) 2019-07	Water quality – Sampling – Part 3: Preservation and handling of water samples	B, FG, GE, HI, PI
DIN 38402-A 30 1998-07	Pretreatment, homogenisation and aliquotation of non-homogeneous water samples	B, FG, GE, HI, PI

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DIN EN ISO 19458 (K 19) 2006-12	Water quality – Sampling for microbiological analysis (Deviation: FG, HI, PI: Matrix also water from re cooler systems)	B, FG, GE, HI, PI, SV
ISO 5667-11 2009-04	Water quality – Sampling – Part 11: Guidance on sampling of groundwaters	B, GE, HI, PI
DVGW W 112 2011-10	Principles of groundwater sampling from groundwater monitoring wells	B, GE, PI
DVGW W 115 2008-07	Drilling for the investigation, observation and extraction of groundwater	PI
DVWK Regel 128 1992	Scope of sampling and examination of groundwater samples	GE, PI
DVWK Merkblatt 245 1997	Depth-oriented sampling from groundwater monitoring wells	GE, PI
DWA-A 909 2011-12	Principles of groundwater sampling from groundwater monitoring wells	B, GE, PI
LAWA Pegelvorschrift Anlage D 1998	Guideline on the measurement and determination of drainage and flow rates	PI
LUA Merkblatt 31 2001-04	Guideline on the implementation of waste water sampling in NRW	GE
Merkblatt 4 zur Qualitätssich. der FHH-UB 1999-10	Sampling of groundwater	HI, PI
VDI 2047 Blatt 2 2015-01	Open re cooler systems – Securing hygienically sound operation of evaporative cooling systems (VDI Cooling Tower Code of Practice) (Deviation: <i>Implementation of sampling only</i> )	FG, HI, PI

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VDI 2047 Blatt 2 2019-01	Open recoler systems – Securing hygienically sound operation of evaporative cooling systems (VDI Cooling Tower Code of Practice)	FG, HI, PI
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**1.1.2 Pretreatment of samples of water (WA, WW, SW, GW, RW, LW) and eluates**

DIN EN ISO 15587-2 (A 32) 2002-07	Water quality – Digestion for the determination of elements in water – Part 2: Nitric acid digestion	PI
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**1.1.3 Simple descriptive tests of sensory parameters (turbidity, odour, taste and putrefactiveness) in water (WA, WW, SW, GW, RW, LW) and eluates**

DIN EN 1622 (B 3) 2006-10	Water quality – Determination of the threshold odour number (TON) and threshold flavour number (TFN) (Deviation: <i>Only odour threshold</i> )	PI
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DIN EN 1622 (B 3) 2006-10 (Anhang C)	Water quality – Determination of the threshold odour number (TON) and threshold flavour number (TFN), Annex C (Qualitative, simplified method)	FG, GE, HI, PI
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DIN EN ISO 7027 (C 2) 2000-04	Water quality – Determination of turbidity (Deviation: <i>Only on-site measurements</i> )	FG, GE, PI
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DIN EN ISO 7027-2 (C 22) 2019-06	Water quality – Determination of turbidity – Part 2: Semi-quantitative methods for the assessment of transparency of waters (Deviation: <i>Only field methods as per to 5.1</i> )	FG, GE, PI
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DEV H 22 1960	Determination of putrefactiveness	GE, PI
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**1.1.4 Atomic and mass spectrometry of elements in water (WA, WW, SW, GW, RW, LW) and eluates**

**1.1.4.1 Atomic absorption spectrometry (K-AAS) of mercury (\*: PI, across matrices, see Table 1)**

DIN EN ISO 12846 (E 12) 2012-08	Water quality – Determination of mercury – Method using atomic absorption spectrometry (AAS) with and without enrichment (Deviation: <i>PI: Without enrichment</i> )	PI, SV
ASTM D6722 2011	Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by Direct Combustion Analysis (Deviation: <i>Only halogenated water samples</i> )	HE

**1.1.4.2 Inductively coupled plasma atomic emission spectrometry (ICP-OES) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 11885 (E 22) 2009-09	Water quality – Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (ICP-OES)	PI
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**1.1.4.3 Inductively coupled plasma mass spectrometry (ICP-MS) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 17294-2 (E 29) 2017-01	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of selected elements including uranium isotopes	PI
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**1.1.5 Calculation method for inorganic and organic parameters in water (WA, WW, SW, GW, RW, LW) (\*: PI)**

DIN 38404-C 10 2012-12	Calcit saturation of water	GE, PI
DIN 38405-D 8 1971-1975	Carbonic acid chemistry: Calculation of dissolved carbon dioxide (of free carbonic acid), carbonate and hydrogen carbonate ion	FG, GE, PI
DIN 38409-H 6 1986-01	Water hardness (H 6) (Deviation: <i>Measurement of Ca and Mg by ICP</i> )	PI

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DEV H 12 1981	Nitrogen (total), calculation	GE
<b>1.1.6</b>	<b>Electrode measurement of physical, physico-chemical parameters, summary indices of actions and substances, anions and dissolved gases in water (WA, WW, SW, GW, RW, LW) and eluates (*: PI)</b>	
DIN 38404-C 4 1976-12	Determination of temperature	B, FG, GE, HI, PI
DIN EN ISO 10523 (C 5) 2012-04	Water quality – Determination of pH	B, FG, GE, HI, PI, SV
DIN 38404-C 6 1984-05	Determination of the oxidation reduction (redox) potential	B, FG, GE, HI, PI
DIN 38404-C 6 Berichtigung 1 2018-12	Determination of the oxidation reduction (redox) potential	B, FG, GE, HI, PI
DIN EN 27888-C 8 1993-11	Water quality; Determination of electrical conductivity	B, FG, GE, HI, PI, SV
DIN 38405-D 4 Anschnitt 2 1985-07	Determination of fluoride (Here only section 2 (DIN 38405-D4-1): Direct determination of fluoride by fluoride ion-selective electrode)	FG, HE
DIN EN ISO 5814 (G 22) 2013-02	Water quality – Determination of dissolved oxygen – Electrochemical probe method	B, FG, GE, HI, PI
DIN 38408-G 23 1987-11	Oxygen saturation index	FG, PI
DIN EN 1899-1 (H 51) 1998-05	Water quality – Determination of biochemical oxygen demand after n days (BODn) – Part 1: Dilution and seeding method with allylthiourea acid addition	GE
DIN EN 1899-2 (H 52) 1998-05	Water quality – Determination of biochemical oxygen demand after n days (BODn) – Part 2: Methods for undiluted samples	GE

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**1.1.7 Elemental analysis of summary indices of actions and substances in water (WA, WW, SW, GW, RW, LW) and eluates (\*: PI, across matrices, see Table 1)**

DIN EN 1484 (H 3) 1997-08	Water analysis – Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC)	GE, PI, SV
DIN EN 1484 (H 3) 2019-04	Water analysis – Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC)	GE, PI, SV
DIN 38409-H 8 1984-09	Determination of extractable organically bonded halogens (Deviation: <i>Combustion in an oxygen stream</i> )	GE, PI
DIN EN ISO 9562 (H 14) 2005-02	Water quality – Determination of adsorbable organically bound halogens (AOX)	GE
DIN EN 1485 (H 14) 1996-11	Water quality – Determination of adsorbable organically bound halogens (AOX)	GE
DIN 38409-H 22 2001-02	Determination of dissolved adsorbable and organically bound halogens in salt loaded water after solid-phase enrichment (SPE-AOX) (H 22)	GE
DIN EN 12260 (H 34) 2003-12	Water quality – Determination of nitrogen – Determination of bound nitrogen (TNb), following oxidation to nitrogen oxides	GE

**1.1.8 Liquid chromatography of organic compounds in water (WA, WW, SW, GW, RW, LW) and eluates**

**1.1.8.1 Liquid chromatography with conventional detectors (HPLC-DAD, HPLC-UV)**

In-house method PI-MA-M 02-002 2019-09	Determination of aldehydes in water, solids and on air cartridges / silica gel / passive collectors enriched samples by HPLC-DAD	PI
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**1.1.8.2 Liquid chromatography with mass selective detectors (LC-MS/MS) (\*: PI)**

DIN EN ISO 22478 (F 21) 2006-07	Water quality – Determination of certain explosives and related compounds – Method using HPLC with UV detection (Deviation: <i>MS/MS detection and processing by SPE or analysis by direct injection</i> )	PI
DIN 38407-F 35 2010-10	Determination of selected phenoxyalkyl carbonic acids and further acid plant treatment agents – Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS)	PI
DIN 38407-F 36 2014-09	Determination of selected active substances of plant protection products and other organic substances in water – Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS or -HRMS) after direct injection	PI
DIN 38407-F 42 2011-03	Determination of selected polyfluorinated compounds (PFC) in water – Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS) after solid-liquid extraction	PI
DIN ISO 16308 (F 45) 2017-09	Water quality – Determination of glyphosate and AMPA – Method using high performance liquid chromatography (HPLC) with tandem mass spectrometric detection (Deviation: <i>Measurement using LC-MS/MS, additionally glufosinate</i> )	PI
DIN 38407-F 47 2017-07	Determination of selected active pharmaceutical ingredients and other organic substances in water and waste water – Method using high performance liquid-chromatography and mass spectrometric detection (HPLC-MS/MS or -HRMS) after direct injection: Measurement using HPLC-MS/MS	PI
DIN 38413-P 6 2007-02	Determination of acrylamide – Method using high performance liquid chromatography with mass spectrometric detection (HPLC-MS/MS)	PI
Hausmethode PI-MA-M 02-007 2019-09	Determination of active pharmaceutical ingredients and other organic compounds in water and soil	PI

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Hausmethode PI-MA-M 02-008 2019-09	Determination of benzotriazoles in water by LC-MS/MS	PI
Hausmethode PI-MA-M 02-009 2019-09	Bisphenols by LC-MS/MS in water, eluates and various solids	PI
Hausmethode PI-MA-M 02-019 2019-09	Determination of selected heterocycles by HPLC-MS/MS in water and soil	PI
Hausmethode PI-MA-M 02-024 2019-09	Determination of selected active substances of plant protection products by LC-MS/MS in water and soil	PI
Hausmethode PI-MA-M 02-027 2019-09	Determination of polar nitrogen compounds in soil and water by LC-MS/MS	PI
Hausmethode PI-MA-M 02-031 2019-09	Determination of X-ray contrast media by HPLC-MS/MS	PI
Hausmethode PI-MA-M 02-036 2019-09	Determination of tetracyclines in water by LC-MS/MS	PI
Hausmethode PI-MA-M 02-038 2019-09	Trifluoroacetic acid in water by LC-MS	PI
<b>1.1.9 Gas chromatography of organic compounds in water (WA, WW, SW, GW, RW, LW) and eluates</b>		
<b>1.1.9.1 Gas chromatography with conventional detectors (GC-FID, GC-ECD) (*: PI, across matrices, see Table 1)</b>		
DIN 38407-F 3 1998-07	Gas chromatographic determination of polychlorinated biphenyls	GE
DIN EN ISO 9377-2 (H 53) 2001-07	Water quality – Determination of hydrocarbon oil index – Part 2: Method using solvent extraction and gas chromatography (Deviation: <i>PI: Additional analysis after Petrol Pack</i> )	GE, HI, PI

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In-house method      Determination of highly volatile alkanes C1 to C4 by HS-GC-FID    HI  
 HI-MA-M 03-019 # 1    in water  
 2017-03

**1.1.9.2 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS) (\*: PI)**

DIN EN ISO 6468 (F 1) 1997-02	Water quality – Determination of certain organochlorine insecticides, polychlorinated biphenyls and chlorobenzenes – Gas chromatographic method after liquid-liquid extraction (Deviation: <i>Additionally PCB 118, measurement with GC-MSD or GC-MS/MS</i> )	PI
DIN 38407-F 2 1993-02	Determination of low volatile halogenated hydrocarbons by gas chromatography (Deviation: <i>GE: In combination with DIN 51527 T1 (only PCBs)</i> )	GE, PI
DIN 38407-F 3 1998-07	Gas chromatographic determination of polychlorinated biphenyls	GE, PI
DIN EN ISO 10301 (F 4) 1997-08	Water quality – Determination of highly volatile halogenated hydrocarbons – Gas chromatographic methods or GC-MSD	GE, HI, PI
DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives using gas chromatography (F 9) by headspace analysis (1) (Deviation: <i>Additionally aliphatic C5-C10, diethylbenzenes; analysis also by GC-MSD</i> )	GE, HI, PI
DIN EN ISO 17353 (F 13) 2005-11	Water quality – Determination of selected organotin compounds – Gas chromatographic method	PI
DIN EN 12673 (F 15) 1999-05	Water quality – Gas chromatographic determination of some selected chlorophenols in water (Deviation: <i>Additionally phenol, cresols and xylenols and also triclosan and bisphenol A</i> )	PI
DIN 38407-F 17 1999-02	Determination of selected nitroaromatic compounds by gas chromatography (GC-MSD)	PI

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DIN EN ISO 23631 (F 25) 2006-05	Water quality – Determination of dalapon, trichloroacetic acid and selected haloacetic acids – Method using gas chromatography (GC-ECD and/or GC-MS detection) after liquid-liquid extraction and derivatization <i>(Deviation: Exchange of diazomethane, only mono, di and trichloroacetic acids)</i>	PI
DIN EN ISO 18856 (F 26) 2005-11	Water quality – Determination of selected phthalates using gas chromatography/mass spectrometry liquid-liquid-extraction	PI
DIN 38407-F 27 2012-10	Determination of selected phenols in groundwater and leachate, aqueous eluates and percolates (F 27)	PI
DIN EN ISO 22032 (F 28) 2009-07	Water quality – Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge – Method using extraction and gas chromatography/mass spectrometry <i>(Deviation: Other analytes polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP-A), hexabromocyclododecane (HBCD), tribromanisole (TBA); liquid/liquid extraction from water samples, other internal standards)</i>	PI
DIN 38407-F 30 2007-12	Determination of trihalogenmethanes in bathing water and pool water with headspace-gas chromatography	PI
DIN EN ISO 18857-1 (F 31) 2007-02	Water quality – Determination of selected alkylphenols – Part 1: Method for non-filtered samples using liquid-liquid extraction and gas-chromatography with mass selective detection <i>(Deviation: Additional determination of octylphenols and ethoxylates; extraction with hexane and different clean-up)</i>	PI
DIN EN ISO 18857-2 (F 32) 2012-01	Water quality – Determination of selected alkylphenols – Part 2: Gas chromatographic-mass spectrometric determination of alkylphenols, their ethoxylates and bisphenol A in non-filtered samples following solid-phase extraction and derivatisation	PI
DEV-F 33 2002-01	Determination of polychlorinated dibenzodioxins (PCDD) and polychlorinated dibenzofurans (PCDF)	PI

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DIN 38407-F 37 2013-11	Determination of organochlorine pesticides, polychlorinated biphenyls and chlorobenzene in water – Method using gas chromatography and mass spectrometric detection (GC-MS) after liquid-liquid extraction (Deviation: <i>Measurement also with GC-MS/MS; additional analysis of cypermethrin, permethrin, cyhalothrin and deltamethrin</i> )	PI
DIN 38407-F 39 2011-09	Water quality – Determination of selected polycyclic aromatic hydrocarbons (PAH) – Method using gas chromatography with mass spectrometric detection (GC-MS) (F 39)	GE, PI
DIN ISO 28540 (F 40) 2014-05	Water quality – Determination of 16 polycyclic aromatic hydrocarbons (PAH) in water – Method using gas chromatography with mass spectrometric detection	PI, GE
DIN 38407-F 43 2014-10	Determination of selected easily volatile organic compounds in water – Method using gas chromatography and mass spectrometry by static headspace technique (HS-GC-MS) (F 43)	GE, HI, PI
DIN EN ISO 12010 (H 47) 2019-09	Water quality – Determination of short-chain polychlorinated alkanes (SCCPs) in water – Method using gas chromatography-mass spectrometry (GC-MS) and negative-ion chemical ionisation (NCI) (Deviation: <i>Additional determination of MCCP, modular clean-up, modified quantification, detector GC-MSD</i> )	PI
DIN 38413-P 2 1988-05	Determination of vinyl chloride (chloroethene) by headspace gas chromatography	HI
DIN EN 14207 (P 9) 2003-09	Water quality – Determination of epichlorohydrin	PI
DIN EN ISO 16588 (P 10) 2004-02	Water quality – Determination of six complexing agents, EDTA, NTA, etc. – Gas chromatographic method (GC-MSD) (Deviation: <i>Additional matrices (soil and cleaning agents) after aqueous eluate preparation</i> )	PI
ISO 8165-2 1999-07	Water quality – Determination of selected phenols – Part 2: Method by derivatisation and gas chromatography – Analysis using GC-MSD	PI

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ISO 17858 2007-02	Water quality – Determination of dioxin-like polychlorinated biphenyls – Method using gas chromatography / mass spectrometry	PI
DIN EN 12766-3 2005-02	Petroleum products and used oils – Determination of PCBs and related products – Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation: <i>Matrix water, measurement by GC-MS, liquid/liquid extraction</i> )	PI
DIN EN 12766-3 Berichtigung 1 2007-06	Petroleum products and used oils – Determination of PCBs and related products – Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation: <i>Matrix water, measurement by GC-MS, liquid/liquid extraction</i> )	PI
Hausmethode HI-MA-M 03-022 # 1 2017-03	Determination of organic acids (C1-C5) in water after derivatisation using HS-GC-MSD	HI
Hausmethode HI-MA-M 03-024 # 1 2017-03	Determination of furan, thiophene, 3-methylthiophene and 2,5-dimethylthiophene (heterocyclic compounds) in water by headspace gas chromatography	HI
Hausmethode PI-MA-M 03-006 2017-02	Screening of water and soil	PI
Hausmethode PI-MA-M 03-077 2019-09	Glycols (ethylene, di and triethylene, propylene glycol) in water, soil and in XAD-cartridges of air samples using GC MSD	PI
Hausmethode PI-MA-M 03-079 2019-09	Organophosphorus flame retardant after solvent extraction and measurement using GC-MS	PI
Hausmethode PI-MA-M 03-081 2019-09	Musk compounds in water and solids using GC-MSD	PI

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Hausmethode PI-MA-M 03-086 2017-02	Terpenes in water using GC-MSD	PI
Hausmethode PI-MA-M 03-098 2017-02	Selected heterocyclic compounds by Kora list in waters and eluates using GC-MSD	PI
Hausmethode PI-MA-M 03-112 2017-02	Estrogens, estrogen metabolites and sitosterol in water and soil samples	PI
Hausmethode PI-MA-M 03-113 2015-02	PFT in water using GC-MSD	PI
<b>1.1.10 Gravimetric measurement of physical, physico-chemical parameters, summary indices of actions and substances in water (WA, WW, SW, GW, RW, LW) and eluates (*: PI)</b>		
DEV C 9 1974	Determination of density	HE, PI, SV
DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate dry residue and residue on ignition	B, FG, GE, HI, PI
DIN 38409-H 2-2/3 1987-03	Determination of filterable matter and the residue on ignition	FG, GE, HI, PI
DIN EN 872 (H 33) 2005-04	Water quality – Determination of suspended solids – Method by filtration through glass fibre filters	FG, GE, HI, PI
DIN ISO 11349 (H 56) 2015-12	Water quality – Determination of low-volatility lipophilic substances – Gravimetric method	GE, HI, PI
DIN EN 15216 2008-01	Characterisation of waste – Determination of total dissolved solids (TDS) in water and eluates (Deviation: Matrix here water)	B, FG, GE, HI, PI

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**1.1.11 Ion chromatography of anions and cations in water (WA, WW, SW, GW, RW, LW) and eluates (\*: PI, across matrices, see Table 1)**

DIN EN ISO 10304-1 (D 20) 2009-07	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulphate (Deviation: <i>PI and SV: No determination of nitrite and phosphate</i> )	HE, PI, SV
DIN EN ISO 10304-3 (D 22) 1997-11	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 3: Determination of chromate, iodide, sulphite, thiocyanate and thiosulphate HE: Only iodide, sulphite, thiosulphate	HE
DIN EN ISO 10304-4 (D 25) 1999-07	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 4: Determination of chlorate, chloride and chlorite in water with low contamination	PI
DIN EN ISO 14911 (E 34) 1999-12	Water quality – Determination of dissolved Li <sup>+</sup> , Na <sup>+</sup> , NH <sub>4</sub> <sup>+</sup> , K <sup>+</sup> , Mn <sup>2+</sup> , Ca <sup>2+</sup> , Mg <sup>2+</sup> , Sr <sup>2+</sup> and Ba <sup>2+</sup> using ion chromatography – Method for water and waste water (Deviation: <i>Only NH<sub>4</sub><sup>+</sup></i> )	SV

**1.1.12 Microbiological analysis – Detection of bacteria by cultural bacteriological analysis in water (WA, WW, SW, GW, RW, CW, LW) (\*: HH)**

DIN EN ISO 6222 (K 5) 1999-07	Water quality – Enumeration of culturable microorganisms – Colony count by inoculation in a nutrient agar culture medium	HH
DIN EN ISO 9308-2 (K 6-1) 2014-06	Water quality – Enumeration of Escherichia coli and coliform bacteria – Part 2: Most probable number method	HH
DIN EN ISO 16266 (K 11) 2008-05	Water quality – Detection and enumeration of Pseudomonas aeruginosa – Membrane filtration method	HH
DIN EN ISO 9308-1 (K 12) 2017-09	Water quality – Enumeration of Escherichia coli and coliform bacteria – Part 1: Membrane filtration method for waters with low bacterial background flora	HH
DIN EN ISO 7899-2 (K 15) 2000-11	Water quality – Detection and enumeration of intestinal enterococci – Part 2: Membrane filtration method	HH

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ISO 11731 (K 23) 2017-05	Water quality – Enumeration of legionella	HH
DIN EN ISO 11731 (K 23) 2018-03	Water quality – Enumeration of legionella	HH
DIN EN ISO 11731 (K 23) 2019-03	Water quality – Enumeration of legionella	HH
DIN EN ISO 14189 (K 24) 2016-11	Water quality – Enumeration of <i>Clostridium perfringens</i> – Method using membrane filtration	HH
TrinkwV § 15 Absatz (1c) 2018-01	Enumeration of culturable microorganisms – Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C)	HH
UBA-Empfehlung 2012-08	Systemic examination of drinking water installations for Legionella in accordance with TrinkwV (Deviation: <i>Matrix SPW</i> )	HH
UBA-Empfehlung 2017-06	Recommendation of the Federal Environmental Agency for the sampling and detection of Legionella in evaporative cooling plants, cooling towers and wet separators	HH

**1.1.13 Photometry of physico-chemical parameters, summary indices of actions and substances, anions, cations, dissolved gases, hydrazine and surfactants in water**

**1.1.13.1 Photometry (\*: PI)**

DIN EN ISO 7887 (C 1) 2012-04	Water quality – Examination and determination of colouring (GE: Only method A)	GE, PI
DIN 38404-C 3 2005-07	Determination of absorption in the range of UV radiation, spectral absorption coefficient	PI
DIN EN ISO 7027-1 (C 21) 2016-11	Water quality – Determination of turbidity – Part 1: Quantitative method	PI

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DIN EN 26777 (D 10) 1993-04	Water quality; determination of nitrite; molecular absorption spectrometric method	PI
DIN EN ISO 6878 (D 11) 2004-09	Water quality – Determination of phosphorus – Ammonium molybdate photometric method	PI, SV
DIN 38405-D 13 2011-04	Determination of cyanides	PI
DIN 38405-D 14 1988-12	Determination of cyanides in drinking water, and in groundwater and surface water with low pollution levels: Cyanide (total and readily liberated) after the separation process	PI
DIN 38405-D 24 1987-05	Photometric determination of chromium(VI) using 1,5-diphenylcarbonohydrazide (D 24) GE: Also from eluates	GE, PI
DIN 38405-D 26 1989-04	Photometric determination of dissolved sulphide	GE, PI
DIN 38405-D 27 1992-07	Determination of readily liberated sulphide	PI
DIN 38405-D 27 2017-10	Determination of sulphide by gas extraction	PI
DIN EN ISO 18412 (D 40) 2007-02	Water quality – Determination of chromium(VI) – Photometric method for weakly contaminated water	PI
DIN 38406-E 1 1983-05	Determination of iron	PI
DIN EN ISO 7393-2 (G 4-2) 2019-03	Water quality – Determination of free chlorine and total chlorine – Part 2: Colorimetric method using N,N-dialkyl-1,4-phenylenediamine, for routine control purposes	FG, PI
DIN ISO 17289 (G 25) 2014-12	Water quality – Determination of dissolved oxygen – Optical sensor method (also on site)	GE, PI

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DIN 38409-H 16 Berichtigung 1 2018-12	Determination of the phenol index	PI
DIN 38409-H 16-2 1984-06	Determination of the phenol index after distillation and colourant extraction	PI
DIN 38409-H 16-3 1984-06	Determination of the phenol index after distillation	PI
DIN EN 38409 (H 23) 1980-05	Determination of methylene blues and bismut active substances	GE
DIN EN ISO 11905-1 (H 36) 1998-08	Water quality – Determination of nitrogen – Part 1: Method using oxidative digestion with peroxodisulphate	PI
DIN ISO 15705 (H 45) 2003-01	Water quality – Determination of the chemical oxygen demand index (ST-COD) – Small-scale sealed tube method	FG, GE, HI, PI
DIN 38413-P 1 1982-03	Determination of hydrazine	PI
ISO 11083 1994-08	Water quality – Determination of chromium(VI) – Spectrometric method with 1.5-diphenyl carbazide	PI
OENORM ISO 7150-1 1987-12	Water analysis: Determination of ammonium; manual spectrophotometric method	PI
VGB-B 401 Blatt 3.3.1.1 1986-02	Determination of dissolved (molybdate-active) silica	SV
Hausmethode PI-MA-M 06-101 2016-08	Humic substances in water	PI

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**1.1.13.2 Photometry with flow and flow rate analysis (\*: PI)**

DIN EN ISO 14403-2 (D 3) 2012-10	Water quality – Determination of total cyanide and free cyanide using flow analysis (FIA and CFA) – Part 2: Method using continuous flow analysis (CFA)	PI
DIN EN ISO 13395 (D 28) 1996-12	Water quality – Determination of nitrite nitrogen and nitrate nitrogen and the sum of both by flow analysis (CFA and FIA) and spectrometric detection	PI
DIN EN ISO 15681-2 (D 46) 2005-05	Water quality – Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA) – Part 2: Method using continuous flow analysis (CFA)	PI
DIN EN ISO 15681-2 (D 46) 2019-05	Water quality – Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA) – Part 2: Method using continuous flow analysis (CFA)	PI
DIN EN ISO 11732 (E 23) 2005-05	Water quality – Determination of ammonium nitrogen – Method by flow analysis (CFA and FIA) and spectrometric detection	GE, PI, SV
DIN EN ISO 14402 (H 37) 1999-12	Water quality – Determination of phenol index by flow analysis (FIA and CFA)	PI

**1.1.14 Ecotoxicological analysis of summary degradation parameters in water (WA, WW, SW, GW, RW, LW)**

DIN 38412-L 30 1989-03	Determination of the tolerance of Daphnia to the toxicity of waste water by way of a dilution series	GE
DIN EN ISO 11348-2 (L 51) 2009-05	Water quality – Determination of the inhibitory effect of water samples on the light emission of Vibrio fischeri – Part 2: Method using liquid-dried bacteria	GE

**1.1.15 Titrimetric analysis of summary indices of actions and substances in water (WA, WW, SW, GW, RW, LW) (\*: PI)**

DIN EN ISO 9963-1 (C 23) 1996-02	Water quality – Determination of alkalinity – Part 1: Determination of total and composite alkalinity	PI
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DEV D 15 1981	Determination of thiosulfate ion by titrimetry	PI
DIN EN ISO 8467 (H 5) 1995-05	Water quality – Determination of permanganate index	FG, PI
DIN 38409-H 7 2005-12	Determination of acid and base-neutralising capacities	FG, GE, PI, SV
DIN EN 25663 (H 11) 1993-11	Water quality – Determination of Kjeldahl nitrogen – Method after digestion with selenium	PI
DIN 38409-H 28 1992-04	Nitrogen (bound); method after reduction with Devarda’s alloy and catalytic digestion	PI
DIN 38409-H 41 1980-12	Determination of chemical oxygen demand (COD) in the range over 15 mg/l	PI
Swedish standard SS 28101 1992-04	Nitrogen content of water – Determination with Kjeldahl method after reduction with Devarda’s alloy	PI
<b>1.1.16 Volumetric analysis of summary indices of actions and substances in water (WA, WW, SW, GW, RW, LW)</b>		
DIN 38409-H 9 1980-07	Determination of the settleable matter by volume in water and waste water (Deviation: <i>FG: With a sample volume of 2 litres</i> )	FG, GE, HI, PI, SV
<b>1.1.17 Individual test types – Analysis of density and concrete aggressivity in water (WA, WW, SW, GW, RW, LW)</b>		
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products – Determination of density – Oscillating U-tube method (Deviation: <i>Here for water</i> )	HE



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DIN 4030-2  
2008-6

Assessment of water, soil and gases for their aggressiveness to concrete – Part 2: Sampling and analysis of water and soil samples  
(Deviation: *PI: Measurement of elements by ICP-OES, measurement of ammonium by CFA, measurement of sulphate and chloride by IC, measurement of sulphide photometrically; FG: Only odour, pH value, potassium permanganate consumption, hardness hydrogen carbonate, lime-dissolving capacity as Heyer marble test*)

FG, PI

**1.2 Drinking water**

**1.2.1 Sampling of drinking water**

DIN EN ISO 5667-3 (A 21) 2019-07	Water quality – Sampling – Part 3: Preservation and handling of water samples	B, FG, GE, HI, MG, PI
DIN 38402-A 30 1998-07	Pretreatment, homogenisation and aliquotation of non-homogeneous water samples	B, FG, GE, HI, PI
ISO 5667-11 2009-04	Water quality – Sampling – Part 11: Guidance on sampling of groundwaters	B, GE, HI, PI
Merkblatt 4 zur Qualitätssich. der FHH-UB 1999-10	Sampling of groundwater	HI, PI

**1.2.2 Sensory analysis – Basic descriptive tests of drinking water**

DIN EN 1622 (B 3) 2006-10	Water quality – Determination of the threshold odour number (TON) and threshold flavour number (TFN) (Deviation: <i>Only odour threshold</i> )	PI
DIN EN 1622 (B 3) 2006-10 (Anhang C)	Water quality – Determination of the threshold odour number (TON) and threshold flavour number (TFN), Annex C (Qualitative, simplified method)	B, FG, GE, HI, PI

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**1.2.3 Atomic and mass spectrometry of cations in drinking water**

**1.2.3.1 Inductively coupled plasma atomic emission spectrometry (ICP-OES) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 11885 (E 22) 2009-09	Water quality – Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (ICP-OES)	PI
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**1.2.3.2 Inductively coupled plasma mass spectrometry (ICP-MS) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 17294-2 (E 29) 2017-01	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of selected elements including uranium isotopes	PI
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**1.2.3.3 Atomic absorption spectrometry (K-AAS) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 12846 (E 12) 2012-08	Water quality – Determination of mercury – Method using atomic absorption spectrometry (AAS) with and without enrichment	PI
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**1.2.4 Methods of calculation of inorganic and organic parameters in drinking water (\*: PI)**

DIN 38404-C 10 2012-12	Calcit saturation of water	GE, PI
DIN 38409-H 6 1986-01	Water hardness (H 6) – Measurement of Ca and Mg using ICP	PI
DEV H 12 1981	Nitrogen (total), calculation	GE

**1.2.5 Electrode measurement of physico-chemical indicators, dissolved gases and anions in drinking water (\*: PI)**

DIN 38404-C 4 1976-12	Determination of temperature	B, FG, GE, HI, PI
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DIN 38405-C 4 Section 2 1985-07	Determination of fluoride (Here only section 2 (DIN 38405-D4-1): Direct determination of fluoride by fluoride ion-selective electrode)	FG, HE
DIN EN ISO 10523 (C 5) 2012-04	Water quality – Determination of pH	B, FG, GE, HI, PI
DIN EN ISO 5814 (G 22) 2013-02	Water quality – Determination of dissolved oxygen – Electrochemical probe method	FG, GE, HI, PI
DIN 38408-G 23 1987-11	Oxygen saturation index	FG, PI

**1.2.6 Liquid chromatography with mass selective detectors (LC-MS/MS) of organic compounds in drinking water (\*: PI)**

DIN 38407-F 35 2010-10	Determination of selected phenoxyalkyl carbonic acids and further acid plant treatment agents – Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS)	PI
DIN 38407-F 36 2014-09	Determination of selected active substances of plant protection products and other organic substances in water – Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS or -HRMS) after direct injection	PI
DIN 38407-F 42 2011-03	Determination of selected polyfluorinated compounds (PFC) in water – Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS) after solid-liquid extraction	PI
DIN ISO 16308-F 45 2017-09	Water quality – Determination of glyphosate and AMPA – Method using high performance liquid chromatography (HPLC) with tandem mass spectrometric detection (Deviation: <i>Measurement using LC-MS/MS, additionally glufosinate</i> )	PI
DIN 38413-P 6 2007-02	Determination of acrylamide – Method using high performance liquid chromatography with mass spectrometric detection (HPLC-MS/MS)	PI

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Hausmethode PI-MA-M 02-031 2019-09	Determination of X-ray contrast media by HPLC-MS/MS	PI
Hausmethode PI-MA-M 02-032 2019-09	Determination of sweeteners in water by LC-MS/MS	PI
Hausmethode PI-MA-M 02-036 2019-09	Determination of tetracyclines in water by LC-MS/MS	PI

**1.2.7 Gas chromatography of organic compounds in drinking water**

**1.2.7.1 Gas chromatography with conventional detectors (GC-FID, GC-ECD)**

DIN 38407-F 2 1993-02	Determination of low volatile halogenated hydrocarbons by gas chromatography (Deviation: <i>GE: In combination with DIN 51527 T1 (only PCBs)</i> )	GE
DIN 38407-F 3 1998-07	Gas chromatographic determination of polychlorinated biphenyls	GE

**1.2.7.2 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS) (\*: PI)**

ISO 8165-2 1999-07	Water quality – Determination of selected phenols – Part 2: Method by derivatisation and gas chromatography – Analysis using GC-MSD	PI
ISO 17858 2007-02	Water quality – Determination of dioxin-like polychlorinated biphenyls – Method using gas chromatography / mass spectrometry	PI
DIN EN ISO 6468 (F 1) 1997-02	Water quality – Determination of certain organochlorine insecticides, polychlorinated biphenyls and chlorobenzenes – Gas chromatographic method after liquid-liquid extraction (Deviation: <i>Additionally PCB 118, measurement with GC-MSD or GC-MS/MS</i> )	PI
DIN 38407-F 2 1993-02	Jointly determinable substances (group F) – Part 3: Determination of low volatile halogenated hydrocarbons by gas chromatography (Deviation: <i>GE: In combination with DIN 51527 T1 (only PCBs)</i> )	GE, PI

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DIN 38407-F 3 1998-07	Gas chromatographic determination of polychlorinated biphenyls	GE, PI
DIN EN ISO 10301 (F 4) 1997-08	Water quality – Determination of highly volatile halogenated hydrocarbons – Gas chromatographic methods or GC-MSD	GE, PI
DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives using gas chromatography (F 9) by headspace analysis (1) <i>(Deviation: Additionally aliphatic C5-C10, diethylbenzenes; analysis also by GC-MSD)</i>	GE, PI
DIN EN ISO 17353 (F 13) 2005-11	Water quality – Determination of selected organotin compounds – Gas chromatographic method	PI
DIN EN 12673 (F 15) 1999-05	Water quality – Gas chromatographic determination of some selected chlorophenols in water <i>(Deviation: Additionally triclosan and bisphenol A)</i>	PI
DIN 38407-F 27 2012-10	Determination of selected phenols in groundwater and leachate, aqueous eluates and percolates	PI
DIN EN ISO 18857-1 (F 31) 2007-02	Water quality – Determination of selected alkylphenols – Part 1: Method for non-filtered samples using liquid-liquid extraction and gas chromatography with mass selective detection. Additional determination of octylphenols and ethoxylates; extraction with hexane and different clean-up	PI
DIN 38407-F 37 2013-11	Determination of organochlorine pesticides, polychlorinated biphenyls and chlorobenzene in water – Method using gas chromatography and mass spectrometric detection (GC-MS) after liquid-liquid extraction <i>(Deviation: Measurement also with GC-MS/MS; PI: Additional analysis of cypermethrin, permethrin, cyhalothrin and deltamethrin)</i>	PI
DIN 38407-F 39 2011-09	Jointly determinable substances (group F) – Part 39: Water quality – Determination of selected polycyclic aromatic hydrocarbons (PAH) – Method using gas chromatography with mass spectrometric detection (GC-MS)	GE, PI

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DIN ISO 28540 (F 40) 2014-05	Water quality – Determination of 16 polycyclic aromatic hydrocarbons (PAH) in water – Method using gas chromatography with mass spectrometric detection (GC-MS)	PI
DIN 38407-F 43 2014-10	Determination of selected easily volatile organic compounds in water – Method using gas chromatography and mass spectrometry by static headspace technique (HS-GC-MS)	GE, PI
DIN EN ISO 12010 (H 47) 2019-09	Water quality – Determination of short-chain polychlorinated alkanes (SCCPs) in water – Method using gas chromatography-mass spectrometry (GC-MS) and negative-ion chemical ionisation (NCI) <i>(Deviation: Additional determination of MCCP, modular clean-up, modified quantification, detector GC-MSD)</i>	PI
DIN EN 14207 (P 9) 2003-09	Water quality – Determination of epichlorohydrin	PI
Hausmethode PI-MA-M 03-113 2015-02	PFT in water using GC-MSD	PI

**1.2.8 Gravimetric analysis of physico-chemical indicators and summary indices of actions and substances in drinking water (\*: PI, across matrices, see Table 1)**

DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate dry residue and residue on ignition	FG, GE, HI, PI
DIN EN 872 (H 33) 2005-04	Water quality – Determination of suspended solids – Method by filtration through glass fibre filters	FG, GE, HI, PI

**1.2.9 Ion chromatography of anions in drinking water (\*: PI, across matrices, see Table 1)**

DIN EN ISO 10304-1 (D 20) 2009-07	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulphate <i>(Deviation PI: No determination of nitrite and phosphate)</i>	HE, PI
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DIN EN ISO 10304-2 (D 20) 1996-11	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 2: Determination of bromide, chloride, nitrate, nitrite, orthophosphate and sulphate in waste water (Deviation PI: <i>No determination of nitrite and phosphate</i> )	HE, PI
DIN EN ISO 10304-4 (D 25) 1999-07	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 4: Determination of chlorate, chloride and chlorite in water with low contamination	PI

**1.2.10 Microbiological analysis – Detection of bacteria by cultural bacteriological analysis in drinking water (\*: HH)**

DIN EN ISO 9308-2 (K 6-1) 2014-06	Water quality – Enumeration of Escherichia coli and coliform bacteria – Part 2: Most probable number method	HH
DIN EN ISO 9308-1 (K 12) 2017-09	Water quality – Enumeration of Escherichia coli and coliform bacteria – Part 1: Membrane filtration method for waters with low bacterial background flora	HH
DIN EN ISO 11731 (K 23) 2019-03	Water quality – Enumeration of legionella	HH, MG
DIN EN ISO 14189 (K 24) 2016-11	Water quality – Enumeration of Clostridium perfringens – Method using membrane filtration	HH

**1.2.11 Photometry of physico-chemical indicators, summary indices of actions and substances, anions, cations, hydrazine and oxygen in drinking water**

**1.2.11.1 Photometry (\*: PI)**

DIN 38404-C 3 2005-07	Determination of absorption in the range of UV radiation, spectral absorption coefficient	PI
DIN EN ISO 7027-1 (C 21) 2016-11	Water quality – Determination of turbidity – Part 1: Quantitative method	PI
DIN EN 26777 (D 10) 1993-04	Water quality; determination of nitrite; molecular absorption spectrometric method	PI

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DIN 38405-D 24 1987-05	Photometric determination of chromium(VI) using 1,5-diphenylcarbonohydrazide	PI
DIN 38405-D 26 1989-04	Photometric determination of dissolved sulphide	GE, PI
DIN 38405-D 27 2017-10	Determination of sulphide by gas extraction	PI
DIN EN ISO 18412 (D 40) 2007-02	Water quality – Determination of chromium(VI) – Photometric method for weakly contaminated water	PI
DIN 38406-E 1 1983-05	Determination of iron	PI
DIN ISO 17289 (G 25) 2014-12	Water quality – Determination of dissolved oxygen – Optical sensor method (also on site)	GE, PI
DIN 38409-H 16-3 1984-06	Determination of the phenol index after distillation	PI
DIN 38409-H 16 Berichtigung 1 2018-12	Determination of the phenol index	PI
DIN 38413-P 1 1982-03	Determination of hydrazine	PI

**1.2.11.2 Photometry with flow and flow rate analysis**

DIN EN ISO 15681-2 (D 45) 2005-05	Water quality – Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA) – Part 2: Method using continuous flow analysis (CFA)	PI
DIN EN ISO 15681-2 (D 46) 2019-05	Water quality – Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA) – Part 2: Method using continuous flow analysis (CFA)	PI

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**1.2.12 Titrimetric analysis of physico-chemical indicators, summary indices of actions and substances and anions in drinking water (\*: PI)**

DIN EN ISO 9963-1 (C 23) 1996-02	Water quality – Determination of alkalinity – Part 1: Determination of total and composite alkalinity	PI
DEV D 15 1981	Determination of thiosulfate ion by titrimetry	PI
DIN EN 25663 (H 11) 1993-11	Water quality – Determination of Kjeldahl nitrogen – Method after digestion with selenium	PI

**1.2.13 Volumetric analysis of summary indices of actions and substances in drinking water**

DIN 38409-H 9 1980-07	Determination of the settleable matter by volume in water and waste water (Deviation: <i>FG: With a sample volume of 2 litres</i> )	FG, GE, HI, PI
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**1.3 Soil, sewage sludge, sludge, sediment**

**1.3.1 Sampling of soil, sewage sludge, sludge, sediment**

DIN EN ISO 5667-13 (S 1) 2011-08	Water quality – Sampling – Part 13: Guidance on sampling of sludges (Deviation: <i>Matrix only sludge and sewage sludge</i> )	GE, HI, PI
DIN 38414-S 11 1987-08	Sampling of sediments using gouges, box corers, Van Veen grabs, soil pipes (Deviation: <i>Matrix only sediment</i> )	GE, PI
DIN ISO 10381-2 2003-08	Soil quality – Sampling – Part 2: Guidance on sampling techniques (Deviation: <i>Matrix only soil</i> )	B, PI
DIN ISO 10381-7 2007-10	Soil quality – Sampling – Part 7: Guidance on sampling of soil gas (Deviation: <i>Only variant c in developed borewells; matrix only soil</i> )	GE, HI, PI
DIN EN 932-1 1996-11	Test for general properties of aggregates – Part 1: Methods for sampling (Deviation: <i>Matrix only soil</i> )	PI

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DIN 19698-1 2014-05	Characterisation of solids – Sampling of solid and semi-solid materials – Part 1: Guidance for the segmental sampling of stockpiles of unknown composite (Deviation: <i>Matrix only soil</i> )	B, FG, GE, HI, PI
LAGA PN 98 2001	Guideline on procedures for physical, chemical and biological examination in connection with the recycling/disposal of waste (Deviation: <i>Matrix only soil</i> )	B, FG, GE, HI, PI

**1.3.2 Pretreatment of samples of soil, sewage sludge, sludge, sediment<sup>1</sup>**

DIN 38414-S 4 1984-10	Determination of leachability with water	B, FG, GE, HI, PI
DIN EN 13346 (S 7a) 2001-04	Characterisation of sludges – Determination of trace elements and phosphorus – Aqua regia extraction methods (Deviation: <i>Only method A (extraction method under reflux conditions) and method C (extraction method in a closed vessel in a microwave oven)</i> )	HI, PI
DIN ISO 11277 2002-08	Soil quality – Determination of particle size distribution in mineral soil material – Method by sieving and sedimentation (Deviation: <i>Matrix only soil</i> )	PI
DIN ISO 11464 2006-12	Soil quality – Pretreatment of samples for physico-chemical analysis (Deviation: <i>Matrix only soil</i> )	B, FG, GE, HI, PI
DIN ISO 11466 1997-06	Soil quality – Extraction of trace elements soluble in aqua regia (Deviation: <i>Matrix only soil</i> )	HI, PI
DIN ISO 14507 2004-07	Soil quality – Pretreatment of samples for determination of organic contaminants in soils (Deviation: <i>Matrix only soil</i> )	FG, GE, HI, PI
DIN ISO 14869-2 2003-01	Soil quality – Dissolution for the determination of total element content – Part 2: Dissolution by alkaline fusion (Deviation: <i>Matrix waste, plastic, lime, leather</i> )	FG

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<sup>1</sup>For freeze-drying and determination of dry residue by freezing\*: PI, across matrices, see Table 1

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DIN ISO 19730 2009-07	Soil quality – Extraction of trace elements using ammonium nitrate solution (Deviation: <i>Matrix only soil</i> )	HI, PI
DIN EN ISO 16720 2007-06	Soil quality – Pretreatment of samples by freeze-drying for subsequent analysis (Deviation: <i>Matrix only soil</i> )	PI
DIN EN ISO 17892-4 2017-04	Geotechnical investigation and testing – Laboratory testing of soil - Part 4: Determination of particle size distribution (Deviation: <i>Matrix only soil</i> )	GE, PI
DIN EN 12457-1 2003-01	Characterisation of waste – Leaching; Compliance test for leaching of granular waste materials and sludges – Part 1: One stage batch test at a liquid to solid ratio of 2 l/kg with particle size below 4 mm (without or with size reduction) (Deviation: <i>Matrix only sludge and sediments</i> )	B, FG, GE, HI, PI
DIN EN 12457-2 2003-01	Characterisation of waste – Leaching; Compliance test for leaching of granular waste materials and sludges – Part 2: One stage batch test at a liquid to solid ratio of 10 l/kg with particle size below 4 mm (without or with size reduction) (Deviation: <i>Matrix only sludge and sediments</i> )	B, FG, GE, HI, PI
DIN EN 12457-3 2003-01	Characterisation of waste – Leaching of granular waste and sludges – Part 3: Two stage batch test at a liquid to solid ratio of 2 l/kg and 8 l/kg for materials with high solid content with particle size below 4 mm (without or with size reduction) (Deviation: <i>Matrix only sludge and sediments</i> )	FG, GE, HI, PI
DIN EN 12457-4 2003-01	Characterisation of waste – Leaching; Compliance test for leaching of granular waste materials and sludges – Part 4: One stage batch test at a liquid to solid ratio of 10 l/kg for materials with particle size below 10 mm (without or with size reduction) (Deviation: <i>Matrix only sludge and sediments</i> )	B, FG, GE, HI, PI
DIN EN 13657 2003-01	Characterisation of waste – Digestion for subsequent determination of aqua regia soluble portion of elements in waste (Deviation: <i>Matrix only soil and sewage sludge</i> )	HI, PI
DIN EN 15002 2015-07	Characterisation of waste – Preparation of test portions from the laboratory sample	PI

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DIN EN 16173 2012-11	Sludge, treated biowaste and soil – Digestion of nitric acid soluble fractions of elements (Deviation: <i>Matrix only soil</i> )	PI
DIN EN 16174 2012-11	Sludge, treated biowaste and soil – Digestion of aqua regia soluble fractions of elements (Deviation: <i>Matrix only soil and sludge</i> )	HI, PI
DIN EN 16179 2012-11	Sludge, treated biowaste and soil – Guidance for sample pretreatment (Deviation: <i>Matrix only soil and sludge</i> )	GE, HI, PI
DIN 18123 2011-04	Soil, investigation and testing – Determination of grain-size distribution (Deviation: <i>Matrix only soil</i> )	PI
DIN 19527 2012-08	Leaching of solid materials – Batch test for the examination of the leaching behaviour of organic substances at a liquid to solid ratio of 2 l/kg (Deviation: <i>Matrix only soil</i> )	GE, HI
DIN 19528 2009-01	Leaching of solid materials – Percolation method for the joint examination of the leaching behaviour of inorganic and organic substances (Deviation: <i>Matrix only soil and sediment</i> )	HI
DIN 19529 2015-12	Leaching of solid materials – Batch test for the examination of the leaching behaviour of inorganic and organic substances at a liquid to solid ratio of 2 l/kg (Deviation: <i>B, GE, PI: Only inorganic substances</i> )	B, GE, HI, PI
DIN V 19736 1998-10	Derivation of concentrations of organic pollutants in soil water	HI
DIN 19738 2017-06	Absorption availability of organic and inorganic pollutants from contaminated soil material (Deviation: <i>Matrix only soil</i> )	HI
DIN 19747 2009-07	Investigation of solids – Pretreatment, preparation and processing of samples for chemical, biological and physical investigations	B, FG, GE, HI, PI

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VDLUFA Methodenbuch I A 6.2.1.1 1991	Determination of phosphorus and potassium in the calcium acetate lactate (CAL) extract (Deviation: <i>Matrix only soil</i> )	HI, PI
VDLUFA Methodenbuch I A 6.2.1.2 1991	Determination of phosphorus and potassium in double lactate (DL extract) (Deviation: <i>Matrix only soil</i> )	PI
VDLUFA Methodenbuch I A 6.2.4.1 1991	Extract with calcium chloride (CaCl <sub>2</sub> ) for the determination of plant available magnesium (Deviation: <i>Matrix only soil</i> )	HI, PI
BBodSchV Anhang 1, 3.1.2 1999-07	Leaching methods – Soil saturation extract (Deviation: <i>Matrix only soil</i> )	HI, PI
LUA Merkblatt 20 2000-03	Recommendations for the implementation and evaluation of column tests in accordance with the Federal Soil Protection and Contaminated Sites Ordinance (BBodSchV) (Deviation: <i>Matrix only soil</i> )	HI
LAGA EW 98 2002 / 2012 / 2017	Guideline on procedures for the physical and chemical examination of waste, contaminated soils and materials from brownfields: Preparation and analysis of aqueous eluates (Deviation: <i>Matrix only soil</i> )	FG, GE, HI, PI
LAGA EW 98 S 2002	Determination of leachability with water in batch test	FG, GE, HI, PI
LAGA EW 98 p 2002 / 2012 / 2017	Determination of leachability with water at constant pH (pH-stat method) (Deviation: <i>Matrix only soil</i> )	FG
AbfKlärV Anhang 2 Nr. 1.2 2017	Sample preparation: Drying and homogenisation	PI
OFD-H-BAM 2008-10	Requirements for sampling, sample pretreatment and analysis methods on state-owned properties (Deviation: <i>Matrix only soil</i> )	GE, PI

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**1.3.3 Atomic and mass spectrometry of elements in soil, sewage sludge, sludge, sediment**

**1.3.3.1 Atomic absorption spectrometry (K-AAS) of mercury (\*: PI, across matrices, see Table 1)**

DIN ISO 16772 2005-06	Soil quality – Determination of mercury in aqua regia soil extracts with cold-vapour atomic spectrometry or cold-vapour atomic fluorescence spectrometry (Deviation: <i>Matrix only soil, sewage sludge, sludge</i> )	PI
DIN EN 16175-1 2016-12	Sludge, treated biowaste and soil – Determination of mercury – Part 1: Cold-vapour atomic absorption spectrometry (CV-AAS)	PI
ASTM D6722 2011	Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by Direct Combustion Analysis (Deviation: <i>Additional power plant water matrix</i> )	SV

**1.3.3.2 Inductively coupled plasma atomic emission spectrometry (ICP-OES) (\*: PI, across matrices, see Table 1)**

DIN ISO 22036 2009-06	Soil quality – Determination of trace elements in extracts of soil by inductively coupled plasma atomic emission spectrometry (ICP-AES)	PI
DIN EN 16170 2017-01	Sludge, treated biowaste and soil – Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES)	PI
LAGA SM 2/79 1983-12	Determination of heavy metals in solid and sludgy wastes (Deviation: <i>Matrix only sludge</i> )	PI

**1.3.3.3 Inductively coupled plasma mass spectrometry (ICP-MS) (\*: PI, across matrices, see Table 1)**

DIN EN 16171 (S 32) 2017-01	Sludge, treated biowaste and soil – Determination of elements using inductively coupled plasma mass spectrometry (ICP-MS)	PI
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**1.3.4 Biological activity in soil, sewage sludge, sludge and sediment**

BGK Methodenbuch zur Analyse Section IV, A 1 2006-09	Method book for the analysis of organic fertilisers, soil improvers and substrates – Degree of decomposition in self-heating test (Deviation: <i>Matrix only soil</i> )	GE
BGK Methodenbuch zur Analyse Section IV, A 3 2006-09	Method book for the analysis of organic fertilisers, soil improvers and substrates – Plant tolerance in seed planting test with spring barley (Deviation: <i>Matrix only soil</i> )	GE
BGK Methodenbuch zur Analyse Section IV, A 5 2006-09	Method book for the analysis of organic fertilisers, soil improvers and substrates – Stability of the nitrogen balance of organic materials (Deviation: <i>Measurement of ammonium with CFA and measurement of nitrate with IC; matrix only soil</i> )	GE

**1.3.5 Electrode measurement of physical and physico-chemical indicators and summary indices of actions and substances in soil, sewage sludge, sludge, sediment (\*: PI)**

DIN EN 12176 (S 5) 1998-06	Characterisation of sludge – Determination of pH (H <sub>2</sub> O) (Deviation: <i>Matrix only sewage sludge and sludge</i> )	FG, GE, HE, HI, PI
DIN EN 15933 (S 5) 2012-11	Sludge, treated biowaste and soil— Determination of pH (Deviation: <i>Matrix only soil and sludge</i> )	FG, GE, HI, PI
DIN ISO 10390 2005-12	Soil quality – Determination of pH (H <sub>2</sub> O, CaCl <sub>2</sub> , KCl) (Deviation: <i>Matrix only soil</i> )	FG, GE, HI, PI
DIN ISO 11265 1997-06	Soil quality – Determination of specific electrical conductivity (Deviation: <i>Matrix only soil</i> )	FG, GE, HI, PI
DIN CEN/TS 15937 DIN SPEC 91202 2013-08	Sludge, treated biowaste and soil – Determination of specific electrical conductivity (Deviation: <i>Matrix only soil</i> )	GE, PI
In-house method PI-MA-M 07-031 2012-05	Oxygen consumption in sediments as specified by the BfG (Deviation: <i>Matrix only sediment</i> )	PI

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**1.3.6 Elemental analysis of elements and summary indices of actions and substances in soil, sludge, sewage sludge and sediment (\*: PI, across matrices, see Table 1)**

DIN 38414-S 17 2017-01	Determination of the organically bound halogens amenable to extraction (EOX) (Deviation: <i>GE: Matrix only soil and sludge</i> )	GE, PI
DIN 38414-S 17 2017-01	Determination of the organically bound halogens amenable to extraction (EOX) (Deviation: Extraction with cyclohexane, n-hexane and acetone by ultrasonic shaking method)	PI
DIN EN 13137 (S 30) 2001-12	Characterisation of waste – Determination of total organic carbon (TOC) in waste, sludges and sediments (Deviation: <i>Matrix only sludge and sediment</i> )	GE, PI
DIN ISO 10694 1996-08	Soil quality – Determination of organic carbon and total carbon after dry combustion (elemental analysis) (Deviation: <i>Matrix only soil</i> )	GE, PI
DIN ISO 13878 1998-11	Soil quality – Determination of total nitrogen content after dry combustion (elemental analysis) (Deviation: <i>Additionally carbon, hydrogen, sulphur, oxygen; matrix only soil</i> )	GE
DIN ISO 15178 2001-02	Soil quality – Determination of total sulphur content after dry combustion (elemental analysis) (Deviation: <i>Matrix only soil</i> )	GE
DIN EN 15936 2012-11	Sludge, treated biowaste, soil and waste – Determination of total organic carbon (TOC) by dry combustion (Deviation: <i>Matrix only soil</i> )	GE, PI
DIN 19539 2016-12	Investigation of solids – Temperature-dependent differentiation of total carbon (TOC400, ROC, TIC900)	GE, PI
VGB-B 401 Blatt 4.4.2.1 1993-01	Determination of organic carbon in waste incineration slags taking into account the coke carbon content (Deviation: <i>Matrix only soil</i> )	GE



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**1.3.7 Liquid chromatography of organic compounds in soil, sewage sludge, sludge, sediment**

**1.3.7.1 Liquid chromatography with conventional detectors (HPLC-DAD)**

In-house method PI-MA-M 02-002 2019-09	Determination of aldehydes in water, solids and on air cartridges / silica gel / passive collectors enriched samples by HPLC-DAD	PI
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**1.3.7.2 Liquid chromatography with mass selective detectors (LC-MS/MS) (\*: PI)**

DIN ISO 16308 (F 45) 2017-09	Water quality – Determination of glyphosate and AMPA – Method using high performance liquid chromatography (HPLC) with tandem mass spectrometric detection (Deviation: <i>Matrix soil and other solids; additionally glufosinate</i> )	PI
DIN 38413 -P6 2007-02	Determination of acrylamide – Method using high performance liquid chromatography with mass spectrometric detection (HPLC-MS/MS) (P6) (Deviation: <i>Additionally matrix soil</i> )	PI
DIN 38414-S 14 2011-08	Determination of selected polyfluorinated compounds (PFC) in sludge, compost and soil – Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS)	PI
DIN ISO 11916-1 2014-11	Soil quality – Determination of selected explosives – Part 1: Method using high-performance liquid chromatography (HPLC) with UV detection (Deviation: <i>MS/MS detection and processing by SPE or analysis by direct injection</i> )	PI
In-house method PI-MA-M 02-007 2019-09	Determination of active pharmaceutical ingredients and other organic compounds in water and soil	PI
In-house method PI-MA-M 02-024 2019-09	Determination of selected active substances of plant protection products by LC-MS/MS in water and soil	PI
In-house method PI-MA-M 02-027 2019-09	Determination of polar nitrogen compounds in soil and water by LC-MS/MS	PI

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**1.3.8 Gas chromatography of organic compounds in soil, sewage sludge, sludge, sediment**

**1.3.8.1 Gas chromatography with conventional detectors (GC-FID, GC-ECD) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 10301 (F 4) 1997-08	Water quality – Determination of highly volatile halogenated hydrocarbons – Gas-chromatographic methods (Deviation: <i>Here matrices soil, sewage sludge, sludge, sediment</i> )	GE
DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives using gas chromatography (F 9) by headspace analysis (1) (Deviation: <i>Additionally aliphatic C5-C10, diethylbenzenes; matrix only soil; elutriation with water; analysis also by GC-MSD</i> )	GE
DIN 38414-S 20 1996-01	Determination of 6 polychlorinated biphenyls (PCB) (Deviation: <i>Drying at 105 °C, 3 h Soxhlet extraction, implementation in conjunction with LUA Data Sheet 6 (1996)</i> )	GE
DIN ISO 10382 2003-05	Soil quality – Determination of organochlorine pesticides and polychlorinated biphenyls – Gas chromatographic method with electron capture detection	GE
DIN ISO 16703 2011-09	Soil quality – Determination of content of hydrocarbon in the range C10 to C40 (Deviation: <i>PI: Additional analysis after Petrol Pack</i> )	GE, HI, PI
DIN EN ISO 22155 2016-07	Soil quality – Gas chromatographic determination of volatile aromatic and halogenated hydrocarbons and selected ethers – Static headspace method	GE
DIN EN 14039 2005-01	Characterisation of waste – Determination of hydrocarbon content in the range of C10 to C40 by gas chromatography (GC-FID) (Deviation: <i>Matrix only soil</i> )	GE, HI, PI
DIN EN 16167 2019-06	Soil, treated biowaste and sludge – Determination of polychlorinated biphenyls (PCB) by gas chromatography with mass selective detection (GC-MS) and gas chromatography with electron-capture detection (GC-ECD)	GE
LUA NRW Data Sheet 6 1996	Determination of 6 polychlorinated biphenyls (PCB) in soils, sludges, sediments and wastes (Deviation: <i>Matrix only soil</i> )	GE

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**1.3.8.2 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS) (\*: PI)**

DIN EN ISO 10301 (F 4) 1997-08	Water quality – Determination of highly volatile halogenated hydrocarbons – Gas chromatographic methods or GC-MSD (Deviation: <i>Matrices soil, sewage sludge, sludge, sediment</i> )	GE, HI, PI
DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives using gas chromatography (F 9) by headspace analysis (1) (Deviation: <i>Matrix only soil; analysis by GC-MSD; PI: additionally aliphatics C5-C10, diethylbenzenes; elutriation with water</i> )	GE, HI, PI
DIN EN 12673 (F 15) 1999-05	Water quality – Gas chromatographic determination of some selected chlorophenols in water (Deviation: <i>Additionally analytes triclosan and bisphenol A; matrix only soil and sediment</i> )	PI
DIN EN ISO 22032 (F 28) 2009-07	Water quality – Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge – Method using extraction and gas chromatography/mass spectrometry (Deviation: <i>Other analytes polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP A), hexabromocyclododecane (HBCD), tribromanisole (TBA); ultrasonic extraction; other internal standards; matrices soil, sewage sludge, sludge, sediment</i> )	PI
DIN EN ISO 18857-2 (F 32) 2012-01	Water quality – Determination of selected alkylphenols – Part 2: Gas chromatographic-mass spectrometric determination of alkylphenols, their ethoxylates and bisphenol A in non-filtered samples following solid-phase extraction and derivatisation (Deviation: <i>Here only for alkylphenols and their ethoxylates; only for measurement, other internal standards, additionally analytes: OP3EO and NP3EO; matrices soil and sediment</i> )	PI
DIN EN ISO 12010 (H 47) 2019-09	Water quality – Determination of short-chain polychlorinated alkanes (SCCPs) in water – Method using gas chromatography-mass spectrometry (GC-MS) and negative-ion chemical ionisation (NCI) (Deviation: <i>Additional determination of MCCP, modular clean-up, modified quantification, detector GC-MSD</i> )	PI

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DIN EN ISO 18635 (H 48) 2016-10	Water quality – Determination of short-chain polychlorinated alkanes (SCCPs) in sediment, sewage sludge and suspended (particulate) matter – Method using gas chromatography mass spectrometry (GC-MS) and electron capture negative ionization (ECNI) (Deviation: <i>Additionally MCCP, matrices soil, sewage sludge, sludge, sediment</i> )	PI
DIN 38413-P 2 1988-05	Determination of vinyl chloride (chloroethene) by headspace gas chromatography (Deviation: <i>Matrix only soil</i> )	HI
DIN EN ISO 16588 (P 10) 2004-02	Water quality – Determination of six complexing agents, EDTA, NTA, etc. – Gas chromatographic method (GC-MSD) (Deviation: <i>Matrix only soil after aqueous eluate preparation</i> )	PI
DIN 38414-S 20 1996-01	Determination of 6 polychlorinated biphenyls (PCB) (Deviation: <i>PI: Sediments are freeze-dried and extracted for 8 h as per Soxhlet, measurement using GC-MS; GE: Drying at 105 °C, 3 h Soxhlet extraction, implementation in conjunction with LUA Data Sheet 6 (1996)</i> )	GE, HI, PI
DIN 38414-S 24 2000-10	Determination of polychlorinated dibenzodioxins (PCDD) and polychlorinated dibenzofurans (PCDF) (S 24) (Deviation: <i>Matrix only sludge and sediment</i> )	PI
ISO 17858 2007-02	Water quality – Determination of dioxin-like polychlorinated biphenyls – Method using gas chromatography / mass spectrometry (Deviation: <i>Measurement with Triple Quad after Soxhlet extraction in accordance with DIN 38414-24 (2000-10); matrices soil, sewage sludge, sludge, sediment</i> )	PI
DIN ISO 10382 2003-05	Soil quality – Determination of organochlorine pesticides and polychlorinated biphenyls – Gas chromatographic method with electron capture detection (Deviation: <i>Matrices soil, sewage sludge, sludge, sediment; measurement using mass selective detectors; PI, HI: Processing from freeze-dried sample with Soxhlet extraction; GE: Processing with ultrasonic extraction and clean-up with silica gel (in accordance with DIN 38407-F 3)</i> )	GE, HI, PI

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DIN ISO 11916-2 2014-11	Soil quality – Determination of selected explosives – Part 2: Method using gas chromatography (GC) and electron capture detection (ECD) or mass spectrometric detection (MS) (Deviation: <i>Matrix only soil</i> )	PI
DIN ISO 14154 2005-12	Soil quality – Determination of selected chlorophenols – Gas chromatographic method with electron capture (Deviation: <i>Matrix only soil, PI: Determination using GC-MS</i> )	PI
DIN ISO 18287 2006-05	Soil quality – Determination of polycyclic aromatic hydrocarbons (PAH) – Gas chromatographic method with mass spectrometric detection (GC-MS) Different solvent mixture	GE, HI, PI
DIN EN ISO 22155 2016-07	Soil quality – Gas chromatographic determination of volatile aromatic and halogenated hydrocarbons and selected ethers – Static headspace method	GE, HI, PI
DIN EN ISO 23161 2019-04	Soil quality – Determination of selected organotin compounds – Gas chromatographic method	PI
DIN EN 16167 2019-06	Soil, treated biowaste and sludge – Determination of polychlorinated biphenyls (PCB) by gas chromatography with mass selective detection (GC-MS) and gas chromatography with electron-capture detection (GC-ECD)	HI, PI, GE
DIN EN 12766-3 2005-02	Petroleum products and used oils – Determination of PCBs and related products – Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation: Matrix soil; measurement using GC-MS, ultrasonic extraction)	PI
DIN EN 12766-3 Corrigendum 1 2007-06	Petroleum products and used oils – Determination of PCBs and related products – Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation: Matrix soil; measurement using GC-MS, ultrasonic extraction)	PI

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DIN EN 15527 2008-09	Characterisation of waste – Determination of polycyclic aromatic hydrocarbons (PAH) in waste using gas chromatography mass spectrometry (GC/MSD) (Deviation: <i>Different solvent mixture; matrix only soil and sludge</i> )	GE, HI, PI
DIN EN 16181 2019-08	Soil, treated biowaste and sludge – Determination of polycyclic aromatic hydrocarbons (PAH) by gas chromatography (GC) and high performance liquid chromatography (HPLC) (Deviation: <i>Measurement only by gas chromatography</i> )	GE, HI, PI
DIN CEN/TS 16182; DIN SPEC 91262 2012-05	Sludge, treated biowaste and soil – Determination of nonylphenols (NP) and nonylphenol-mono and diethoxylates by gas chromatography with mass selective detection (GC-MS)	PI
DIN CEN/TS 16183; DIN SPEC 91265 2012-05	Sludge, treated biowaste and soil – Determination of selected phthalates using GC-MS	PI
DIN 19742 2014-08	Soil quality – Determination of selected phthalates in sludge, sediment, solid waste and soil after extraction and determination using gas chromatography mass spectrometry (GC-MS) (Deviation: <i>Additionally analytes dimethyl, diethyl, dipropyl, diisobutyl, dipentyl, benzyl butyl, dicyclohexyl, dioctyl, diisononyl, diisodecyl phthalate</i> )	PI
LUA NRW Data Sheet 1 1994	PAH: 16 polycyclic aromatic hydrocarbons in accordance with EPA/TVO including methylnaphthalene; PI: Including benzo[e]pyrene using GC-MSD; processing of sludge, sediment from freeze-dried sample	GE, HI, PI
LUA NRW Data Sheet 6 1996	Determination of 6 polychlorinated biphenyls (PCB) in soils, sludges, sediments and wastes (Deviation: <i>Matrix only soil</i> )	GE
HLUG, Handbuch Altlasten, Volume 7, Part 4 2000	BTEX/VOC: Benzene and some of its derivatives using GC-MS after overcoating with methanol (Deviation: <i>Matrix only soil</i> )	GE, HI

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HLUG, Handbuch Altlasten Volume 7, Part 5, 2004	Nitro aromatic compounds using GC-MSD (Deviation: <i>Matrix only soil</i> )	PI
Nonylphenol standard – Horizontal – 13.1 2006-01	Soils sludges and treated biowaste – Organic constituents – Nonylphenols (NP) and nonylphenol-mono and diethoxylates by gas chromatography with mass selective detection (GC-MS) (Deviation: <i>Only for extraction</i> )	PI
In-house method HI-MA-M 03-022 # 1 2017-03	Determination of organic acids (C1-C5) in water after derivatisation using HS-GC-MSD (Deviation: <i>Matrix only sludge</i> )	HI
In-house method PI-MA-M 03-006 2017-02	Screening of water and soil	PI
In-house method PI-MA-M 03-077 2015-02	Glycols (ethylene, di and triethylene, propylene glycol) in water, soil and air using GC-MSD	PI
In-house method PI-MA-M 03-081 2019-09	Musk compounds in water and solids (e.g. detergents) using GC-MSD	PI
In-house method PI-MA-M 03-106 2017-02	Terpenes in soil using GC-MSD	PI
In-house method PI-MA-M 03-112 2017-02	Estrogens, estrogen metabolites and sitosterol in water and soil samples	PI

**1.3.9 Gravimetric analysis of physical, physico-chemical indicators and summary indices of actions and substances in soil, sewage sludge, sludge and sediment (\*: PI)**

DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate dry residue and residue on ignition (Deviation: <i>Matrix only soil</i> )	GE, HI, PI
DIN ISO 11349 (H 56) 2015-12	Water quality – Determination of low-volatility lipophilic substances – Gravimetric method	GE, HI, PI

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DIN EN 12880 (S 2a) 2001-02	Characterisation of sludges – Determination of dry residue and water content (Deviation: <i>Matrix only soil, sludge, sewage sludge</i> )	FG, GE, HI, PI
DIN 38414-S 3 1985-11	Determination of loss on ignition and residue on ignition of the dry matter of a sludge	FG, GE, HI, PI
DIN EN 12879 (S 3a) 2001-02	Characterisation of sludges – Determination of loss on ignition of dry mass (Deviation: <i>Matrix only sewage sludge, sludge</i> )	FG, GE, HI, PI
DIN 38414-S 22 2018-10	Determination of dry residue by freezing and preparation of the freeze-dried mass of sludge (Deviation: <i>Matrix only sewage sludge, sludge and sediment</i> )	PI
DIN EN 15935 (S 33) 2012-11	Sludge, treated biowaste, soil and waste – Determination of loss on ignition (Deviation: <i>Matrix only soil and sludge</i> )	FG, GE, HI, PI
DIN ISO 11465 1996-12	Soil quality – Determination of dry matter and water content on a mass basis – Gravimetric method (Deviation: <i>Matrix only soil</i> )	B, FG, GE, HI, PI
DIN EN ISO 11272 2017-07	Soil quality – Determination of dry bulk density (Deviation: <i>Matrix only soil</i> )	GE
DIN EN 15169 2007-05	Characterisation of waste – Determination of loss on ignition in waste, sludge and sediments (Deviation: <i>Matrix only sludge, sediments</i> )	B, FG, GE, HI, PI
DIN EN 15934 2012-11	Sludge, treated biowaste, soil and waste – Calculation of dry matter fraction after determination of dry residue or water content (Deviation: <i>Matrix only soil</i> )	FG, GE, HI, PI, SV
DIN 18121-2 2012-02	Soil, investigation and testing – Water content – Part 2: Determination by rapid methods (Deviation: <i>Matrix only soil</i> )	FG, GE, PI
DIN 18125-2 2011-03	Soil, investigation and testing – Determination of density of soil – Part 2: Field tests (Deviation: <i>Matrix only soil</i> )	GE
DIN 18128 2002-12	Soil, investigation and testing – Determination of ignition loss (Deviation: <i>Matrix only soil</i> )	HI

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DIN 19684-2 1977-02	Determination of humus content in soil (Deviation: <i>Matrix only soil</i> )	GE
DIN 19684-3 2000-08	Methods of soil investigations for agricultural water engineering – Chemical laboratory tests – Part 3: Determination of the loss on ignition and the residue of soil after ignition (Deviation: <i>Matrix only soil</i> )	FG, GE, HI, PI
LAGA KW/04 Section 6.8 2019-09	Sum of extractable lipophilic substances (Deviation: <i>Matrix only soil</i> )	GE, HI, PI

**1.3.10 Photometry of anions, cations and phenol index in soil, sewage sludge, sludge and sediment**

**1.3.10.1 Photometry of anions**

DIN EN 16318 2016-07	Fertilisers and liming materials – Determination of chromium(VI) by photometry (method A) and by ion chromatography with spectrophotometric detection (method B) (Deviation: <i>Only method A</i> )	PI, GE
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**1.3.10.2 Photometry of anions and phenol index with flow and flow rate analysis (\*: PI)**

DIN EN ISO 14402 (H 37) 1999-12	Water quality – Determination of phenol index by flow analysis (FIA and CFA) (Deviation: <i>Matrix only soil</i> )	PI
DIN ISO 11262 2012-04	Soil quality – Determination of total cyanide (Deviation: <i>Matrix only soil</i> )	PI
DIN EN ISO 17380 2013-10	Soil quality – Determination of total cyanide and easily liberatable cyanide – Continuous flow analysis method (Deviation: <i>Matrix only soil</i> )	PI

**1.3.11 Physical analysis of physical parameters in soil**

Not used.

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**1.3.12 X-ray fluorescence analysis (XRF) for the determination of elements in soil**

DIN EN 15309 2007-08	Characterisation of waste and soil – Determination of elemental composition using X-ray fluorescence analysis; analysis of loose bulk and pellet only (Deviation: <i>Matrix only soil</i> )	HE
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**1.3.13 Titrimetric analysis of physico-chemical indicators, summary indices of actions and substances and anions (\*: PI)**

DIN 38406-E 5-2 1983-10	Determination of ammonium nitrogen (E 5) after distillation (2) (Deviation: <i>Matrix soil, sewage sludge, sludge, sediment</i> )	PI
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DIN 38409-H 28 1992-04	Determination of bound nitrogen; Method after reduction with Devarda's alloy and catalytic mineralisation	PI
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DIN ISO 11261 1997-05	Soil quality – Determination of total nitrogen – Modified Kjeldahl method (Deviation: <i>Matrix only soil and sediment</i> )	PI
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DIN EN 13342 2001-01	Characterisation of sludges – Determination of Kjeldahl nitrogen (Deviation: <i>Matrix only sludge and sewage sludge</i> )	PI
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DIN EN 16169 2012-11	Sludge, treated biowaste and soil – Determination of Kjeldahl nitrogen Replaces DIN ISO 11261 (1997-05) (Deviation: <i>Matrix only soil and sediment</i> )	PI
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DIN EN 16502 2014-11	Test method for the determination of the degree of soil acidity according to Baumann-Gully	PI
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VDLUFA Methodenbuch II.2 4.5.1 2008	Determination of the alkaline agents in lime, converter lime, lime fertilisers from [...] as well as organic and organic-mineral fertilisers	PI
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BGK Methodenbuch zur Analyse Section III, B 2.1 2006-09	Method book for the analysis of organic fertilisers, soil improvers and substrates – Alkaline agents	PI
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**1.3.14 Volumetric analysis of carbonates in soil and sediment (\*: PI)**

DIN ISO 10693 1997-05	Soil quality – Determination of carbonate content – Volumetric method	PI
DIN 19684-5 1977-02	Determination of carbonate content in soil (Deviation: <i>Matrix only soil</i> )	PI
VDLUFA Methodenbuch I A 5.3.1 1991	Gas volumetric determination of carbonates (Deviation: <i>Matrix only soil and sediment</i> )	GE, PI
BGK Methodenbuch zur Analyse Section III, B 2.2 2006-09	Method book for the analysis of organic fertilisers, soil improvers and substrates – Scheibler carbonate (gas volumetric) (Deviation: <i>Matrix only soil and sediment</i> )	GE, PI

**1.3.15 Analysis of concrete aggressivity in soil, sludge, sewage sludge and sediment**

DIN 4030-2 2008-6	Assessment of water, soil and gases for their aggressiveness to concrete – Part 2: Sampling and analysis of water and soil samples (Deviation: <i>PI: Measurement of acidity in accordance with DIN 16502, measurement of sulphate and chloride by IC, measurement of sulphide photometrically; FG: sample preparation only</i> )	FG, PI
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**1.4 Waste, biowaste/compost**

**1.4.1 Sampling of waste, biowaste/compost**

DIN EN ISO 5667-13 (S 1) 2011-08	Water quality – Sampling – Part 13: Guidance on sampling of sludges (Deviation: <i>Matrix here biowaste</i> )	GE, PI
DIN EN 12579 2000-01	Soil improvers and growing media – Sampling	GE, PI
DIN EN 12579 2014-02	Soil improvers and growing media – Sampling	GE, PI

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DIN 19698-1 2014-05	Characterisation of solids – Sampling of solid and semi-solid materials – Part 1: Guidance for the segmental sampling of stockpiles of unknown composite (Deviation: <i>Matrix only waste</i> )	B, FG, GE, HI PI
DIN 51750-1 1990-12	Sampling of petroleum products; general information (Deviation: <i>Matrix here biowaste</i> )	GE, PI
DIN 51750-2 1990-12 LAGA PN 98 2001	Sampling of liquid petroleum products (Deviation: <i>Matrix here biowaste</i> ) Guideline on procedures for physical, chemical and biological examination in connection with the recycling/disposal of waste (Deviation: <i>Matrix only waste</i> )	GE, PI B, FG, GE, HI, PI
Senatsverwaltung UVK Berlin 2009-11	Guidance on sampling and analysis of mineral waste in building construction and civil engineering (Runder Tisch Abfallbeprobung Brandenburg-Berlin)	B

**1.4.2 Sample pretreatment of waste, biowaste/compost**

DIN EN 13346 (S 7a) 2001-04	Characterisation of sludges – Determination of trace elements and phosphorus – Aqua regia extraction methods (Deviation: <i>Only method A (extraction method under reflux conditions) and method C (extraction method in a closed vessel in a microwave oven)</i> )	HI, PI
DIN ISO 11466 1997-06	Soil quality – Extraction of trace elements soluble in aqua regia (Deviation: <i>Matrix only waste</i> )	HI, PI
DIN ISO 14869-2 2003-01	Soil quality – Dissolution for the determination of total element content – Part 2: Dissolution by alkaline fusion (Deviation: <i>Matrix waste, plastic, lime, leather</i> )	FG
DIN EN 1744-3 2002-11	Tests for chemical properties of aggregates – Part 3: Preparation of eluates by leaching of aggregates (Deviation: <i>Matrix only waste</i> )	GE, HI, PI
DIN EN 12457-1 2003-01	Characterisation of waste – Leaching; Compliance test for leaching of granular waste materials and sludges – Part 1: One stage batch test at a liquid to solid ratio of 2 l/kg with particle size below 4 mm (without or with size reduction) (Deviation: <i>Matrix only waste</i> )	B, FG, GE, HI, PI

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DIN EN 12457-2 2003-01	Characterisation of waste – Leaching; Compliance test for leaching of granular waste materials and sludges – Part 2: One stage batch test at a liquid to solid ratio of 10 l/kg with particle size below 4 mm (without or with size reduction) (Deviation: <i>Matrix only waste</i> )	B, FG, GE, HI, PI
DIN EN 12457-3 2003-01	Characterisation of waste – Leaching of granular waste and sludges – Part 3: Two stage batch test at a liquid to solid-ratio of 2 l/kg and 8 l/kg for materials with high solid content with particle size below 4 mm (without or with size reduction) (Deviation: <i>Matrix only waste</i> )	FG, GE, HI, PI
DIN EN 12457-4 2003-01	Characterisation of waste – Leaching; Compliance test for leaching of granular waste materials and sludges – Part 4: One stage batch test at a liquid to solid ratio of 10 l/kg for materials with particle size below 10 mm (without or with size reduction) (Deviation: <i>Matrix only waste</i> )	B, FG, GE, HI, PI
DIN EN 13657 2003-01	Digestion for subsequent determination of aqua regia soluble portion of elements in waste	HI, PI
DIN EN 15002 2015-07	Characterisation of waste – Preparation of test portions from the laboratory sample	PI
DIN EN 16174 2012-11	Sludge, treated biowaste and soil – Digestion of aqua regia soluble fractions of elements (Deviation: <i>Matrix only waste</i> )	HI, PI
DIN EN 16179 2012-11	Sludge, treated biowaste and soil – Guidance for sample pretreatment (Deviation: <i>Matrix only waste</i> )	GE, HI, PI
DIN 19528 2009-01	Leaching of solid materials – Percolation method for the joint examination of the leaching behaviour of inorganic and organic substances (Deviation: <i>Matrix only waste</i> )	HI
DIN 19529 2015-12	Leaching of solid materials – Batch test for the examination of the leaching behaviour of inorganic and organic substances at a liquid to solid ratio of 2 l/kg (Deviation: <i>PI and GE only inorganic substances</i> )	GE, HI, PI

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DIN 19747 2009-07	Investigation of solids – Pretreatment, preparation and processing of samples for chemical, biological and physical investigations	B, FG, GE, HI, PI
BioAbfV Annex 3 No. 1.2 1998	Sample preparation and partial sampling, sieving < 10 mm, crushing < 0.25 mm (Deviation: <i>Matrix only biowaste</i> )	GE, HI, PI
LAGA EW 98 2002 / 2012 / 2017	Guideline on procedures for the physical and chemical examination of waste, contaminated soils and materials from brownfields: Preparation and analysis of aqueous eluates (Deviation: <i>Matrix only waste</i> )	FG, GE, HI, PI
LAGA EW 98 T 2012-11	Determination of leachability with water in trough test (Deviation: <i>Matrix only waste</i> )	GE, HI, PI
BGK Methodenbuch zur Analyse Section II, C 1-3 2006-09	Method book for the analysis of organic fertilisers, soil improvers and substrates – Stones and foreign matter (glass, plastics, metals) (Deviation: <i>Matrix only biowaste</i> )	GE, PI
BioAbfV Annex 3 No. 1.3.3 - 1998	Stones and foreign matter (glass, plastics, metals) (Deviation: <i>Matrix only biowaste</i> )	GE, PI
DepV Annex 4 No. 3.1.1 2009 / 2017	Sample preparation: Reduction, crushing and grinding of solid samples for laboratory sample (Deviation: <i>Matrix only waste</i> )	FG, GE, HI, PI
DepV Annex 4 No. 3.1.1 2009 / 2017	Sample preparation: Reduction and milling of pasty and sludgy samples for laboratory sample (Deviation: <i>Matrix only waste</i> )	GE
LAGA EW 77 1977	Guideline on procedures for physical and chemical examination in connection with the disposal of waste; determination of leachability of solid and sludgy waste with water (Deviation: <i>Matrix only waste</i> )	FG, GE, PI
FGSV-No. 642 2001	Guidelines for the environmentally friendly use of industrial by-products and recycled building materials in road construction (RuA-StB 01)	GE, HI, PI

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**1.4.3 Atomic and mass spectrometry of elements of waste, biowaste/compost**

**1.4.3.1 Atomic absorption spectrometry (CV-AAS) (\*: PI, across matrices, see Table 1)**

DIN EN 16175-1 2016-12	Sludge, treated biowaste and soil – Determination of mercury – Part 1: Cold-vapour atomic absorption spectrometry (CV-AAS)	PI
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**1.4.3.2 Inductively coupled plasma atomic emission spectrometry (ICP-OES) (\*: PI, across matrices, see Table 1)**

DIN ISO 22036 2009-06	Soil quality – Determination of trace elements in extracts of soil by inductively coupled plasma atomic emission spectrometry (ICP-AES) (Deviation: <i>Matrix only biowaste</i> )	PI
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DIN EN 16170 2017-01	Sludge, treated biowaste and soil – Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES)	PI
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LAGA SM 2/79 1983-12	Determination of heavy metals in solid and sludgy wastes (Deviation: <i>Matrix only waste</i> )	PI
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**1.4.3.3 Inductively coupled plasma mass spectrometry (ICP-MS) (\*: PI, across matrices, see Table 1)**

DIN EN 16171 (S 32) 2017-01	Sludge, treated biowaste and soil – Determination of elements using inductively coupled plasma mass spectrometry (ICP-MS)	PI
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**1.4.4 Biological analysis of biowaste**

BGK Methodenbuch zur Analyse Section IV, A 4 2006-09	Method book for the analysis of organic fertilisers, soil improvers and substrates – Gaseous phytotoxins in seed planting test with cress (Deviation: <i>Matrix only biowaste</i> )	GE
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BGK Methodenbuch zur Analyse Section IV, B 1 2006-09	Method book for the analysis of organic fertilisers, soil improvers and substrates – Content of viable seeds and parts of plants capable of producing shoots (Deviation: <i>Matrix only biowaste</i> )	GE
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**1.4.5 Methods of calculation of inorganic compounds in biowaste**

BioAbfV Annex 3 1998	Salt content, calculation as potassium chloride after conductivity measurement (Deviation: <i>Matrix only biowaste</i> )	GE, HI, PI
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**1.4.6 Electrode measurement of pH values in waste, biowaste/compost (\*: PI, across matrices, see Table 1)**

DIN EN 15933 (S 5) 2012-11	Sludge, treated biowaste and soil— Determination of pH	FG, GE, HI, PI
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DIN ISO 10390 2005-12	Soil quality – Determination of pH	FG, GE, HI, PI
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**1.4.7 Elemental analysis of elements and summary indices of actions and substances in waste, biowaste/compost (\*: PI, across matrices, see Table 1)**

DIN EN 13137 (S 30) 2001-12	Characterisation of waste – Determination of total organic carbon (TOC) in waste, sludges and sediments (Deviation: <i>Matrix only waste</i> )	GE, PI
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DIN 19539 2016-12	Investigation of solids – Temperature-dependent differentiation of total carbon (TOC400, ROC, TIC900)	GE, PI
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VGB-B 401 Blatt 4.4.2.1 1993-01	Determination of organic carbon in waste incineration slags taking into account the coke carbon content (Deviation: <i>Matrix only waste</i> )	GE
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**1.4.8 Gas chromatography of organic compounds in waste, biowaste/compost**

**1.4.8.1 Gas chromatography with conventional detectors (GC-FID, GC-ECD) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 10301 (F 4) 1997-08	Water quality – Determination of highly volatile halogenated hydrocarbons – Gas-chromatographic methods (Deviation: <i>Matrix only waste</i> )	GE
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DIN EN 14039 2005-01	Characterisation of waste – Determination of hydrocarbon content in the range of C10 to C40 by gas chromatography (GC-FID) (Deviation: <i>Matrix only waste</i> )	GE, HI, PI
DIN EN 15308 2008-05	Characterisation of waste – Determination of selected polychlorinated biphenyls (PCB) in solid waste by using capillary gas chromatography with electron capture or mass spectrometric detection	GE
DIN EN 15308 2016-12	Characterisation of waste – Determination of selected polychlorinated biphenyls (PCB) in solid waste by gas chromatography with electron capture or mass spectrometric detection	GE
LAGA KW/04 2019-09	Determination of the content of hydrocarbons in waste – Examination and analysis strategy (hydrocarbons in waste using GC-FID) (Deviation: <i>Matrix only waste</i> )	GE, HI, PI

**1.4.8.2 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS) (\*: PI)**

DIN EN ISO 10301 (F 4) 1997-08	Water quality – Determination of highly volatile halogenated hydrocarbons – Gas chromatographic methods or GC-MSD (Deviation: <i>Matrix only waste</i> )	GE, HI, PI
DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives using gas chromatography (F 9) by headspace analysis (1) (Deviation: <i>Additionally aliphatic C5-C10, diethylbenzenes; matrix only waste; elutriation with water; analysis also by GC-MSD</i> )	GE, HI, PI
DIN 38414-S 20 1996-01	Determination of 6 polychlorinated biphenyls (PCB) (Deviation: <i>Matrix only waste</i> )	GE, HI, PI
DIN EN 15308 2008-05	Characterisation of waste – Determination of selected polychlorinated biphenyls (PCB) in solid waste by using capillary gas chromatography with electron capture or mass spectrometric detection	GE, HI, PI
DIN EN 15308 2016-12	Characterisation of waste – Determination of selected polychlorinated biphenyls (PCB) in solid waste by gas chromatography with electron capture or mass spectrometric detection	GE, HI, PI

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DIN EN 15527 2008-09	Characterisation of waste – Determination of polycyclic aromatic hydrocarbons (PAH) in waste using gas chromatography mass spectrometry (GC/MSD) (Deviation: <i>Matrix only waste; different solvent mixture</i> )	GE, HI, PI
DIN EN 16167 2019-06	Soil, treated biowaste and sludge – Determination of polychlorinated biphenyls (PCB) by gas chromatography with mass selective detection (GC-MS) and gas chromatography with electron-capture detection (GC-ECD)	GE, HI, PI
DIN EN 16181 2019-08	Soil, treated biowaste and sludge – Determination of polycyclic aromatic hydrocarbons (PAH) by gas chromatography (GC) and high performance liquid chromatography (HPLC) (Deviation: <i>Measurement only by gas chromatography</i> )	GE, HI, PI
DIN CEN/TS 16183 DIN SPEC 91265 2012-05	Sludge, treated biowaste and soil – Determination of selected phthalates using GC-MS (Deviation: <i>Matrix only waste</i> )	PI
DIN 19742 2014-08	Soil quality – Determination of selected phthalates in sludge, sediment, solid waste and soil after extraction and determination using gas chromatography mass spectrometry (GC-MS) (Deviation: Additionally analytes dimethyl, diethyl, dipropyl, diisobutyl, dipentyl, benzyl butyl, dicyclohexyl, dioctyl, diisononyl, diisodecyl phthalate; matrix only waste)	PI

**1.4.9 Gravimetric analysis of physico-chemical indicators and summary indices of actions and substances in waste, biowaste/compost (\*: PI)**

DEV C 9 1974	Determination of density (Deviation: <i>Matrix only waste</i> )	PI
DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate dry residue and residue on ignition (Deviation: <i>Matrix only waste</i> )	GE, HI, PI
DIN ISO 11349 (H 56) 2015-12	Water quality – Determination of low-volatility lipophilic substances – Gravimetric method	GE, HI, PI

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DIN EN 15935 (S 33) 2012-11	Sludge, treated biowaste, soil and waste – Determination of loss on ignition (Deviation: <i>Matrix only waste</i> )	FG, GE, HI, PI
DIN ISO 11465 1996-12	Soil quality – Determination of dry matter and water content on a mass basis – Gravimetric method (Deviation: <i>Matrix only soil</i> )	B, FG, GE, HI, PI
DIN EN 14346 2007-03	Characterisation of waste – Calculation of dry matter by determination of dry residue or water content	B, FG, GE, HI, PI
DIN EN 17828 2016-05	Solid biofuels – Determination of bulk density	HE
DIN EN 15169 2007-05	Characterisation of waste – Determination of loss on ignition in waste, sludge and sediments (Deviation: <i>Matrix only waste</i> )	B, FG, GE, HI, PI
DIN EN 15934 2012-11	Sludge, treated biowaste, soil and waste – Calculation of dry matter fraction after determination of dry residue or water content	FG, GE, HI, PI
LAGA KW/04 Section 6.8 2019-09	Sum of extractable lipophilic substances (Deviation: <i>Matrix only waste</i> )	GE, HI, PI
DepV Annex 4 No. 3.1.12 2009 / 2017	Extractable lipophilic substances (Deviation: <i>Matrix only waste</i> )	GE, HI, PI
In-house method HE-MA M-U 11-7 2013-06	Determination of the solids content > 1 mm from liquid samples (Deviation: <i>Matrix only waste</i> )	HE
In-house method HE-MA M-U 11-9 2013-06	Determination of the solids content of liquid and pasty samples (Deviation: <i>Matrix only waste</i> )	HE

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**1.4.10 Ion chromatography of anions in waste, biowaste/compost (\*: PI, across matrices, see Table 1)**

DIN EN ISO 10304-1 (D 20) 2009-07	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulphate (Deviation: <i>HE: Measurement in eluate, Wickbold- and bomb digestion; PI: Only matrix waste in soda digestion and no determination of nitrite and phosphate</i> )	HE, PI
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**1.4.11 Calorimetry of elements in waste**

DIN EN 14582 2016-12	Characterisation of waste – Halogen and sulphur content– Oxygen combustion in closed systems and determination methods	HE
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**1.4.12 X-ray fluorescence analysis (XRF) of elements of waste, biowaste/compost**

DIN EN 15309 2007-08	Characterisation of waste and soil – Determination of elemental composition using X-ray fluorescence analysis; analysis of loose bulk and pellet only (Deviation: <i>Matrix only waste</i> )	HE
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**1.4.13 Ecotoxicological analysis of biodegradability**

DIN 38414-S 8 1985-06	Determination of the amenability to anaerobic digestion	GE
DepV Annex 4 No. 3.3.1 2009 / 2017	Breathability, determined over 4 days in laboratory test (AT <sub>4</sub> ) (Deviation: <i>Matrix only waste</i> )	GE
DepV Annex 4 No. 3.3.2 2009 / 2017	Breathability, determined over 21 days in laboratory test (GB <sub>21</sub> )	GE
VDI 4630 2016-11	Fermentation of organic materials – Characterisation of the substrate, sampling, collection of material data, fermentation tests	GE

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**1.4.14 Photometry of anions in waste, biowaste/compost**

**1.4.14.1 Photometry**

LAGA CN 1/75 1975	Cyanide, total and readily liberated (Deviation: <i>Matrix only waste</i> )	PI
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**1.4.14.2 Photometry with flow and flow rate analysis**

LAGA CN 1/75 1975	Cyanide, total and readily liberated (Deviation: <i>Matrix only waste</i> )	PI
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**1.4.15 Physical analysis of physical indicators in waste, biowaste/compost**

DIN EN ISO 2431 2012-03	Paints and varnishes – Determination of flow time by use of flow cups (Deviation: <i>Matrix only waste</i> )	HE
ASTM D56 2010	Standard Test Method for Flash Point by Tag Closed Cup Tester	HE

**1.4.16 Titrimetric analysis of physico-chemical indicators, summary indices of actions and substances and anions in waste, biowaste/compost (\*: PI)**

DIN ISO 11261 1997-05	Soil quality – Determination of total nitrogen – Modified Kjeldahl method Also from biota samples (Deviation: <i>Matrix only biowaste</i> )	PI
DIN EN 16169 2012-11	Sludge, treated biowaste and soil – Determination of Kjeldahl nitrogen (Deviation: <i>Matrix only biowaste</i> )	PI
DIN CEN/TS 15364 2006-07	Leaching behaviour tests – Acid and base neutralisation capacity test (Deviation: <i>Matrix only waste</i> )	FG
VDLUFA Methodenbuch II.2 4.5.1 2008	Determination of the alkaline agents in lime, converter lime, lime fertilisers from [...] as well as organic and organic-mineral fertilisers	PI

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BGK Methodenbuch zur Analyse Section III, B 2.1 2006-09      Method book for the analysis of organic fertilisers, soil improvers and substrates – Alkaline agents      PI

VDLUFA Methodenbuch 1 A 2.2.1 1991      Determination of total Kjeldahl nitrogen (Deviation: *Matrix only biowaste*)      PI

**1.5 Biota – Analysis of bioindicators**

**1.5.1 Liquid chromatography of organic compounds in biota with mass selective detector (LC-MS/MS)**

In-house method PI-MA-M 02-028 2019-09      Determination of selected PFAS in water, solids and biota by LC-MS/MS after solid phase extraction      PI

**1.5.2 Gas chromatography with mass selective detectors (GC-MS, GC-MS/MS) of organic compounds (\*: PI)**

DIN EN ISO 22032 (F 28) 2009-07      Water quality – Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge – Method using extraction and gas chromatography/mass spectrometry (Deviation: *Other analytes polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP A), hexabromocyclododecane (HBCD), tribromanisole (TBA); ultrasonic extraction; other internal standards, here matrix biota*)      PI

ASU L 00.00-34 2010-09      Analysis of foodstuffs – Modular multiple analytical method for the determination of plant protection product residues in foodstuffs (revised and extended version of DFG Method S 19) (Deviation: *Other analytes 16 polycyclic aromatic hydrocarbons in accordance with EPA, 6 Balschmitter polychlorinated biphenyls and PCB 118, tetra to hexa chlorobenzenes and organochlorine pesticides; clean-up in accordance with ASU L 00.00-38/1-4; measurement using GC-MSD; matrix biota*)      PI

ASU L 10.00-9 2002-12      Analysis of foodstuffs – Gas chromatographic determination of organotin compounds in fish and mussels      PI

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In-house method PI-MA-M 03-081 2019-09	Musk compounds in water and solids (e.g. detergents) using GC-MSD	PI
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**1.5.3 Gravimetric analysis of physico-chemical indicators in biota (\*: PI, across matrices, see Table 1)**

DIN 38414-S 22 2018-10	Determination of dry residue by freezing and preparation of the freeze-dried mass of sludge (Deviation: <i>Matrix here biota</i> )	PI
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**1.5.4 Titrimetric analysis of summary indices of actions and substances in biota (\*: PI, across matrices, see Table 1)**

DIN ISO 11261 1997-05	Soil quality – Determination of total nitrogen – Modified Kjeldahl method Also from biota samples (Deviation: <i>Matrix here biota</i> )	PI
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DIN EN 16169 2012-11	Sludge, treated biowaste and soil – Determination of Kjeldahl nitrogen (replaces DIN ISO 11261 (1997-05)) (Deviation: <i>Matrix here biota</i> )	PI
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**1.6 Air**

**1.6.1 Sampling of air**

For the sampling part of the indoor air tests listed below, the requirements of the sampling strategy DIN EN 16000-1: 2006-06 (general requirements); -5: 2007-5 (VOC); -7: 2007-11 (asbestos fibres) in their respective versions are fulfilled. (MG)

DIN ISO 16000-6 2012-11	Indoor air – Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA® sorbent, thermal desorption and gas chromatography using MS or MS-FID	MG
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VDI 3860 Blatt 4 2012-06	Measurement of landfill gases – Underground measurements	PI, GE
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VDI 3865 Blatt 2 1998-01	Techniques for active sampling of soil gas (Deviation: Only variant c in developed borewells)	GE, HI, PI
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PCB-Directive NRW 1996-06	Sampling for polychlorinated biphenyls (PCBs) on Florisil	MG
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**1.6.2 Liquid chromatography with conventional detectors (HPLC-DAD) of organic compounds in air**

Not used.

**1.6.3 Gas chromatography of organic compounds**

**1.6.3.1 Gas chromatography with conventional detectors (GC-FID, GC-ECD)**

DIN 51872-4 1990-06	Testing of gaseous fuels and other gases; determination of components; gas chromatography method; determination of hydrogen, oxygen, nitrogen, carbon monoxide and carbon dioxide, methane and short-chain hydrocarbons using GC-FID and in soil gas, landfill gas, gases and soil gas	GE
In-house method HI-MA-M 03-020 # 1 2017-03	Determination of highly volatile alkanes C1 to C4 using HS-GC-FID in air	HI

**1.6.3.2 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS)**

DIN 38407-F 9 1991-05	Determination of benzene and some of its derivatives by gas chromatography (Deviation: <i>Matrix here air</i> )	HI
DIN 38413-P 2 1988-05	Determination of vinyl chloride (chloroethene) by headspace gas chromatography	HI
DIN ISO 16000-6 2012-11	Indoor air – Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA® sorbent, thermal desorption and gas chromatography using MS or MS-FID (Deviation: <i>Without sampling</i> )	GE
DIN EN ISO 16017-1 2001-10	Indoor, ambient and workplace air – Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography – Part 1: Sampling with a pump (Deviation: <i>Without sampling</i> )	GE
EPA TO-17 1999-01	Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes (Deviation: <i>Without sampling</i> )	GE



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In-house method HI-MA-M 03-025 # 1 2017-03	Determination of LHKW, BTEX, C3 aromatics in air (from HS-vials using HS-GC-MS)	HI
<b>1.7 Dusts</b>		
<b>1.7.1 Electrode measurement in dust (*: PI, across matrices, see Table 1)</b>		
DIN ISO 10390 2005-12	Soil quality – Determination of pH (Deviation: Matrix dust)	PI
<b>1.7.2 Ion chromatography of anions in dust (*: PI, across matrices, see Table 1)</b>		
DIN EN ISO 10304-1 (D 20) 2009-07	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulphate (Deviation: no determination of nitrite and phosphate; additional measurement from soda extract)	PI
VGB-M 701 No. 0.2 and 8.8.2 2008-12	Chloride from aqueous extract by ion chromatography	PI
<b>1.7.3 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS) of organic compounds in dust (*: PI)</b>		
DIN EN 12673 (F 15) 1999-05	Water quality – Gas chromatographic determination of some selected chlorophenols in water (Deviation: <i>Matrix dust, additionally triclosan and bisphenol A</i> )	PI
DIN EN ISO 22032 (F 28) 2009-07	Water quality – Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge – Method using extraction and gas chromatography/mass spectrometry (Deviation: Other analytes polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP A), hexabromocyclododecane (HBCD) and tribromanisole (TBA); ultrasonic extraction; other internal standards, here matrix dust)	PI
<b>1.7.4 Gravimetric analysis of physico-chemical indicators in dust (*: PI, across matrices, see Table 1)</b>		
DEV C 9 1974	Determination of density (Deviation: <i>Matrix dust</i> )	HE, PI

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**1.7.5 Photometry with flow and flow rate analysis of physico-chemical indicators in dust (\*: PI)**

DIN EN ISO 14402 (H 37) 1999-12	Water quality – Determination of phenol index by flow analysis (FIA and CFA) (Deviation: <i>Matrix dust</i> )	PI
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**1.7.6 Sample pretreatment of dust (\*: PI)**

DIN EN 12457-4 2003-01	Characterisation of waste – Leaching; Compliance test for leaching of granular waste materials and sludges – Part 4: One stage batch test at a liquid to solid ratio of 10 l/kg for materials with particle size below 10 mm (without or with size reduction) (Deviation: <i>Matrix dust</i> )	PI
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DIN EN 13657 2003-01	Characterisation of waste – Digestion for subsequent determination of aqua regia soluble portion of elements in waste (Deviation: <i>Matrix dust</i> )	PI
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**1.7.7 Atomic and mass spectrometry of elements in dust**

**1.7.7.1 Inductively coupled plasma atomic emission spectrometry (ICP-OES) (\*: PI, across matrices, see Table 1)**

DIN ISO 22036 2009-06	Soil quality – Determination of trace elements in extracts of soil by inductively coupled plasma atomic emission spectrometry (ICP-AES) (Deviation: <i>Matrix dust</i> )	PI
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**1.7.7.2 Inductively coupled plasma mass spectrometry (ICP-MS) (\*: PI, across matrices, see Table 1)**

DIN EN 16171 (S 32) 2017-01	Sludge, treated biowaste and soil – Determination of elements using inductively coupled plasma mass spectrometry (ICP-MS) (Deviation: <i>Matrix dust</i> )	PI
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**1.7.8 Titrimetric analysis of physico-chemical indicators, summary indices of actions and substances and anions in dust (\*: PI, across matrices, see Table 1)**

DIN 38406-E 5 1983-10	Determination of ammonia-nitrogen (Deviation: <i>Matrix dust</i> )	PI
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**2 Analysis of chemical products**

**2.1 Wood**

**2.1.1 Sample pretreatment of wood**

DIN EN 13346 (S 7a)  
2001-04 Characterisation of sludges – Determination of trace elements and phosphorus – Aqua regia extraction methods  
(Deviation: *Only method A (extraction method under reflux conditions) and method C (extraction method in a closed vessel in a microwave oven)*) HI, PI

DIN EN 13657  
2003-01 Digestion for subsequent determination of aqua regia soluble portion of elements in waste HI, PI

AltholzV Annex IV  
No. 1.2  
2002 Sampling and sample preparation – Sample preparation HI

AltholzV Annex IV  
No. 1.3  
2002 Sample preparation: Homogenisation, drying and crushing < 2 mm GE, HI

AltholzV Annex IV  
No. 1.3  
2002 Sample preparation: Homogenisation, drying and crushing < 2 mm  
(Deviation: *Only homogenization*) FG

**2.1.2 Gas chromatography with conventional detectors (GC-ECD) of organic compounds in wood**

AltholzV Annex IV  
No. 1.4.5  
2002 Determination of polychlorinated biphenyls (PCB) GE

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**2.1.3 Gas chromatography with mass selective detectors (GC-MSD) of organic compounds in wood (\*: PI)**

DIN EN ISO 22032 (F 28) 2009-07	Water quality – Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge – Method using extraction and gas chromatography/mass spectrometry (Deviation: Other analytes polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP A), hexabromocyclododecane (HBCD) and tribromanisole (TBA); ultrasonic extraction; other internal standards, here matrix wood)	PI
DIN EN 12766-3 2005-02	Petroleum products and used oils – Determination of PCBs and related products – Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation: <i>Measurement by GC-MS, ultrasonic extraction, matrix here wood</i> )	PI
DIN EN 12766-3 Corrigendum 1 2007-06	Petroleum products and used oils – Determination of PCBs and related products – Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation: <i>Measurement by GC-MS, ultrasonic extraction, matrix here wood</i> )	PI
AltholzV Annex IV No. 1.4.5 2002	Determination of polychlorinated biphenyls (PCB) (Deviation PI: <i>Measurement with GC-MSD</i> )	GE, PI
AltholzV Annex IV No. 1.4.4 2002	Determination of selected chlorophenols (chlorophenols, PCP, phenols, cresols, xlenols) (Deviation: <i>Measurement with GC-MSD; additionally analytes triclosan and bisphenol A.</i> )	PI

**2.1.4 Gravimetric analysis of wood**

DIN EN 13183-1 2002-07	Moisture content of a piece of sawn timber – Part 1: Determination by oven dry method	HI, PI
DIN EN 13183-1 Corrigendum 1 2003-12	Corrigendum to DIN EN 13183-1:2002-07	HI, PI

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DIN 52183 1977-11	Testing of wood; determination of moisture content (Deviation: <i>Determination of dry residue</i> )	GE, HI, PI
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**2.1.5 Atomic absorption spectrometry (K-AAS) of mercury in wood (\*: PI, across matrices, see Table 1)**

DIN EN ISO 12846 (E 12) 2012-08	Water quality – Determination of mercury – Method using atomic absorption spectrometry (AAS) with and without enrichment (Deviation: <i>Microwave digestion with aqua regia or nitric acid; matrix here wood</i> )	PI
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**2.2 Chemical raw materials, intermediate and end products**

**2.2.1 Sample pretreatment of chemical raw materials, intermediate and end products**

DIN 19747 2009-07	Investigation of solids – Pretreatment, preparation and processing of samples for chemical, biological and physical investigations	FG, GE, HI, PI
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**2.2.2 Atomic and mass spectrometry of elements in chemical raw materials, intermediate and end products**

DIN ISO 13878 1998-11	Soil quality – Determination of total nitrogen content after dry combustion (elemental analysis) (Deviation: <i>Additionally carbon, hydrogen, sulphur, oxygen; matrix only solids and liquid sample matrix</i> )	GE
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DIN ISO 15178 2001-02	Soil quality – Determination of total sulphur content after dry combustion (elemental analysis) (Deviation: <i>Matrix here chemical raw materials, intermediate and end products</i> )	GE
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**2.2.3 Atomic and mass spectrometry of elements in chemical raw materials, intermediate and end products**

**2.2.3.1 Inductively coupled plasma atomic emission spectrometry (ICP-OES) (\*: PI, across matrices, see Table 1)**

DIN EN 16170 2017-01	Sludge, treated biowaste and soil – Determination of elements PI using inductively coupled plasma optical emission spectrometry (ICP-OES) (Deviation: <i>Additional matrices chemical raw materials, intermediate and end products</i> )
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**2.2.3.2 Inductively coupled plasma mass spectrometry (ICP-MS) (\*: PI, across matrices, see Table 1)**

DIN EN 16171 (S 32) 2017-01	Sludge, treated biowaste and soil – Determination of elements PI using inductively coupled plasma mass spectrometry (ICP-MS) (Deviation: <i>Additional matrices chemical raw materials, intermediate and end products</i> )
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**2.2.4 Gas chromatography with mass selective detectors (GC-MSD) of organic compounds in chemical raw materials, intermediate and end products**

EPA 8260 B 1996-12	Volatile organic compounds by gas chromatography/mass spectrometry (GC/MS)	GE
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**2.2.5 X-ray fluorescence analysis (XRF) of elements in chemical raw materials, intermediate and end products**

In-house method HE-MA MU 18-1/2/3 2010-05	Semi-quantitative analysis of solids using XRF (X-ray fluorescence analysis), energy-dispersive method with element ranging from sodium to uranium in pellets, loose bulks, solids with a smooth surfaces and liquids (Deviation: <i>Matrix only solids and powdery substances</i> )	HE
In-house method HE-MA-M 18-4 2013-07	Testing of silicon-iron alloys – Determination of silicon and iron content using XRF	HE

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**2.2.6 Titrimetric analysis of summary indices of actions and substances in chemical raw materials, intermediate and end products**

DIN EN 60814 1999-03	Insulating liquids – Oil-impregnated paper and pressboard – Determination of water by automatic coulometric Karl Fischer titration (IEC 60814:1997) (Deviation: <i>Matrix chemical raw materials, intermediate and end products</i> )	HE
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**2.3 Mineral and synthetic building materials (including gypsum, joint sealant) and flame retardants**

**2.3.1 Sample pretreatment of gypsum and lime**

DIN ISO 14869-2 2003-01	Soil quality – Dissolution for the determination of total element content – Part 2: Dissolution by alkaline fusion (Deviation: <i>Matrix waste, plastic, lime, leather</i> )	FG
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VGB-M 701 No. 0 2008-12	Sample preparation and preparation of stock solutions	PI
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VGB-M 701 No. 0.1 2008-12	Sample preparation and preparation of stock solutions – Acid digestion	SV
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VGB-M 701 No. 0.2 2008-12	Sample preparation and preparation of stock solutions – Aqueous digestion	SV
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**2.3.2 Inductively coupled plasma atomic emission spectrometry (ICP-OES) of cations in gypsum**

VGB-M 701 No. 8.7 2008-12	Determination of magnesium, sodium, potassium, aluminium, iron and manganese as oxides using inductively coupled plasma (ICP-OES) (Deviation: <i>Digestion with aqua regia, only for magnesium, sodium and potassium</i> )	PI
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**2.3.3 Electrode measurement of physico-chemical indicators and anions in gypsum (\*: PI, across matrices, see Table 1)**

VGB-M 701 No. 4 2008-12	Determination of pH	PI, SV
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**2.3.4 Gas chromatography with mass selective detectors (GC-MS, GC-MS/MS) of organic compounds in mineral and synthetic building materials and flame retardants (\*: PI)**

DIN EN 12673-15 (F 15) 1999-05	Water quality – Gas chromatographic determination of some selected chlorophenols in water (Deviation: <i>Matrix here building materials, additionally triclosan and bisphenol A</i> )	PI
DIN EN ISO 22032 (F 28) 2009-07	Water quality – Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge – Method using extraction and gas chromatography/mass spectrometry (Deviation: Other analytes polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP A), hexabromocyclododecane (HBCD) and tribromanisole (TBA); ultrasonic extraction; other internal standards, here matrix building materials, polymers and materials)	PI
DIN ISO 10382 2003-05	Soil quality – Determination of organochlorine pesticides and polychlorinated biphenyls – Gas chromatographic method with electron capture detection (Deviation: <i>Matrix building materials; measurement using mass selective detectors; HI and GE: Analysis only on PCB</i> )	GE, HI, PI
In-house method PI-MA-M 03-079 2019-10	Organophosphates in various matrices: TCPP, TCEP, TDCP after FI-FI extraction and measurement using GC-MSD	PI

**2.3.5 Gravimetric analysis of physico-chemical indicators in gypsum (\*: PI, across matrices, see Table 1)**

VGB-M 701 No. 1 2008-12	Determination of humidity F (Deviation: <i>SV: Only VGB-M 701 No. 1.1 2008-12</i> )	PI, SV
VGB-M 701 No. 2.1 2008-12	Determination of degree of purity R° (calcium sulphate dihydrate) – Gravimetric by water of crystallisation content	SV



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VGB-M 701 No. 7 2008-12	Particle determination of sieve residue at 32 µm	PI, SV
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VGB-M 701 No. 8.11 2008-12	Determination of "HCl insoluble" – Gravimetric	SV
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**2.3.6 Ion chromatography of anions in gypsum (\*: PI, across matrices, see Table 1)**

VGB-M 701 No. 8.8.2 2008-12	Determination of chloride – Ion chromatographic	SV
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VGB-M 701 No. 0.2 and 8.8.2 2008-12	Chloride from aqueous extract by ion chromatography	PI
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**2.3.7 Titrimetric examination of cations in gypsum (\*: PI, across matrices, see Table 1)**

VGB-M 701 No. 2.4 2008-12	Determination of degree of purity R° (calcium sulphate dihydrate) – Complexometric by calcium determination	PI
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VGB-M 701 No. 8.9 2008-12	Determination of sulphur dioxide (SO <sub>2</sub> ) as calcium sulphite hemihydrate – Titrimetric with iodine	SV
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VGB-M 701 No. 8.12.1 2008-12	Determination of carbonates as calcium carbonate – Acidimetric	SV
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**2.3.8 Sensory analysis – Basic descriptive tests of gypsum**

VGB-M 701 No. 5 2008-12	Determination of whiteness/colour of raw gypsum	SV
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**2.4 Specific consumer products (textiles, styrofoam, plastics, cables, composite materials, cardboard, leather)**

**2.4.1 Sample pretreatment**

DIN ISO 14869-2 2003-01	Soil quality – Dissolution for the determination of total element content – Part 2: Dissolution by alkaline fusion (Deviation: <i>Matrix waste, plastic, lime, leather</i> )	FG
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**2.4.2 Inductively coupled plasma mass spectrometry (ICP-MS) of elements in leather (\*: PI, across matrices, see Table 1)**

DIN EN ISO 17072-1 2019-07	Leather – Chemical determination of metal content – Part 1: Extractable metals (Deviation: <i>Calibration only with aqueous reference solution; measurement only</i> )	PI
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DIN EN ISO 17072-2 2019-07	Leather – Chemical determination of metal content – Part 2: Total metal content (Deviation: <i>Aqua regia digestion with microwave</i> )	PI
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**2.4.3 Gas chromatography with mass selective detectors (GC-MS, GC-MS/MS) of organic compounds in specific consumer products (\*: PI)**

DIN EN 12673 (F 15) 1999-05	Water quality – Gas chromatographic determination of some selected chlorophenols in water (Deviation: <i>Matrix specific consumer products, additionally triclosan and bisphenol A</i> )	PI
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DIN EN ISO 22032 (F 28) 2009-07	Water quality – Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge – Method using extraction and gas chromatography/mass spectrometry (Deviation: <i>Matrix here specific consumer products; ultrasonic extraction; other internal standards</i> )	PI
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DIN EN ISO 12010 (H 47) 2019-09	Water quality – Determination of short-chain polychlorinated alkanes (SCCPs) in water – Method using gas chromatography-mass spectrometry (GC-MS) and negative-ion chemical ionisation (NCI) (Deviation: <i>Additional determination of MCCP, modular clean-up, modified quantification, detector GC-MSD, matrix specific consumer products</i> )	PI
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VDI 3865 Blatt 3 1998-06	Measurement of organic soil pollutants – Gas- chromatographic determination of volatile organic compounds in soil gas adsorption at activated carbon and desorption with organic solvents (Deviation: <i>Matrix specific consumer products; PI: Additionally analytes</i> )	GE, PI
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**2.5 Inorganic chemicals**

**2.5.1 Electrode measurement of anions in inorganic chemicals**

Not used.

**2.5.2 Gravimetric analysis of physical indicators in inorganic chemicals (\*: PI, across matrices, see Table 1)**

DEV C 9 1974	Determination of density (Deviation: <i>Matrix here inorganic chemicals</i> )	PI
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DIN EN 17828 2016-05	Solid biofuels – Determination of bulk density (Deviation: <i>Matrix here inorganic chemicals</i> )	HE
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**2.5.3 Ion chromatography of anions in inorganic chemicals (\*: PI, across matrices, see Table 1)**

VGB-M 701 No. 0.2 and 8.8.2 2008-12	Chloride from aqueous extract by ion chromatography	PI
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**2.5.4 Titrimetric analysis of physico-chemical indicators in de-icing salt**

TL Streu Edition 2003	Methods of analysis for determination of the proportion of de- icing substances (Deviation: <i>Matrix only de-icing salt</i> )	HI
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TL Streu Edition 2003	Methods of analysis for determination of the anti-caking agent ferrocyanide (Deviation: <i>Matrix only de-icing salt</i> )	HI
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**2.6 Wax**

**2.6.1 Gravimetric analysis of density in wax**

DEV C 9 1974	Determination of density (Deviation: <i>Here matrix wax</i> )	HE
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**2.7 Diffusive samplers and adsorbents**

**2.7.1 Liquid chromatography with conventional detectors (HPLC-DAD) (\*: PI)**

DIN ISO 16000-3 2013-01	Indoor air – Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and in test chambers – Pumped sampling (Deviation: <i>Without sampling</i> )	PI
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DIN ISO 16000-4 2012-11	Indoor air – Part 4: Determination of formaldehyde – Diffusive sampling method (Deviation: <i>Without sampling</i> )	PI
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**2.7.2 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS) (\*: PI)**

DIN 38407-F 9 1991-05	Determination of benzene and some of its derivatives by gas chromatography (Deviation: <i>Additionally aliphatics C5-C10, diethylbenzenes</i> )	PI
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DIN ISO 12884 2000-12	Ambient air – Determination of total (gas and particle phase) polycyclic aromatic hydrocarbons – Collection on sorbent-backed filters with gas chromatographic/mass spectrometric analysis (Deviation: <i>Without sampling; additionally adsorbent Florisil</i> )	PI
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DIN ISO 16000-6 2012-11	Indoor air – Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA® sorbent, thermal desorption and gas chromatography using MS or MS-FID (Deviation: <i>Without sampling</i> )	GE
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DIN EN ISO 16017-1 2001-10	Indoor, ambient and workplace air – Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography – Part 1: Sampling with a pump (Deviation: <i>Without sampling</i> )	GE
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VDI 2100 Blatt 2 2010-11	Determination of gaseous compounds in ambient air – Determination of indoor air pollutants – Gas chromatographic determination of organic compounds – Active sampling by enrichment on activated carbon – Solvent extraction (Deviation: <i>Without sampling</i> )	PI
VDI 2464 Blatt 1 2009-09	Ambient air measurement – Indoor air measurement – Measurement of polychlorinated biphenyls (PCBs) – GC/MS method for PCB 28, 52, 101,138, 153, 180 (Deviation: <i>Without sampling; additionally adsorbents Florisil and XAD</i> )	PI
VDI 3865 Blatt 3 1998-06	Measurement of organic soil pollutants – Gas- chromatographic determination of volatile organic compounds in soil gas adsorption at activated carbon and desorption with organic solvents (Deviation: <i>Also indoor air and material samples, additionally analytes, without sampling</i> )	PI
EPA TO-17 1999-01	Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes (Deviation: <i>Without sampling</i> )	GE
In-house method PI-MA-M 03-093 2019-09	Organotin compounds using GC-MS in diffusive samplers and adsorbed materials	PI

**2.8 Metallic silicon**

**2.8.1 X-ray fluorescence analysis (XRA) of the elemental composition of metallic silicon**

In-house method HE-MA-M 18-4 2013-06	Testing of silicon-iron alloys – Determination of silicon and iron content	HE
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**2.9 Acids**

**2.9.1 Inductively coupled plasma mass spectrometry (ICP-MS) of mercury in acids**

DIN EN ISO 17294-2 (E 29) 2017-01	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of selected elements including uranium isotopes (Deviation: <i>Matrix here acids</i> )	PI
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**2.9.2 Elemental analysis of summary indices of actions and substances in acids (\*: PI, across matrices, see Table 1)**

DIN 38409-H 8 1984-09	Determination of extractable organically bonded halogens	GE, PI
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DIN EN ISO 9562 (H 14) 2005-02	Water quality – Determination of adsorbable organically bound halogens (AOX)	GE, PI
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**2.9.3 Photometry of halogens in acids**

DIN EN ISO 7393-2 (G 4-2) 2019-03	Water quality – Determination of free chlorine and total chlorine – Part 2: Colorimetric method using N,N-dialkyl-1,4-phenylenediamine, for routine control purposes (Deviation: <i>Matrix here acids</i> )	PI
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In-house method PI-MA-M 06-070 2017-02	Iodine, iodide after extraction in water, acids and solids	PI
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**2.9.4 Titrimetric analysis of hydrochloric acid content in acids**

In-house method PI-MA-M 08-038 2016-12	HCl content in acids	PI
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**3 Insulating oil analysis**

**3.1 Individual colour and purity of insulating oil**

In-house method HE-MA-M U 10-4 2012-05	Colour (VDEW chromaticity diagram) and purity (appearance)	HE
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**3.2 Titrimetric analysis of physical, physico-chemical indicators in insulating oil**

DIN EN ISO 12937 2002-03	Petroleum products – Determination of water content – Coulometric Karl Fischer titration method	HE
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DIN EN 60814 1999-03	Insulating liquids – Oil-impregnated paper and pressboard – Determination of water by automatic coulometric Karl Fischer titration	HE
DIN 51558-2 1990-03	Determination of neutralisation number; colour indicator titration, insulating oils	HE
DIN 51558-2 2017-07	Testing of mineral oils – Determination of neutralisation number – Part 2: Colour-indicator titration, insulating oils	HE
DIN 51559-2 1990-03	Testing of mineral oils – Determination of saponification number – Colour-indicator titration, insulating oils	HE
DIN 51559-2 2009-04	Testing of mineral oils – Determination of saponification number – Part 2: Colour-indicator titration, insulating oils	HE

**4 Analysis of oil, solutions, viscous liquids**

**4.1 Gas chromatography of organic compounds in oil, solutions, viscous liquids**

**4.1.1 Gas chromatography with conventional detectors (GC-ECD)**

DIN EN 12766-1 2000-11	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)	GE
DIN EN 12766-2 2001-12	Petroleum products and used oils – Determination of PCBs and related products – Part 2: Calculation of polychlorinated biphenyl (PCB)	GE

**4.1.2 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS) (\*: PI)**

DIN EN 12766-1 2000-11	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) (Deviation: <i>Measurement by GC-MS</i> )	GE, PI
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DIN EN 12766-2 2001-12	Petroleum products and used oils – Determination of PCBs and related products – Part 2: Calculation of polychlorinated biphenyl (PCB) (Deviation: <i>Measurement by GC-MS</i> )	GE, PI
DIN EN 12766-3 2005-02	Petroleum products and used oils – Determination of PCBs and related products – Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation: <i>Measurement by GC-MS</i> )	PI
DIN EN 12766-3 Corrigendum 1 2007-06	Petroleum products and used oils – Determination of PCBs and related products – Part 3: Determination and quantification of polychlorinated terphenyls (PCT) and polychlorinated benzyl toluenes (PCBT) content by gas chromatography (GC) using an electron capture detector (ECD) (Deviation: <i>Measurement by GC-MS</i> )	PI

**4.2 X-ray fluorescence analysis (XRF) for the determination of the elemental composition of oil, solutions, viscous liquids**

Altölv Annex 2 Section 3.3.1 1987	Total halogen, semi-quantitatively using energy-dispersive XRF	HE
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**4.3 Titrimetric determination of water content of oil, solutions, viscous liquids**

DIN EN 60814 1999-03	Insulating liquids – Oil-impregnated paper and pressboard – Determination of water by automatic coulometric Karl Fischer titration	HE
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**4.4 Viscometry of physical indicators in oil, solutions, viscous liquids**

DIN EN ISO 3675 1999-11	Crude petroleum and liquid petroleum products – Laboratory determination of density – Hydrometer method	HE
DIN EN ISO 12185 1997-11	Crude petroleum and petroleum products – Determination of density – Oscillating U-tube method	HE
DEV C 9 1974	Determination of density	HE



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DIN 51562-1 1999-01	Measurement of kinematic viscosity by means of the Ubbelohde viscometer – Part 1: Viscometer specification and measurement procedure	HE
DIN 51562-3 1985-05	Viscometry; determination of kinematic viscosity using the Ubbelohde viscometer; viscosity relative increment at short flow times	HE
DIN 51562-4 1999-01	Viscometry – Measurement of kinematic viscosity by means of the Ubbelohde viscometer – Part 4: Viscometer calibration and determination of the uncertainty of measurement	HE
DIN 51757 2011-01	Testing of mineral oils and related materials – Determination of density	HE
DIN 53019-1 2008-09	Viscosity – Measurement of viscosities and flow curves by means of rotational viscometers – Part 1: Principles and measurement geometry	HE
DIN 53019-2 2001-02	Viscosity – Measurement of viscosities and flow curves by means of rotational viscometers – Part 2: Viscometer calibration and determination of the uncertainty of measurement	HE
In-house method HE-MA-M 11-6 2012-05	Determination of dynamic viscosity by means of rotational viscometers	HE

**5 Fuels (recovered fuels, fuels, substitute fuels, biofuels)**

**5.1 Sampling of fuels**

DIN EN ISO 18135 2017-08	Solid biofuels – Sampling	GE
DIN EN 14778 2011-09	Solid biofuels – Sampling	GE
DIN EN 15442 2011-05	Solid recovered fuels – Methods for sampling	GE

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**5.2 Sample preparation of fuels**

DIN EN ISO 14780 2017-08	Solid biofuels – Sample preparation	GE
DIN EN 15413 2011-11	Solid recovered fuels – Methods for the preparation of the test sample from the laboratory sample	GE
DIN EN 15443 2011-05	Solid recovered fuels – Methods for the preparation of the laboratory sample	GE

**5.3 Gas chromatography with mass selective detectors (GC-MSD) of organic compounds in fuels (\*: PI)**

DIN EN 15527 2008-09	Characterisation of waste – Determination of polycyclic aromatic hydrocarbons (PAH) in waste using gas chromatography mass spectrometry (GC/MSD) (Deviation: <i>Matrix here fuels; other solvent mixture</i> )	GE, HI, PI
DIN EN 16167 2019-06	Soil, treated biowaste and sludge – Determination of polychlorinated biphenyls (PCB) by gas chromatography with mass selective detection (GC-MS) and gas chromatography with electron-capture detection (GC-ECD) (Deviation: <i>Matrix here fuels</i> )	GE, HI, PI
DIN EN 16181 2019-08	Soil, treated biowaste and sludge – Determination of polycyclic aromatic hydrocarbons (PAH) by gas chromatography (GC) and high performance liquid chromatography (HPLC) (Deviation: <i>Matrix here fuels; measurement by gas chromatography only</i> )	GE, PI

**5.4 Gravimetric analysis of physical and physico-chemical indicators in fuels**

DIN EN ISO 17828 2016-05	Solid biofuels – Determination of bulk density (Deviation: <i>HE: Only for salts</i> )	GE, HE
DIN EN ISO 18122 2016-03	Solid biofuels – Determination of ash content	GE
DIN EN ISO 18123 2016-03	Solid biofuels – Determination of the content of volatile matter	GE

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DIN EN ISO 18134-2 2017-05	Solid biofuels – Determination of moisture content – Oven dry method – Part 2: Total moisture – Simplified procedure	GE
DIN EN ISO 18134-3 2015-12	Solid biofuels – Determination of moisture content – Oven dry method – Part 3: Moisture in general analysis sample	GE
DIN EN 14774-2 2010-04	Solid biofuels – Determination of moisture content – Oven dry method – Simplified method	GE
DIN EN 14775 2012-11	Solid biofuels – Determination of ash content	GE
DIN EN 15103 2010-04	Solid biofuels – Determination of bulk density (Deviation: <i>HE: Only for salts</i> )	GE, HE
DIN EN 15148 2010-03	Solid biofuels – Determination of the content of volatile matter	GE
DIN EN 15402 2011-05	Solid recovered fuels – Determination of the content of volatile matter	GE
DIN EN 15403 2011-05	Solid recovered fuels – Determination of ash content	GE
DIN EN 15414-3 2011-11	Solid recovered fuels – Determination of water content using the oven dry method – Part 3: Moisture in general analysis sample	GE
DIN EN 15440 2011-05	Solid recovered fuels – Methods for the determination of biomass content (Deviation: <i>Without the method in Annex C: Determination of the biomass content by the C method</i> )	GE
DIN EN 15440 Corrigendum 1 2012-10	Solid recovered fuels – Methods for the determination of biomass content	GE
DIN 51718 1995-09	Determination of water content and the moisture of analysis sample	GE
DIN 51718 2002-06	Determination of water content and the moisture of analysis sample	GE

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DIN 51719 1997-07	Determination of ash content	GE
DIN 51720 2001-03	Determination of the content of volatile matter	GE
CEN/TS 15401 2010-09 E	Determination of bulk density	GE

**5.5 Ion chromatography of anions in fuels**

DIN EN 15289 2011-04	Solid biofuels – Determination of total content of sulphur and chlorine	HE
DIN EN 15408 2011-05	Solid recovered fuels – Methods for determination of sulphur (S), chlorine (Cl), fluorine (F) and bromine (Br) content	HE
DIN EN 24260 1994-05	Petroleum products and hydrocarbons; Determination of sulphur content; Wickbold combustion method	GE
DIN 51408-1 1983-06	Determination of chlorine content; Wickbold combustion method	GE
DIN 51723 2002-06	Determination of fluorine content	HE
DIN 51727 2011-11	Determination of chlorine content	GE

**5.6 Calorimetry for determination of the amount of heat from fuels**

DIN EN ISO 18125 2017-08	Solid biofuels – Determination of calorific value	HE
DIN EN 14918 2014-08	Solid biofuels – Determination of calorific value (Deviation: <i>Applies only to solid fuels</i> )	HE
DIN EN 15170 2009-05	Characterisation of sludges – Determination of gross and net calorific value Determination of gross calorific value only (Deviation: <i>Matrix fuels</i> )	HE

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DIN EN 15400 2011-05	Determination of calorific value	HE
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DIN 51900-1 2000-04	Determination of gross calorific value by bomb calorimeter and calculation of net calorific value – Part 1: General principles, apparatus, methods	HE
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**5.7 Inductively coupled plasma atomic emission spectrometry (ICP-OES) of cations in fuels**

DIN SPEC 1123 DIN CEN/TS 15412 2010-09	Solid recovered fuels – Methods for determination of metallic aluminium	GE
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**5.8 X-ray fluorescence analysis (XRF) for the determination of elemental composition in fuels**

DIN 51729-10 2011-04	Determination of the chemical composition of fuel ash (Deviation: <i>Without fusion</i> )	HE
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**5.9 Sieve analysis of fuels**

DIN EN 15149 Part 1 2011-01	Solid biofuels – Determination of particle size distribution – Part 1: Oscillating screen method using sieve apertures of 1 mm and above	GE
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DIN EN 15149 Part 2 2011-01	Determination of particle size distribution – Part 2: Oscillating screen method using sieve apertures of 3.15 mm and below	GE
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DIN EN 15415-1 2011-11	Solid recovered fuels – Determination of particle size distribution – Part 1: Screen method for small dimension particles	GE
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**5.10 Titrimetric analysis of water content in fuels**

DIN 51777 Part 1 1983-03	Testing of mineral oil hydrocarbons and solvents; determination of water content according to Karl Fischer; direct method	HE
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DIN 51777 Part 2 1974-09	Testing of mineral oil hydrocarbons and solvents; determination of water content according to Karl Fischer; indirect method	HE
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**5.11 Viscometry of physico-chemical indicators in fuels**

DIN 53019-1 2008-09	Viscosity – Measurement of viscosities and flow curves by means of rotational viscometers – Part 1: Principles and measurement geometry	HE
DIN 53019-2 2001-02	Viscosity – Measurement of viscosities and flow curves by means of rotational viscometers – Part 2: Viscometer calibration and determination of the uncertainty of measurement	HE
In-house method HE-MA-M-U 11-006 2012-05	Viscosity rotational viscometer	HE

**5.12 Other methods for fuels**

DIN EN ISO 16948 2015-09	Solid biofuels – Determination of total content of carbon, hydrogen and nitrogen	GE
DIN EN 15407 2011-05	Solid recovered fuels – Methods for the determination of carbon (C), hydrogen (H) and nitrogen (N) content	GE
ASTM D56 2016	Standard Test Method for Flash Point by Tag Closed Cup Tester	HE

**6 Analysis of commodities**

**6.1 Commodities**

**6.1.1 Gas chromatography of organic compounds in commodities**

**6.1.1.1 Gas chromatography with conventional detectors (GC-FID, GC-ECD) (\*\*: HH, across matrices, see Table 1)**

VDI 3865 Blatt 3 1998-06	Measurement of organic soil pollutants – Gas-chromatographic determination of volatile organic compounds in soil gas adsorption at activated carbon and desorption with organic solvents (Deviation: <i>Matrix here commodities</i> )	GE
In-house method HH-MA-M 03-055 2017-06	MOSH/MOAH measurement LC/GC-FID	HH

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6.1.1.2 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS) (\*: PI)

DIN EN 12673 (F 15) 1999-05	Water quality – Gas chromatographic determination of some selected chlorophenols in water (Deviation: <i>Matrix commodities, additionally triclosan and bisphenol A</i> )	PI
DIN EN ISO 22032 (F 28) 2009-07	Water quality – Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge – Method using extraction and gas chromatography/mass spectrometry (Deviation: <i>Other analytes polybrominated biphenyls (PBB), tetrabromobisphenol A (TBBP-A), hexabromocyclododecane (HBCD), tribromanisole (TBA); matrix here polymers; ultrasonic extraction; other internal standards</i> )	PI
DIN EN ISO 12010 (H 47) 2019-09	Water quality – Determination of short-chain polychlorinated alkanes (SCCPs) in water – Method using gas chromatography-mass spectrometry (GC-MS) and negative-ion chemical ionisation (NCI) (Deviation: <i>Matrix commodities; additional determination of MCCP, modular clean-up, modified quantification, detector GC-MSD</i> )	PI
DIN EN ISO 16588 (P 10) 2004-02	Water quality – Determination of six complexing agents, EDTA, NTA, etc. – Gas chromatographic method (GC-MSD) (Deviation: <i>After aqueous eluate preparation; matrix only cleaning agents</i> )	PI
DIN CEN/TS 16183; DIN SPEC 91265 2012-05	Sludge, treated biowaste and soil – Determination of selected phthalates using GC-MS (Deviation: <i>Matrix here commodities</i> )	PI
DIN 19742 2014-08	Soil quality – Determination of selected phthalates in sludge, sediment, solid waste and soil after extraction and determination using gas chromatography mass spectrometry (GC-MS) (Deviation: <i>Additionally analytes dimethyl, diethyl, dipropyl, diisobutyl, dipentyl, benzyl butyl, dicyclohexyl, dioctyl, diisononyl, diisodecyl phthalate; matrix here commodities</i> )	PI

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AfPS GS (PAHs) 2014-01	Committee for Product Safety (AfPS) – GS specification – Testing and assessment of polycyclic aromatic hydrocarbons (PAHs) in the award of the GS mark – Specification as per Section 21 (1) (3) ProdSG (2014-08) (Deviation: <i>Without assessment</i> )	PI
VDI 3865 Blatt 3 1998-06	Measurement of organic soil pollutants – Gas-chromatographic determination of volatile organic compounds in soil gas adsorption at activated carbon and desorption with organic solvents (Deviation: <i>additionally analytes; matrix only polymers; without sampling</i> )	GE, PI
In-house method PI-MA-M 03-081 2019-09	Musk compounds in water and solids (e.g. detergents) using GC-MSD	PI

**6.1.2 Migration tests in commodities**

ASU B 80.30-1 1998-01	Analysis of commodity goods – Basic principle for determination of migration –Annex	HH
ASU L 80.30-2 2008-04	Analysis of commodity goods – List of simulant solvents	HH
ASU L 80.30-3 2008-04	Analysis of commodity goods – Further rules for testing compliance with migration limits; Annex I to Commission Directive 2002/72/EC of 6 August 2002 relating to plastic materials and articles intended to come into contact with foodstuffs as last amended by 2007/19/EC, OJ EC No L 91/17 of 31.03.2007) (corrected by OJ L 97/50 of 12.04.2007)	HH
ASU B 80.30-4 2008-10	Analysis of commodity goods – Plastics – Part 1: Guideline on the selection of test conditions and methods for overall migration (Adoption of standard of the same name DIN EN 1186-1, July 2002 edition)	HH
ASU B 80.30-6 2008-10	Analysis of commodity goods – Plastics – Part 3: Test methods for overall migration into aqueous simulants by total immersion (adoption of standard of the same name DIN EN 1186-3, July 2002 edition)	HH

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ASU B 80.30-8 2008-10	Analysis of commodity goods – Plastics – Part 5: Test methods for overall migration into aqueous food simulants by cell (adoption of standard of the same name DIN EN 1186-5, July 2002 edition)	HH
ASU B 80.30-10 2008-10	Analysis of commodity goods – Plastics – Part 7: Test methods for overall migration into aqueous simulants using a pouch (adoption of standard of the same name DIN EN 1186-7, July 2002 edition)	HH
ASU B 80.30-12 2008-10	Analysis of commodity goods – Plastics – Part 9: Test methods for overall migration into aqueous simulants by article filling (adoption of standard of the same name DIN EN 1186-9, July 2002 edition)	HH
ASU B 80.30-17 2008-10	Analysis of commodity goods – Plastics – Part 14: Test methods for 'substitute tests' for overall migration from plastics intended to come into contact with fatty foodstuffs using test media iso-octane and 95% ethanol (adoption of standard of the same name DIN EN 1186-14, December 2002 edition)	HH
ASU B 80.30-18 2008-10	Analysis of commodity goods – Plastics – Part 15: Alternative test methods to migration into fatty food simulants by rapid extraction into iso-octane and/or 95% ethanol (adoption of standard of the same name DIN EN 1186-15, December 2002 edition)	HH
ASU B 80.30-27 2009-11	Analysis of commodity goods – Test methods for overall migration at high temperatures (adoption of standard of the same name DIN EN 1186-13, December 2002 edition)	HH

**6.1.3 Titrimetric analysis of calcium compounds in cigarette paper (\*: HH)**

Ph. Eur. Monograph CaCl <sub>2</sub> 2008-01	Calcium chloride in cigarette paper by complexometric titration	HH
Ph. Eur. Monograph CaCO <sub>3</sub> 2017-01	Calcium carbonate in cigarette paper by complexometric titration	HH

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USP 41 <541> 2018-05	Titrimetry	HH
Ph. Eur. Monograph Ca(OH) <sub>2</sub> 2017-01	Calcium hydroxide in cigarette paper by complexometric titration	HH
FCC IX Monograph CaO 2016	Calcium oxide in cigarette paper by complexometric titration	HH

**7 Analysis of foodstuffs**

**7.1 Foodstuffs**

**7.1.1 Sensory analysis – Basic descriptive tests of foodstuffs**

In-house method HM-MA-M 10-011 2016-04	Sensory testing	HM
In-house method HM-MA-M 10-012 2016-08	Marketability	HM
In-house method HH-MA-M 10-014 2016-05	Stocking rate in foodstuffs by means of optical findings	HH
In-house method HH-MA-M 10-016 2002-05	Sensory testing of foodstuffs	HH

**7.1.2 Sample pretreatment of foodstuffs (\*: HH; HM)**

ASU L 00.00-19/1 2015-06	Analysis of foodstuffs – Determination of trace elements in foodstuffs – Pressure digestion (adoption of standard of the same name DIN EN 13805, December 2014 edition)	HH, HM
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ASU L 00.00-115 2018-10	Analysis of foodstuffs – Multiple analytical method for the determination of pesticide residues using GC and LC after acetonitrile extraction/partitioning and clean-up by dispersive SPE in plant-based foodstuffs – Modular QuEChERS method (adoption of standard of the same name DIN EN 15662, July 2018)	HM
ASU L 13.00-27/2 2012-01	Analysis of foodstuffs – Gas chromatography of fatty acid methyl esters – Part 2: Production of fatty acid methyl esters in animal and vegetable fats and oils (adoption of standard of the same name DIN EN ISO 12966-2, May 2011)	HM

**7.1.3 Atomic and mass spectrometry of elements in foodstuffs**

**7.1.3.1 Inductively coupled plasma atomic emission spectrometry (ICP-OES) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 11885 (E 22) 2009-09	Water quality – Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (ICP-OES) (Deviation: <i>Only for measurement</i> )	PI
ASU L 00.00-144 2019-07	Analysis of foodstuffs – Determination of calcium, copper, iron, magnesium, manganese, phosphorus, potassium, sodium, sulphur and zinc in foodstuffs with ICP-OES (adoption of standard of the same name DIN EN 16943, July 2017 edition) (Deviation: <i>Only measurement</i> )	PI

**7.1.3.2 Inductively coupled plasma mass spectrometry (ICP-MS) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 17294-2 (E 29) 2017-01	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of selected elements including uranium isotopes (Deviation: <i>Only for measurement</i> )	PI
ASU L 00.00-135 2011-01	Analysis of foodstuffs – Determination of arsenic, cadmium, mercury and lead in foodstuffs by ICP-MS after pressure digestion (adoption of standard of the same name, DIN EN 15763, April 2010 edition) (Deviation: <i>Only measurement</i> )	PI

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**7.1.4 Irradiation testing of foodstuffs**

ASU L 00.00-82 2010-09	Analysis of foodstuffs – Detection of irradiated food using photostimulated luminescence (adoption of standard of the same name DIN EN 13751, November 2009 edition)	HH
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**7.1.5 Electrode measurement of physico-chemical parameters in foodstuffs (HH\*) (\*\*: HH)**

ASU L 06.00-2 1980-09	Measurement of pH in meat and meat products	HH
In-house method HH-MA-M 11-008 2016-10	aW value in foodstuffs with aW value measuring instrument	HH
In-house method HH-MA-M 11-009 2018-05	Gas analysis in foodstuffs	HH
In-house method HM-MA-M 11-001 2019-08	aW value measurement	HM

**7.1.6 Liquid chromatography of organic compounds in foodstuffs**

**7.1.6.1 Liquid chromatography with conventional detectors (HPLC-DAD, HPLC-ELSD, HPLC-FLD, HPLC-PDA, HPLC-UV) (\*\*: HH, HM)**

ISO 3632-2 2010-10	Saffron ( <i>Crocus sativus</i> Linnaeus) – Part 2: Test method	HH
ASU L 00.00-9 1984-11	Analysis of foodstuffs; determination of preservatives in low-fat foodstuffs	HH
ASU L 00.00-28 2001-07	Analysis of foodstuffs – Determination of acesulfame-K, aspartame and saccharin sodium in foodstuffs – HPLC method (adoption of standard of the same name DIN EN 12856, July 1999 edition, as a replacement for the previous official method L 00.00-28)	HH
ASU L 00.00-29 2006-12	Determination of sodium cyclamate in foodstuffs – HPLC method	HH

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ASU L 00.00-61 2010-01	Analysis of foodstuffs – Determination of cholecalciferol (vitamin D3) or ergocalciferol (vitamin D2) in foodstuffs – HPLC method (adoption of standard of the same name DIN EN 12821, August 2009 edition)	HH
ASU L 00.00-62 2015-06	Analysis of foodstuffs – Determination of vitamin E (alpha, beta, gamma and delta-tocopherol) in foodstuffs by high performance liquid chromatography (adoption of standard of the same name DIN EN 12822, August 2014 edition)	HH
ASU L 00.00-63/1 2015-06	Analysis of foodstuffs – Determination of vitamin A in foodstuffs by high performance liquid chromatography – Part 1: Determination of all-E retinol and 13-Z retinol (adoption of standard of the same name DIN EN 12823-1, August 2014 edition)	HH
ASU L 00.00-83 2015-06	Analysis of foodstuffs – Determination of vitamin B1 in foodstuffs by high performance liquid chromatography (adoption of standard of the same name DIN EN 14122, August 2014 edition)	HH
ASU L 00.00-84 2015-06	Analysis of foodstuffs – Determination of vitamin B2 in foodstuffs by high performance liquid chromatography (adoption of standard of the same name DIN EN 14152, August 2014 edition)	HH
ASU L 00.00-86 2004-07	Analysis of foodstuffs – Determination of vitamin K1 with HPLC (adoption of standard of the same name DIN EN 14148, October 2003 edition)	HH
ASU L 00.00-97 2006-12	Analysis of foodstuffs – Determination of vitamin B6 (including glucosidic bound compounds) in foodstuffs – HPLC method (adoption of standard of the same name DIN EN 14663, March 2006 edition)	HH
ASU L 15.00-2 2014-02	Determination of aflatoxin B1 and the sum of aflatoxin B1, B2, G1 and G2 in cereals, nuts and related products Changed post-column derivitisation	HM

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ASU L 15.00-9 2014-02	Determination of deoxynivalenol in cereals and cereal products and cereal-based foods for infants and young children, HPLC method with clean-up on an immunoaffinity column and UV detection (adoption of standard of the same name DIN EN ISO 15891, December 2010 edition) (Deviation: <i>Simultaneous determination of nivalenol possible</i> )	HH
ASU L 15.03-1 2010-01	Analysis of foodstuffs – Determination of ochratoxin A in barley – HPLC method with clean-up on an immunoaffinity column (adoption of standard of the same name DIN EN 14132, September 2009 edition)	HH, HM
ASU L 18.00-16 1999-11	Analysis of foodstuffs – Determination of theobromine and caffeine in pastries	HH
ASU L 23.05-2 2012-01	Determination of aflatoxin B1 and the sum of aflatoxin B1, B2, G1 and G2 in hazelnuts, peanuts, pistachios, figs and paprika powder – HPLC method with immunoaffinity cleaning and post-column derivitisation	HM
ASU L 23.05-3 2014-02	Analysis of foodstuffs – Determination of aflatoxin B1 and the sum of aflatoxin B1, B2, G1 and G2 in nuts and related products – High performance liquid chromatographic method (adoption of standard of the same name DIN EN ISO 16050, September 2011 edition)	HH
ASU L 26.00-1 2018-10	Analysis of foodstuffs – Determination of nitrate content of vegetable products – HPLC/IC method (adoption of standard of the same name DIN EN 12014 Part 2, February 2018)	HH
ASU L 43.08-1 1996-02	Analysis of foodstuffs – Determination of glycyrrhizin in liquorice and confectionery products containing liquorice by reversed phase high performance liquid chromatography	HH
ASU L 46.00-3 2013-08	Analysis of foodstuffs – Analysis of coffee and coffee products – Determination of caffeine content using HPLC – Reference method (adoption of standard of the same name DIN ISO 20481, January 2011 edition)	HH
ASU L 47.00-6 2014-02	Analysis of foodstuffs – Analysis of tea and solid tea extract – Determination of caffeine content; HPLC method (adoption of standard of the same name DIN 10727, May 2004 edition)	HH

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ASTA 21.3 2004-10	Pungency of capsicums and their oleoresins (HPLC method) (Deviation: <i>Matrix only chilli, paprika, oleoresin</i> )	HH
In-house method HH-MA-M 02-004 2014-11	Coumarin using HPLC-DAD (Deviation: <i>Matrix only foodstuffs containing cinnamon, cinnamon, spice, tea</i> )	HH
In-house method HH-MA-M 02-007 2014-11	Ascorbine and dehydroascorbic acid – Vitamin C – HPLC-UV	HH
In-house method HH-MA-M 02-105 2017-04	Polycyclic aromatic hydrocarbons in foodstuffs by HPLC-DAD/FLD	HH
In-house method HH-MA-M 02-111 2016-01	Zearalenone using HPLC	HH
In-house method HM-MA-M 02-033 2018-12	Vanillin, ethylvanillin, para-hydroxybenzaldehyde by HPLC-DAD	HM
In-house method HM-MA M 02-053 2016-04	Indole in shellfish and crustaceans by HPLC-DAD	HM
In-house method HM-MA-M 02-060 2018-01	Coumarin using HPLC-DAD (Deviation: <i>Matrix only foodstuffs containing cinnamon, cinnamon, spice, tea</i> )	HM

**7.1.6.2 Liquid chromatography with mass selective detectors (LC-MS/MS) (\*\*: HH, HM)**

ASU L 00.00-76 2008-12	Analysis of foodstuffs – Determination of chlormequat and mepiquat in low-fat foodstuffs – LC-MS/MS method (adoption of standard of the same name DIN EN 15055, August 2006 edition) (Deviation: <i>HM: Matrix only plant-based foodstuffs</i> )	HH, HM
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ASU L 00.00-115 2018-10	Analysis of foodstuffs – Multiple analytical method for the determination of pesticide residues using GC and LC after acetonitrile extraction/partitioning and clean-up by dispersive SPE in plant-based foodstuffs – Modular QuEChERS method (adoption of standard of the same name DIN EN 15662, July 2018)	HH
In-house method HH-MA-M 02-087 2013-08	Morpholine and amino alcohols – LC/MS measurement	HH
In-house method HH-MA-M 02-107 2012-03	Dithianon processing, measurement with LC-MS/MS	HH
In-house method HH-MA-M 02-108 2012-03	Dodin with LC-MS/MS	HH
In-house method HH-MA-M 02-110 2012-04	Phenylurea with LC-MS/MS	HH
In-house method HH-MA-M 02-118 2013-08	Quaternary ammonium compounds in fruit and vegetables, acidic fruit, dried fruit, oilseeds and fatty foods, cereals and cereal products, special matrices with LC-MS/MS	HH
In-house method HH-MA-M 02-135 2015-08	Acidic pesticides in fruits and vegetables, oils, oilseeds and fatty foods, special matrices with LC-MS/MS	HH
In-house method HH-MA-M 02-144 2016-05	PCP in foodstuffs with LC-MS/MS	HH
In-house method HH-MA-M 02-145 2016-10	Fenbutatin oxide – Processing, measurement with LC-MS/MS	HH
In-house method HH-MA-M 02-151 2018-03	Perchlorate/chlorate in fruit and vegetables, acidic fruit, dried fruit, oil seeds and fatty foods, oil fruits, cereals and cereal products, pulses (separate), special matrices, meat, fish, milk, milk products, water with LC-MS/MS	HH

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In-house method HH-MA-M 02-152 2018-03	Ethephon in fruits and vegetables, acidic fruits, dried fruits, oil seeds and fatty foods, oil fruits, cereals and cereal products, pulses (separate), water with LC-MS/MS	HH
In-house method HH-MA-M 02-153 2018-03	Maleic hydrazide – Processing and measurement	HH
In-house method HH-MA-M 02-154 2018-03	Fosetyl and phosphonic acid in fruits and vegetables, acidic fruits, dried fruits, oil seeds and fatty foods, oil fruits, cereals and cereal products, pulses (separate), special matrices with LC-MS/MS	HH
In-house method HH-MA-M 02-156 2018-06	Glyphosate/AMPA/glufosinate in fruits and vegetables, acid fruits, dried fruits, oils, oil seeds and fatty foods, oil fruits, cereals and cereal products, special matrices with LC-MS/MS	HH
In-house method HM-MA-M 02-007 2018-08	Zearalenone in cereals, cereal products and feedstuffs (Deviation: <i>Matrix only cereals, cereal products</i> )	HM
In-house method HM-MA-M 02-008 2018-08	Determination of deoxynivalenol and nivalenol in cereals, cereal products and feedstuffs (Deviation: <i>Matrix only cereals, cereal products</i> )	HM
In-house method HM-MA-M 02-010 2018-12	Determination of nitrofurans metabolites in foodstuffs of animal origin	HM
In-house method HM-MA-M 02-012 2016-06	Chloramphenicol in foodstuffs of animal origin using LC-MS/MS	HM
In-house method HM-MA-M 02-013 2018-08	Fumonisin, LC-MS/MS measurement	HM
In-house method HM-MA-M 02-014 2014-09	Malachite green and its leuco base, brilliant green, and crystal violet and its leuco base in foodstuffs of animal origin	HM
In-house method HM-MA-M 02-016 2017-03	Determination of streptomycin in honey (Deviation: <i>Matrix only honey</i> )	HM

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In-house method HM-MA-M 02-017 2017-03	Tetracyclines and tylosin in honey	HM
In-house method HM-MA-M 02-018 2017-03	Tetracyclines in foodstuffs of animal origin (excluding honey) (Deviation: <i>Matrix only foodstuffs of animal origin except honey</i> )	HM
In-house method HM-MA-M 02-021 2017-03	Sulfonamides in honey (Deviation: <i>Matrix only honey</i> )	HM
In-house method HM-MA-M 02-022 2018-12	Morphine in poppy and poppy seed products	HM
In-house method HM-MA-M 02-032 2018-06	Aflatoxin B1, B2, G1 and G2 and ochratoxin A by LC-MS/MS	HM
In-house method HM-MA-M 02-044 2018-06	Azo colourants, measurement using LC-MS/MS	HM
In-house method HM-MA-M 02-049 2017-03	Nicotine, measurement using HPLC-MS/MS	HM
In-house method HM-MA-M 02-051 2019-01	Acrylamide in LM, using LC-MS/MS	HM
In-house method HM-MA-M 02-052 2016-01	Patulin, LC-MS/MS	HM
In-house method HM-MA-M 02-055 2017-11	Pyrrrolizidine alkaloids/tropane alkaloids measurement using LC-MS/MS Agilent 6495	HM
In-house method HM-MA-M 02-056 2016-11	Zearalenone in oil (Deviation: <i>Matrix only oil</i> )	HM

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In-house method HM-MA-M02-057 2018-08	T-2 / HT-2 toxin, quantitative determination	HM
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**7.1.7 Gas chromatography of organic compounds in foodstuffs**

**7.1.7.1 Gas chromatography with conventional detectors (GC-FID, GC-ECD) (\*\*: HH)**

ASU L 00.00-24 2002-12	Determination of benzene, toluene and xylene isomers in foodstuffs (Deviation: <i>Matrix only low-fat foods</i> )	HH
ASU L 00.00-36/2 2004-07	Analysis of foodstuffs – Determination of bromide residues in low-fat foodstuffs – Part 2: Determination of inorganic bromide (adoption of the standard of the same name DIN EN 13191-2, October 2000 edition, as a replacement for the previous official method L 00.00-36)	HH
ASU L 00.00-47 1999-11	Determination of ethephon by headspace gas chromatography in plant-based foodstuffs	HH
ASU L 00.00-49/2 1999-11	Analysis of foodstuffs – Non-fatty foods – Determination of dithiocarbamate and thiuram disulfide residues – Part 2: Gas chromatographic method (adoption of same standard DIN EN 12396 Part 2, December 1998 edition)	HH
ASU L 05.00-16 2014-08	Analysis of foodstuffs – Determination of cholesterol content in eggs and egg products - Gas chromatographic method	HH
ASU L 13.00-27/2 2012-01	Analysis of foodstuffs – Gas chromatography of fatty acid methyl esters – Part 2: Production of fatty acid methyl esters in animal and vegetable fats and oils (adoption of standard of the same name DIN EN ISO 12966-2, May 2011)	HH
ASU L 13.04-1 2006-12	Analysis of foodstuffs – Determination of low-boiling halogenated hydrocarbons in edible oils (adoption of standard of the same name DIN EN ISO 16035, November 2005 edition)	HH
ASU L 17.00-12 1999-11	Analysis of foodstuffs – Determination of butyric acid as methyl ester in fat from bread including small baked products made of bread dough	HH

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ASU L 53.00-1 1999-11	Analysis of foodstuffs – Gas chromatographic determination of ethylene oxide and 2-chloroethanol in spices	HH
DGF C-VI 11d 1998	Fatty acids using GC-FID	HH
In-house method HH-MA-M 03-011 2018-03	Highly volatile halogenated hydrocarbons and solvents (including ethanol and MEK) in foodstuffs with HS-GC-FID/ECD	HH
In-house method HH-MA-M 03-027 2016-01	Essential oils in spices with GC-FID	HH
In-house method HH-MA-M 03-055 2017-06	Hydrocarbons: MOSH/MOAH and POSH/PAO in foodstuffs with GC-FID	HH

**7.1.7.2 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS) (\*\*: HH)**

ASU L 00.00-24 1993-08	Analysis of foodstuffs – Determination of benzene, toluene and xylene isomers in foodstuffs	HH
ASU L 00.00-34 2010-09	Analysis of foodstuffs – Modular multiple analytical method for the determination of plant protection product residues in foodstuffs (extended revision of DFG Method S 19)	HH
ASU L 00.00-115 2018-10	Analysis of foodstuffs – Multiple analytical method for the determination of pesticide residues using GC and LC after acetonitrile extraction/partitioning and clean-up by dispersive SPE in plant-based foodstuffs – Modular QuEChERS method (adoption of standard of the same name DIN EN 15662, July 2018)	HH
In-house method HH-MA-M 03-058 2016-10	Polycyclic aromatic hydrocarbons with GC-MS/MS	HH
In-house method HH-MA-M 03-061 2018-05	Phosphine in foodstuffs with HS-GC-MSD	HH

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**7.1.8 Gravimetric analysis of physico-chemical indicators and ingredients in foodstuffs  
(\*: HM; \*\*: HH)**

ASU L 00.00-18 1997-01	Analysis of foodstuffs – Determination of fibre in foodstuffs	HH, HM
ASU L 01.00-20 2013-08	Analysis of foodstuffs – Determination of fat content in milk and milk products using the Weibull-Berntrop gravimetric method (adoption of standard of the same name DIN 10342, September 1992 edition)	HH, HM
ASU L 06.00-3 2014-08	Analysis of foodstuffs – Determination of water content in meat and meat products – Gravimetric method – Reference method	HH, HM
ASU L 06.00-4 2017-10	Analysis of foodstuffs– Determination of ash in meat, meat products and sausages - Gravimetric method (reference method)	HH, HM
ASU L 06.00-6 2014-08	Analysis of foodstuffs – Determination of total fat content in meat and meat products – Weibull-Stoldt gravimetric method – Reference method	HH, HM
ASU L 16.00-5 2017-10	Analysis of foodstuffs – Determination of total fat content in cereal products after acid digestion by extraction and gravimetry	HH, HM
ASU L 16.01-1 2008-12	Analysis of foodstuffs – Determination of moisture content in cereal flour	HH, HM
ASU L 16.01-2 2008-12	Analysis of foodstuffs – Determination of ash in cereal flour	HH, HM
ASU L 17.00-1 1982-05	Determination of loss on drying in bread including small baked products made of bread dough	HH, HM
ASU L 17.00-3 1982-05	Determination of ash in bread including small baked products made of bread dough	HH, HM
ASU L 17.00-4 2017-10	Analysis of foodstuffs – Determination of total fat content in bread including small baked products made of bread dough after acid digestion by extraction and gravimetry	HH, HM

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ASU L 31.00-1 1997-01	Analysis of foodstuffs – Determination of the relative density of fruit and vegetable juices (adoption of standard of the same name DIN EN 1131, December 1994 edition)	HH, HM
ASU L 39.00-2 (EG) 1981-04	Analytical methods for determination of the composition of certain sugars intended for human consumption – Method 2: Determination of dry matter (vacuum drying)	HH
ASU L 44.00-3 1985-12	Analysis of foodstuffs; determination of dry matter content in solid chocolate	HH, HM
ASU L 53.00-4 1996-02	Analysis of foodstuffs – Analysis of spices and seasoning ingredients – Determination of total ash and acid-insoluble ash (adoption of German standard of the same name DIN 10223, January 1996 edition)	HH, HM
ASU L 53.00-8 2004-07	Analysis of foodstuffs – Determination of spices and seasoning ingredients – Determination of water content (distillation method) (adoption of standard of the same name DIN 10229, August 2000 edition)	HH
ASU L 53.00-10 2010-09	Analysis of foodstuffs – Determination of essential oil content in spices, seasoning ingredients and herbs – Steam distillation method (adoption of standard of the same name DIN EN ISO 6571, November 2009 edition)	HH
In-house method HH-MA-M 04-004 2014-11	Glycyrrhizin after Houseman in liquorice	HH
In-house method HH-MA-M 10-004 2016-10	Insoluble (cold/hot water) and starch/gums in liquorice and liquorice root	HH

**7.1.9 Immunological analysis – Enzyme immunoassay by ELISA of allergens in foodstuffs (\*: HM)**

r-biopharm test kit RIDASCREEN R6901 2015-07	FAST Almond	HM
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r-biopharm test kit RIDASCREEN Fast R6152 2016-11	Mustard	HM
r-biopharm test kit RIDASCREEN R7001 2015-10	Gliadin	HM
r-biopharm test kit RIDASCREEN Fast R6202 2016-03	Peanut	HM
r-biopharm test kit RIDASCREEN Fast R4652 2015-07	Milk	HM
r-biopharm test kit RIDASCREEN Fast R7102 2016-07	Soya	HM
r-biopharm test kit RIDASCREEN Fast R6402 2015-12	Egg Protein	HM
r-biopharm test kit R 7003 2011-10	Allergens in foodstuffs – Qualitative detection with lateral flow – Gluten	HH
Bioavid test kit BL 613 25 2013-10	Allergens in foodstuffs – Qualitative detection with lateral flow – Milk	HH
Bioavid test kit BL 603 25 2013-11	Allergens in foodstuffs – Qualitative detection with lateral flow – Mustard	HH
Romer test kit 4302062 2016-05	Allergens in foodstuffs – Qualitative detection with lateral flow – Soya	HH

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Bioavid test kit BL 606 25 2013-06	Allergens in foodstuffs – Qualitative detection with lateral flow – Peanut	HH
Bioavid test kit BL 604 25 2013-10	Allergens in foodstuffs – Qualitative detection with lateral flow – Hazelnut	HH
Bioavid test kit BL 611 25 2013-02	Allergens in foodstuffs – Qualitative detection with lateral flow – Pistachio	HH
Bioavid test kit BL 601 25 2013-11	Allergens in foodstuffs – Qualitative detection with lateral flow – Almond	HH
Bioavid test kit BL 608 10 2013-11	Allergens in foodstuffs – Qualitative detection with lateral flow – Egg	HH
Bioavid test kit BL 609 10 2013-10	Allergens in foodstuffs – Qualitative detection with lateral flow – Sesame	HH
In-house method HM-MA-M 06-001 2017-02	Allergens (gluten/casein/mustard/soya/peanut/egg/almond) in foodstuffs and feedstuffs using ELISA	HM

**7.1.10 Microbiological Analysis – Cultural microbiological methods in foodstuffs (\*: HH)**

ISO 4831 2006-08	Microbiology – Horizontal method for the detection and enumeration of coliforms – MPN technique	HH
ISO 4832 2006-02	Microbiology – Horizontal method for the enumeration of coliforms – Colony-count technique	HH
ISO 7251 2005-02	Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of presumptive Escherichia coli – Most probable number technique	HH
ISO 15214 1998-08	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of mesophilic lactic acid bacteria – Colony-count technique at 30 degrees C	HH



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ISO 21527-1 2008-07	Horizontal method for the enumeration of yeasts and moulds - Colony-count technique - Part 1: Colony count technique in products with water activity greater than 0,95	HH
ISO 21527-2 2008-07	Horizontal method for the enumeration of yeasts and moulds - Colony-count technique - Part 2: Colony count technique in products with water activity equal to or less than 0,95	HH
DIN EN ISO 4833-01 2013-12	Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 1: Colony count at 30 degrees C by the pour plate technique	HH
DIN EN ISO 4833-02 2014-05	Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 2: Colony count at 30 degrees C by the surface plating technique	HH
ASU L 00.00-20 2018-03	Analysis of foodstuffs – Horizontal method for the detection, enumeration and serotyping of Salmonella – Part 1: Detection of Salmonella spp. (adoption of standard of the same name DIN EN ISO 6579-1, July 2017)	HH
ASU L 00.00-22 2018-03	Analysis of foodstuffs – Horizontal method for the detection and enumeration of Listeria monocytogenes in foodstuffs – Part 2: Enumeration method (in accordance with DIN EN ISO 11290 Part 2 – Edition: January 2005)	HH
ASU L 00.00-32/1 2018-03	Analysis of foodstuffs – Horizontal method for the detection and enumeration of Listeria monocytogenes and of Listeria spp. – Part 1: Detection method (adoption of standard of the same name DIN EN ISO 11290-1, September 2017)	HH
ASU L 00.00-33 2006-12	Analysis of foodstuffs – Horizontal method for the enumeration of presumptive Bacillus cereus – Colony-count technique at 30 °C (adoption of standard of the same name DIN EN ISO 7932, March 2004 edition)	HH
ASU L 00.00-55 2004-12	Analysis of foodstuffs – Method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) in foodstuffs – Part 1: Technique using Baird-Parker agar medium (adoption of standard of the same name DIN EN ISO 6888-1, December 2003 edition)	HH

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ASU L 00.00-57 2006-12	Analysis of foodstuffs – Methods for the enumeration of Clostridium perfringens in foodstuffs – Colony-count technique (adoption of standard of the same name DIN EN ISO 7937, November 2004 edition)	HH
ASU L 00.00-88/1 2015-06	Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 1: Colony count at 30 degrees C by the pour plate technique (adoption of standard of the same name DIN EN ISO 4833-1, December 2013 edition)	HH
ASU L 00.00-88/2 2015-06	Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 2: Colony count at 30 degrees C by the surface plating technique (adoption of standard of the same name DIN EN ISO 4833-2, May 2014 edition)	HH
ASU L 00.00-132/2 2010-09	Analysis of foodstuffs – Horizontal method for the enumeration of $\beta$ -glucuronidase-positive Escherichia coli in foodstuffs – Part 2: Colony-count technique with 5-bromo-4-chloro-3-indolyl $\beta$ -d-glucuronic acid (adoption of standard of the same name DIN ISO 16649-2, December 2009 edition)	HH
ASU L 00.00-133/1 2018-03	Analysis of foodstuffs – Horizontal method for the detection and enumeration of Enterobacteriaceae – Part 1: Detection of Enterobacteriaceae (adoption of standard of the same name DIN EN ISO 21528-1, September 2017)	HH
ASU L 00.00-133/2 2010-09	Analysis of foodstuffs – Horizontal method for the detection and enumeration of Enterobacteriaceae – Part 2: Colony-count technique (adoption of standard of the same name DIN EN ISO 21528-2, September 2017)	HH
ASU L 01.00-37 1991-12	Analysis of foodstuffs; determination of the number of yeasts and moulds in milk and milk products; reference method	HH
ASU L 06.00-43 2011-06	Analysis of foodstuffs – Enumeration of Pseudomonas spp. in meat and meat products (adoption of standard of the same name DIN EN ISO 13720, December 2010 edition)	HH

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**7.1.11 Molecular biological analysis – PCR of bacteria and allergens in foodstuffs (\*\*: HM)**

ASU L 00.00-95V 2006-12	Analysis of foodstuffs – Qualitative detection of <i>Listeria monocytogenes</i> in foodstuffs – PCR method (BAX® System Real-Time PCR Assay <i>L. monocytogenes</i> Part KIT 2005)	HH
ASU L 00.00-98 2007-04	Analysis of foodstuffs – Qualitative detection of salmonella in foodstuffs – Real-time PCR method (BAX® System Real-Time PCR Assay Salmonella Part KIT 2006)	HH
Dupont BAX System HYBKIT2012 2018-02	BAX® System PCR Assay for Salmonella Part KIT2012	HH
CONGEN Sure Food® PREP Basic Article no. S1052 2017-03	Extraction of plant and animal DNA (deoxyribonucleic acid) from raw materials and from slightly processed foods and feed as well as for the extraction of animal DNA from highly processed food and feed.	HM
CONGEN Sure Food® PREP Advanced Article no. S1053 2017-03	Extraction of plant and animal DNA (deoxyribonucleic acid) using two different protocols: 1. Sensitive extraction of plant and animal DNA of allergens from food in accordance with Regulation (EU) 1169/2011. 2. Extraction of plant DNA from highly processed food and feed as well as from samples that produce an inhibition in the DNA when extracted with protocol 1.	HM
CONGEN Sure Food® GMO Screen 4plex 35S/NOS/FMV+IAC Article no. S2126 Version 1.3	Screening for genetically modified organisms (GMOs) in food, feed and seeds	HM
CONGEN Sure Food® ALLERGEN ID Soya Article no. 3101 Version 2.2	Detection of DNA of soya in accordance with Regulation (EU) 1169/2011	HM
CONGEN Sure Food® ALLERGEN Hazelnut Article no. S3602 2018-01	Detection of DNA of hazelnut in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM

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CONGEN Sure Food® ALLERGEN Almond Article no. S3604 2018-01	Detection of DNA of almond in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Celery Article no. S3605 2018-01	Detection of DNA of celery in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Walnut Article no. S3607 2018-01	Detection of DNA of the walnut family Juglans regia (walnut) in accordance with Regulation (EU) 1169/2011 and Juglans nigra (black walnut) qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Sesame Article no. S3608 2018-01	Detection of sesame DNA in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Mustard Article no. S3609 2018-01	Detection of DNA of brown (Brassica juncea), yellow (Sinapis alba) and black mustard (Brassica nigra) in accordance with Regulation (EU) 1169/2011 and Juglans nigra (black walnut) qualitative and/or quantitative	HM
CONGEN Sure Food® ALLERGEN Fish Article no. S3610 2018-01	Detection of DNA of fish in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Lupin Article no. S3611 2018-01	Detection of DNA of lupin in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Macadamia Article no. S3616 2018-01	Detection of DNA of macadamia in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM

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CONGEN Sure Food® Detection of DNA of Brazil nut in accordance with Regulation HM  
ALLERGEN Brazil Nut (EU) 1169/2011 qualitatively and/or quantitatively  
Article no. S3617  
2018-01

CONGEN Sure Food® Detection of DNA of pecan in accordance with Regulation (EU) HM  
ALLERGEN Pecan 1169/2011 qualitatively and/or quantitatively  
Article no. S3618  
2018-01

CONGEN Sure Food® Detection of pork DNA (*Sus scrofa*) HM  
ANIMAL ID Pork  
SENS PLUS  
Article no. S6017  
2018-01

**7.1.12 Optical inspection of foodstuffs**

In-house method Nematodes in fish with UV lamp or after maceration HH  
HH-MA-M 10-035  
2017-01

**7.1.13 Photometry of anions and organic compounds in foodstuffs (\*: HH)**

ASU L 00-00-87 Analysis of foodstuffs – Determination of folate by HH  
2004-06 microbiological assay (adoption of standard of the same name  
DIN EN 14131. September 2003 edition)  
(r-biopharm P 1001:2016-10)

ASU L 01.00-26/1 Analysis of foodstuffs – Determination of content of L and HH  
2011-01 D-lactic acid (L and D-lactate) in milk and milk products –  
Enzymatic method (adoption of German standard of the same  
name DIN 10335, September 2010 edition)  
(r-biopharm 11112881035)

ASU L 01.00-17 Analysis of foodstuffs – Determination of lactose and HH  
2016-10 galactose content of milk and milk products – Enzymatic  
method (adoption of standard of the same name DIN 10344,  
May 2015 edition) (r-biopharm 10176303035)

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ASU L 05.00-17 1992-12	Analysis of foodstuffs; determination of cholesterol content in eggs and egg products; enzymatic method (r-biopharm: 10139050035)	HH
ASU L 06.00-8 2017-10	Analysis of foodstuffs – Determination of hydroxyproline content in meat, meat products and sausages – Photometric method after acid digestion (reference method)	HH
ASU L 07.00-60 2007-04	Analysis of foodstuffs – Determination of nitrate and/or nitrite content in meat products after enzymatic reduction of nitrate to nitrite – Spectrophotometric method (adoption of standard of the same name DIN EN 12014-3, August 2005 edition) (r-biopharm 10905658035)	HH
ASU L 26.11.03-5 1983-05	Determination of citric acid in tomato purée (enzymatic method) (r-biopharm 10139076035:2017-07)	HH
ASU L 31.00-12 1997-01	Analysis of foodstuffs – Enzymatic determination of the content of D-glucose and D-fructose in fruit and vegetable juices – NADPH spectrometric method (adoption of standard of the same name DIN EN 1140, December 1994 edition, as a replacement for the previous official method L 31.00-12, November 1984 edition) (r-biopharm 10716260035)	HH
ASU L 31.00-13 1997-09	Analysis of foodstuffs – Enzymatic determination of sucrose content in fruit and vegetable juices – NADP spectrometric method (adoption of standard of the same name DIN EN 12146, October 1996 edition, as a replacement for the previous official method L 31.00-13, November 1984 edition) (r-biopharm 10716260035)	HH
SLMB 62/9.2.1 2000-03	Vitamin B 12 by microbiological testing (r-biopharm P1002:2017-02)	HH
SLMB 62/10.2.1 2000-03	Biotin by microbiological testing (r-biopharm P 1003:2016-10)	HH
SLMB 62/12.2.1 2000-03	Niacin by microbiological testing (r-biopharm P 1004:2016-10)	HH
SLMB 62/13.2.1 2000-03	Pantothenic acid by microbiological testing (r-biopharm P 1005:2016-10)	HH

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ASTA 12.1 1997-01	Piperine in pepper, its oleoresins and seasoning mixes	HH
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**7.1.14 Polarimetric analysis of organic compounds in foodstuffs**

ASU L 17.00-5 2003-12	Analysis of foodstuffs – Determination of starch content in bread including small baked products made of bread dough	HH
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**7.1.15 Qualitative detection of organic compounds in foodstuffs**

ASU L 06.00-15 1982-11	Detection of condensed phosphates in meat and meat products	HH
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ASU L 26.11.03-14 1983-11	Detection of water-soluble colourants in tomato purée, tomato ketchup and similar products	HH
	Detection of starch in foodstuffs by iodine-starch reaction	HH

In-house method  
HH-MA-M 10-032  
2016-01

Lipase activity in fats and high-fat foodstuffs	HH
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In-house method  
HH-MA-M 11-006  
2012-01

**7.1.16 Refractometric analysis of organic compounds in foodstuffs**

ASU L 31.00-16 1997-09	Analysis of foodstuffs – Determination of the soluble dry matter content in fruit and vegetable juices – Refractometric method (adoption of standard of the same name DIN EN 12143, October 1996 edition)	HH
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**7.1.17 Determination of radioactivity of foodstuffs**

ASU L 00.00-14 1986-11	Analysis of foodstuffs, measurement of radioactivity in foodstuffs	HH
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**7.1.18 Titrimetric determination of physico-chemical indicators and ingredients in foodstuffs (\*\*: HH)**

ASU L 00.00-46/1 1999-11	Analysis of foodstuffs – Determination of sulphite in foodstuffs – Part 1: Optimised Monier-Williams method (adoption of standard of the same name DIN EN 1988 Part 1, May 1998 edition)	HH
ASU L 00.00-46/2 1999-11	Analysis of foodstuffs – Determination of sulphite in foodstuffs – Part 2: Enzymatic method (adoption of same standard DIN EN 1988 Part 2, May 1998 edition)	HH
ASU L 06.00-7 2014-08	Analysis of foodstuffs – Determination of raw protein content in meat and meat products – Kjeldahl titrimetric method – Reference method	HH
ASU L 07.00-5/1 2010-01	Analysis of foodstuffs – Determination of salt content (sodium chloride) in meat products – Potentiometric endpoint determination	HH
ASU L 10.00-3 1988-12	Analysis of foodstuffs – Determination of content of volatile nitrogenous bases (TVB-N) in fish and fish products, reference method	HH
ASU L 13.00-5 2012-01	Analysis of foodstuffs – Determination of acid number and acidity of animal and vegetable fats and oils (adoption of standard of the same name DIN EN ISO 660, October 2009 edition)	HH
ASU L 13.00-37 2012-01	Analysis of foodstuffs – Determination of peroxide value in animal and vegetable fats and oils – Iodometric (visual) endpoint determination (adoption of standard of the same name DIN EN ISO 3960, August 2010 edition)	HH
ASU L 17.00-15 2013-08	Analysis of foodstuffs – Determination of raw protein content in bread including small baked products made of bread dough – Kjeldahl method	HH, HM
ASU L 26.04-4 1987-06	Analysis of foodstuffs; determination of titratable acids (total acidity) in the cover brine and press liquor for sauerkraut	HH
DGF C-V 2, calc. oleic acid 2006	Acid value and free fatty acid content (acidity) – Determination in fats and oils	HH

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In-house method	Sugar in liquorice by titration	HH
HH-MA-M 08-032		
2016-10		

**7.1.19 Viscosimetry of foodstuffs**

In-house method	Viscosity	HH
HH-MA-M 11-004		
2017-01		

**7.2 Carbon dioxide**

**7.2.1 Sensory analysis – Basic descriptive tests of carbon dioxide**

ISBT Procedure	Taste and odour in water (sensor)	GE
15.0-16.0		
2000-10		

**7.2.2 Methods of absorption of physico-chemical indicators in carbon dioxide**

ISBT Procedure 3.0	Sensor (Michell Instruments)	GE
2000-10		

ISBT Procedure 2.0	Purity (with KOH-absorbable constituents)	GE
2000-10		

ISBT Procedure 6.0	Ammonia	GE
2000-10		

EIGA IGC Doc	Oxygen (GC FID/WLD and sensor)	GE
70/08/E		
Appendix D		
2008		

ISBT Procedure 9.0	Phosphine (test tube)	GE
2000-10		

EIGA IGC Doc	Sulphur dioxide (test tube)	GE
70/80/E		
Appendix D		
2008		

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ISBT Procedure 7.0-7.1 2000-10	Nitrogen oxides (NO/NO <sub>2</sub> )	GE
ISBT SM-1.0 2000-10	Hydrogen cyanide (test tube)	GE
EIGA IGC Doc 70/80/E Appendix D 2008	Hydrogen sulphide (test tube)	GE

**7.2.3 Atomic and mass spectrometry of cations in carbon dioxide**

**7.2.3.1 Inductively coupled plasma atomic emission spectrometry (ICP-OES) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 11885 (E 22) 2009-09	Water quality – Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (ICP-OES) (Deviation: <i>Only for measurement</i> )	PI
ASU L 00.00-144 2019-07	Analysis of foodstuffs – Determination of calcium, copper, iron, magnesium, manganese, phosphorus, potassium, sodium, sulphur and zinc in foodstuffs by ICP-OES (adoption of standard of the same name DIN EN 16943, July 2017) (Deviation: <i>Only measurement</i> )	PI

**7.2.3.2 Inductively coupled plasma mass spectrometry (ICP-MS) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 17294-2 (E 29) 2017-01	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of selected elements including uranium isotopes (Deviation: <i>Only for measurement</i> )	PI
ASU L 00.00-135 2011-01	Analysis of foodstuffs – Determination of arsenic, cadmium, mercury and lead in foodstuffs by ICP-MS after pressure digestion (adoption of standard of the same name DIN EN 15763, April 2010 edition) (Deviation: <i>Only measurement</i> )	PI

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**7.2.4 Gas chromatography of organic compounds in carbon dioxide**

**7.2.4.1 Gas chromatography with conventional detectors (GC-FID) of organic compounds in carbon dioxide**

ISBT Procedure 5.0 2000-10	Carbon monoxide (GC-FID)	GE
ISBT Procedure 8.0 2000-10	Oil and fat (extraction of snow sample residues., exam.: DIN EN ISO 9377-2 (H53) GC/FID)	GE
ISBT Procedure 10.0 2000-10	Hydrocarbons, volatile methane, ethane, propane, butane sum (calculated as methane) using GC-FID	GE
ISBT Procedure 12 2000-10	BTEX benzene, toluene, xylenes, ethylbenzene	GE
ISBT Procedure 12 2000-10	Volatile chlorinated hydrocarbons: Dichloromethane, 1,2-dichloroethane, trichloromethane, 1,1,1-trichloroethane, tetrachloromethane, trichloroethene, tetrachloroethene, freons (F11, F12, F21, F113, F114, R22)	GE
ISBT Procedure 12 2000-10	Methanol, ethanol	GE
ISBT Procedure 12 2000-10	Dimethyl ether	GE

**7.2.4.2 Gas chromatography with mass selective detectors (GC-MS) of organic compounds in carbon dioxide**

EPA 625 1984	PAH (polycyclic aromatic hydrocarbons) (GC/MSD after enrichment)	GE
ISBT Procedure 12 2000-10	Carbonyl sulphide (GC-MS)	GE
In-house method GE-MA-M-U 3-2 2013-04	Volatile chlorinated hydrocarbons: Dichloromethane, 1,2-dichloromethane, trichloromethane, 1,1,1-trichloroethane, tetrachloromethane, trichloroethene, tetrachloroethene (adsorption on Carbotrap, thermal desorption, GC/MS); freons: F11, F12, F 21, F 113, F 114, R22 (adsorption on Carbotrap, thermal desorption, GC/MS)	GE

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**7.2.5 Gravimetric analysis of physico-chemical indicators in carbon dioxide**

ISBT Procedure 8.0 2000-10	Particles	GE
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**7.2.6 Volumetric determination of physico-chemical indicators in carbon dioxide**

Joint FAO/WHO Expert Committee	Acid (JECFA test)	GE
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**7.3 Mineral and bottled water**

**7.3.1 Atomic and mass spectrometry of elements in mineral and bottled water**

**7.3.1.1 Inductively coupled plasma atomic emission spectrometry (ICP-OES) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 11885 (E 22) 2009-09	Water quality – Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (ICP-OES)	PI
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ASU L 00.00-144 2019-07	Analysis of foodstuffs – Determination of calcium, copper, iron, magnesium, manganese, phosphorus, potassium, sodium, sulphur and zinc in foodstuffs with ICP-OES (adoption of standard of the same name DIN EN 16943, July 2017 edition) (Deviation: <i>Only measurement</i> )	PI
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**7.3.1.2 Inductively coupled plasma mass spectrometry (ICP-MS) (\*: PI, across matrices, see Table 1)**

DIN EN ISO 17294-2 (E 29) 2017-01	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of selected elements including uranium isotopes	PI
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ASU L 00.00-135 2011-01	Analysis of foodstuffs – Determination of arsenic, cadmium, mercury and lead in foodstuffs by ICP-MS after pressure digestion (adoption of standard of the same name, DIN EN 15763, April 2010 edition) (Deviation: <i>Only measurement</i> )	PI
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**7.3.2 Ion chromatography of anions in mineral and bottled water (\*: PI, across matrices, see Table 1)**

DIN EN ISO 10304-1 (D 20) 2009-07	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulphate (Deviation: <i>No determination of nitrite and phosphate</i> )	PI
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**7.3.3 Ion chromatography of anions in mineral and bottled water (\*: PI)**

DIN EN ISO 14403-2 (D 3) 2012-10	Water quality – Determination of total cyanide and free cyanide using flow analysis (FIA and CFA) – Part 2: Method using continuous flow analysis (CFA)	PI
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DIN EN ISO 13395 (D 28) 1996-12	Water quality – Determination of nitrite nitrogen and nitrate nitrogen and the sum of both by flow analysis (CFA and FIA) and spectrometric detection	PI
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**7.3.4 Microbiological analysis – Cultural microbiological methods in mineral and bottled water**

MinTafelWV Annex 2 1984-08	Ordinance on natural mineral water, spring water and table water (Mineral and Table Water Ordinance) – Microbiological testing methods (1. Escherichia coli and coliform germs, 2. Faecal streptococci, 3. Pseudomonas aeruginosa, 4. Sulphite-reducing, spore-forming anaerobes, 5. Colony count)	HH
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**8 Analysis of feedstuffs**

**8.1 Feedstuffs**

**8.1.1 Sensory analysis – Basic descriptive tests of feedstuffs**

In-house method HH-MA-M 10-014 2016-05	Stocking rate in feedstuffs by means of optical findings	HH
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**8.1.2 Irradiation testing of feedstuffs**

ASU L 00.00-82 2010-09	Analysis of foodstuffs – Detection of irradiated food using photostimulated luminescence (adoption of standard of the same name DIN EN 13751, November 2009 edition) (Deviation: <i>Matrix feedstuffs</i> )	HH
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**8.1.3 Electrode measurement of physico-chemical parameters in feedstuffs (\*\*: HH)**

In-house method HH-MA-M 11-008 2016-10	aW value in feedstuffs with aW value measuring instrument	HH
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**8.1.4 Liquid chromatography with mass selective detectors (LC-MS/MS) of organic compounds in feedstuffs (\*\*: HH, HM)**

ASU L 00.00-76 2008-12	Analysis of foodstuffs – Determination of chlormequat and mepiquat in low-fat foodstuffs – LC-MS/MS method (adoption of standard of the same name DIN EN 15055, August 2006 edition) (Deviation: <i>Matrix feedstuffs</i> )	HH
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ASU L 00.00-115 2018-10	Analysis of foodstuffs – Multiple analytical method for the determination of pesticide residues using GC and LC after acetonitrile extraction/partitioning and clean-up by dispersive SPE in plant-based foodstuffs – Modular QuEChERS method (adoption of standard of the same name DIN EN 15662, July 2018) (Deviation: <i>Matrix feedstuffs</i> )	HH
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In-house method HH-MA-M 02-115 2012-10	Glyphosate/AMPA/glufosinate using LC-MS/MS	HH
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In-house method HH-MA-M 02-145 2016-10	Fenbutatin oxide – Processing, measurement with LC-MS/MS	HH
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In-house method HH-MA-M 02-156 2018-06	Glyphosate/AMPA/glufosinate in feed crops, oils, oil seeds and fatty feedstuffs, oil fruits, cereals and cereal products with LC-MS/MS	HH
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In-house method HM-MA-M 02-013 2018-08	Fumonisin, LC-MS/MS processing	HM
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**8.1.5 Immunological analysis – Enzyme immunoassay by ELISA of allergens in feedstuffs (\*: HM)**

r-biopharm test kit RIDASCREEN R6901 2015-07	FAST Almond	HM
r-biopharm test kit RIDASCREEN Fast R6152 2016-11	Mustard	HM
r-biopharm test kit RIDASCREEN R7001 2015-10	Gliadin	HM
r-biopharm test kit RIDASCREEN Fast R6202 2016-03	Peanut	HM
r-biopharm test kit RIDASCREEN Fast R4652 2015-07	Milk	HM
r-biopharm test kit RIDASCREEN Fast R7102 2016-07	Soya	HM
r-biopharm test kit RIDASCREEN Fast R6402 2015-12	Egg Protein	HM
r-biopharm test kit R 7003 2011-10	Allergens in foodstuffs – Qualitative detection with lateral flow – Gluten	HH
Bioavid test kit BL 613 25 2013-10	Allergens in foodstuffs – Qualitative detection with lateral flow – Milk	HH

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Bioavid test kit BL 603 25 2013-11	Allergens in foodstuffs – Qualitative detection with lateral flow – Mustard	HH
Romer test kit 4302062 2016-05	Allergens in foodstuffs – Qualitative detection with lateral flow – Soya	HH
Bioavid test kit BL 606 25 2013-06	Allergens in foodstuffs – Qualitative detection with lateral flow – Peanut	HH
Bioavid test kit BL 604 25 2013-10	Allergens in foodstuffs – Qualitative detection with lateral flow – Hazelnut	HH
Bioavid test kit BL 611 25 2013-02	Allergens in foodstuffs – Qualitative detection with lateral flow – Pistachio	HH
Bioavid test kit BL 601 25 2013-11	Allergens in foodstuffs – Qualitative detection with lateral flow – Almond	HH
Bioavid test kit BL 608 10 2013-11	Allergens in foodstuffs – Qualitative detection with lateral flow – Egg	HH
Bioavid test kit BL 609 10 2013-10	Allergens in foodstuffs – Qualitative detection with lateral flow – Sesame	HH
In-house method HM-MA-M 06-001 2017-02	Allergens (gluten/casein/mustard/soya/peanut/egg/almond) in foodstuffs and feedstuffs using ELISA	HM



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**8.1.6 Microbiological analysis – Cultural microbiological methods in feedstuffs (\*: HH)**

ASU L 00.00-20 2018-03	Analysis of foodstuffs – Horizontal method for the detection, enumeration and serotyping of Salmonella – Part 1: Detection of Salmonella spp. (adoption of standard of the same name DIN EN ISO 6579-1, July 2017)	HH
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**8.1.7 Molecular biological analysis – Real-time PCR of allergens in feedstuffs (\*: HM)**

CONGEN Sure Food® PREP Basic Article no. S1052 2017-03	Extraction of plant and animal DNA (deoxyribonucleic acid) from raw materials and from slightly processed foods and feed as well as for the extraction of animal DNA from highly processed food and feed.	HM
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CONGEN Sure Food® PREP Advanced Article no. S1053 2017-03	Extraction of plant and animal DNA (deoxyribonucleic acid) using two different protocols: 1. Sensitive extraction of plant and animal DNA of allergens from food in accordance with Regulation (EU) 1169/2011. 2. Extraction of plant DNA from highly processed food and feed as well as from samples that produce an inhibition in the DNA when extracted with protocol 1.	HM
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CONGEN Sure Food® GMO Screen 4plex 35S/NOS/FMV+IAC Article no. S2126 Version 1.3	Screening for genetically modified organisms (GMOs) in food, feed and seeds	HM
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CONGEN Sure Food® ALLERGEN ID Soya Article no. 3101 Version 2.2	Detection of DNA of soya in accordance with Regulation (EU) 1169/2011	HM
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CONGEN Sure Food® ALLERGEN Hazelnut Article no. S3602 2018-01	Detection of DNA of hazelnut in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
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CONGEN Sure Food® ALLERGEN Almond Article no. S3604 2018-01	Detection of DNA of almond in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
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CONGEN Sure Food® ALLERGEN Celery Article no. S3605 2018-01	Detection of DNA of celery in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Walnut Article no. S3607 2018-01	Detection of DNA of the walnut family <i>Juglans regia</i> (walnut) in accordance with Regulation (EU) 1169/2011 and <i>Juglans nigra</i> (black walnut) qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Sesame Article no. S3608 2018-01	Detection of sesame DNA in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Mustard Article no. S3609 2018-01	Detection of DNA of brown ( <i>Brassica juncea</i> ), yellow ( <i>Sinapis alba</i> ) and black mustard ( <i>Brassica nigra</i> ) in accordance with Regulation (EU) 1169/2011 and <i>Juglans nigra</i> (black walnut) qualitative and/or quantitative	HM
CONGEN Sure Food® ALLERGEN Fish Article no. S3610 2018-01	Detection of DNA of fish in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Lupin Article no. S3611 2018-01	Detection of DNA of lupin in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Macadamia Article no. S3616 2018-01	Detection of DNA of macadamia in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM
CONGEN Sure Food® ALLERGEN Brazil Nut Article no. S3617 2018-01	Detection of DNA of Brazil nut in accordance with Regulation (EU) 1169/2011 qualitatively and/or quantitatively	HM

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CONGEN Sure Food® Detection of DNA of pecan in accordance with Regulation (EU) HM  
 ALLERGEN Pecan 1169/2011 qualitatively and/or quantitatively  
 Article no. S3618  
 2018-01

CONGEN Sure Food® Detection of pork DNA (Sus scrofa) HM  
 ANIMAL ID Pork  
 SENS PLUS  
 Article no. S6017  
 2018-01

**8.1.8 Qualitative detection in feedstuffs**

In-house method Detection of starch in feedstuffs by iodine-starch reaction HH  
 HH-MA-M 10-32  
 2016-01

**8.1.9 Liquid chromatography with conventional detectors (HPLC-DAD, HPLC-FLD) of organic compounds in feedstuffs (\*\*: HH)**

ASU L 15.00-9 Determination of deoxynivalenol in cereals and cereal HH  
 2014-02 products and cereal-based foods for infants and young children, HPLC method with clean-up on an immunoaffinity column and UV detection (adoption of standard of the same name DIN EN ISO 15891, December 2010 edition)  
 (Deviation: *Matrix also feedstuffs, simultaneous determination of nivalenol possible*)

ASU L 15.03-1 Analysis of foodstuffs – Determination of ochratoxin A in HH  
 2010-01 barley – HPLC method with clean-up on an immunoaffinity column (adoption of standard of the same name DIN EN 14132, September 2009 edition)  
 (Deviation: *Matrix feedstuffs*)

ASU L 23.05-3 Analysis of foodstuffs – Determination of aflatoxin B1 and the HH  
 2014-02 sum of aflatoxin B1, B2, G1 and G2 in nuts and related products – High performance liquid chromatographic method (adoption of standard of the same name DIN EN ISO 16050, September 2011 edition)  
 (Deviation: *Matrix feedstuffs*)

In-house method Polycyclic aromatic hydrocarbons in feedstuffs by HH  
 HH-MA-M 02-105 HPLC-DAD/FLD  
 2017-04

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**8.1.10 Gas chromatography with mass selective detectors (GC-MS; GC-MS/MS) in feedstuffs (\*: HH)**

ASU L 00.00-49/2 1999-11	Analysis of foodstuffs – Non-fatty foods – Determination of dithiocarbamate and thiuram disulfide residues – Part 2: Gas chromatographic method (adoption of same standard DIN EN 12396 Part 2, December 1998 edition) (Deviation: <i>Matrix feedstuffs</i> )	HH
ASU L 00.00-115 2018-10	Analysis of foodstuffs – Multiple analytical method for the determination of pesticide residues using GC and LC after acetonitrile extraction/partitioning and clean-up by dispersive SPE in plant-based foodstuffs – Modular QuEChERS method (adoption of standard of the same name DIN EN 15662, July 2018) (Deviation: <i>Matrix feedstuffs</i> )	HH
In-house method HH-MA-M 03-058 2016-10	Polycyclic aromatic hydrocarbons with GC-MS/MS	HH

**8.1.11 Gravimetric analysis of physico-chemical indicators and ingredients in feedstuffs (\*: HM)**

ASU L 16.01-1 2008-12	Analysis of foodstuffs – Determination of moisture content in cereal flour	HM
ASU L 16.01-2 2008-12	Analysis of foodstuffs – Determination of ash in cereal flour	HM
ASU L 16.00-5 2017-10	Analysis of foodstuffs – Determination of total fat content in cereal products after acid digestion by extraction and gravimetry	HM

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**9 Analysis of medicinal products and active ingredients**

**9.1 Chemical analysis of medicinal products, active ingredients and excipients**

**9.1.1 Inductively coupled plasma atomic emission spectrometry (ICP-OES) of cations in raw materials for pharmaceutical purposes (\*: PI, across matrices, see Table 1, \*: HH)**

Ph. Eur. 2.2.22 2008-01	Atomic emission spectrometry with inductively coupled plasma (Deviation: <i>HH only digestion</i> )	PI, HH
In-house method HH-MA-M 01-003 2016-10	Digestion of medicinal products, active ingredients and excipients by microwave	HH
In-house method PI-MA-M 01-008 2017-02	Elements in water and solid digestions using ICP-OES 4	PI

**9.1.2 Liquid chromatography with mass selective detectors (LC-MS/MS) of organic compounds in raw materials for pharmaceutical purposes (\*\*: HH)**

In-house method HH-MA-M 02-080 2018-05	Pharma pesticides LC-MS/MS - Agilent measurement	HH
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**9.1.3 Liquid chromatography with conventional detectors (HPLC-DAD, HPLC-FLD) of organic compounds in solutions for pharmaceutical purposes (\*\*: HH)**

In-house method HH-MA-M 02-101 2017-04	Purity and content testing of gluconic acid and 2-aminoethyl dihydrogen phosphate in medicinal products, active ingredients and excipients using HPLC-DAD/FLD	HH
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**9.1.4 Gas chromatography with mass selective detectors (GC-MS, GC-MS/MS) of organic compounds in raw materials for pharmaceutical purposes (\*\*: HH)**

In-house method HH-MA-M 03-023 2014-03	Dithiocarbamates with headspace and GC-MSD	HH
In-house method HH-MA-M 03-024 2018-05	Pharma pesticides GC-MS/MS – measurement	HH

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In-house method HH-MA-M 09-003 2018-05	Pesticides: Sample preparation for chromatographic determination in pharmaceutical matrices	HH
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**9.1.5 Titrimetric analysis of cations in CaCO<sub>3</sub> for pharmaceutical purposes (\*: HH)**

Ph. Eur. Monograph CaCl <sub>2</sub> 2008-01	Calcium chloride in medicinal products, active ingredients and excipients by complexometric titration	HH
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Ph. Eur. Monograph CaCO <sub>3</sub> 2017-01	Calcium carbonate in medicinal products, active ingredients and excipients by complexometric titration	HH
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USP 41 <541> 2018-05	Titrimetry	HH
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Ph. Eur. Monograph Ca(OH) <sub>2</sub> 2017-01	Calcium hydroxide in medicinal products, active ingredients and excipients by complexometric titration	HH
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FCC IX Monograph CaO 2016	Calcium oxide in medicinal products, active ingredients and excipients by complexometric titration	HH
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**9.2 Physico-chemical analysis of medicinal products, active ingredients and excipients**

**9.2.1 Electrode measurement of physico-chemical indicators in ultrapure water for pharmaceutical purposes**

Ph. Eur. 2.2.38 2008-01	Electrical conductivity in ultrapure water with conductivity electrode	HH
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**9.2.2 Infrared spectroscopy of physico-chemical indicators in ultrapure water for pharmaceutical purposes**

Ph. Eur. 2.2.44 2011	TOC determination in ultrapure water with TOC analyser	HH
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USP 41 <643> 2018-05	Total organic carbon	HH
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**9.2.3 Gravimetric analysis of physico-chemical indicators in solids for pharmaceutical purposes**

Ph. Eur. 2.4.14 2010-04	Sulphated ash in medicinal products, active ingredients and excipients	HH
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**9.3 Biological analysis of medicinal products, active ingredients and excipients**

**9.3.1 Cultural microbiological analysis of non-sterile products (\*: HH)**

Ph. Eur. 2.6.12 2010-07	Enumeration of microorganisms capable of reproduction in non-sterile products	HH
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Ph. Eur. 2.6.13 2010-04	Detection of specific microorganisms in non-sterile products	HH
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Ph. Eur. 2.6.14 2014	Bacterial endotoxins in medicinal products, active ingredients and excipients	HH
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Ph. Eur. 2.6.31 2014-01	Microbiological examination of herbal medicinal products for oral use	HH
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**10 Determination (sampling and analysis) of fibrous particles in indoor environments, solids and dusts**

**10.1 Air**

VDI 3492 2013-06	Indoor air measurement – Ambient air measurement – Measurement of inorganic fibrous particles – Scanning electron microscopy method	B, MG
VDI 3866 Blatt 1 2000-12	Determination of asbestos in technical products – Principle – Sampling and sample preparation	B, MG
VDI 3866 Blatt 5 2017-06	Determination of asbestos in technical products – Scanning electron microscopy method	B, MG
VDI 3877 Blatt 1 2011-09	Indoor air pollution – Measurement of fibrous dust settled on surfaces – Sampling and analysis (REM/EDXA)	B, MG
IFA (BIA) Workbook No. 7487 1997-04	Method for analytical determination of low mass contents of asbestos fibres in powders and dusts with REM/EDX	B, MG

**11 Determination (sampling and analysis) of moulds in indoor environments, material samples and on surfaces**

**11.1 Indoor environments, material samples and on surfaces**

DIN ISO 16000-17 2010-06	Indoor air – Part 17: Detection and enumeration of moulds – Culture-based method	MG
DIN EN ISO 16000-18 2012-01	Indoor air – Part 18: Detection and enumeration of moulds – Sampling by impaction	MG
DIN EN ISO 16000-20 2015-11	Indoor air – Part 20: Detection and enumeration of moulds – Determination of total spore count	MG
Mycometer®-air 2016-05	Analysis of moulds in air samples with Mycometer®-air	MG
Mycometer®-surface 2016-05	Analysis of moulds on surfaces with Mycometer®-surface	MG

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Mycometer®- material samples 2016-05	Analysis of moulds in material samples with Mycometer®-material samples	MG
In-house method MA-M 20-019 2020-03	Sampling of moulds	MG
In-house method AA 303 2018-11	Preparation of mould samples	MG
In-house method AA 304 2018-11	Analysis of mould samples	MG

**12 Test methods for the specialist module for water, revised: 18.10.2018**

Explanatory notes:

Was: Relevant for waste water (including landfill leachate) **(methods in accordance with AbwV printed in bold)**

Sur: Relevant for surface water

Raw: Relevant for raw and groundwater

**Section 1: Sampling and general parameters**

Parameter	Method	Was	Sur	Raw	Location
Sampling of waste water	<b>DIN 38402-A 11: 2009-02</b>	☒			B, FG, GE, HI, PI, SV
Sampling from running waters	DIN EN ISO 5667-6: 2016-12 (A 15)		☒		GE, HI, PI
Sampling from aquifers	DIN 38402-A 13: 1985-12			☒	B, FG, GE, HI, PI
Sampling from barrages and lakes	DIN 38402-A 12: 1985-06		☒		B, GE, HI, PI
Homogenisation of samples	<b>DIN 38402-A 30: 1998-07</b>	☒	☒		B, FG, GE, HI, PI
Temperature	DIN 38404-C 4: 1976-12	☒	☒	☒	B, FG, GE, HI, PI
pH value	<b>DIN EN ISO 10523: 2012-04 (C 5)</b>	☒	☒	☒	B, FG, GE, HI, PI, SV
Conductivity (25 °C)	DIN EN 27888: 1993-11 (C 8)	☒	☒	☒	B, FG, GE, HI, PI, SV

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Parameter	Method	Was	Sur	Raw	Location
Odour	DIN EN 1622: 2006-10 (B 3) Annex C	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FG, GE, HI, PI
Colouring	DIN EN ISO 7887: 2012-04 (C 1), Verfahren A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	B, FG, GE, PI
Turbidity	DIN EN ISO 7027: 2000-04 (C 2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FG, GE, PI
Oxygen	DIN EN ISO 5814: 2013-03 (G 22)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
	DIN ISO 17289: 2014-12 (G 25)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, PI
	DIN EN 25813: 1993-01 (G 21)		<input type="checkbox"/>	<input type="checkbox"/>	
Redox potential	<b>DIN 38404-C 6: 1984-05</b>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	B, FG, GE, HI, PI

**Section 2: Photometry, ion chromatography, titration**

Parameter	Method	Was	Sur	Raw	Location
Absorption at 254 nm (SAC 254)	DIN 38404-C 3: 2005-07		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
Absorption at 436 nm (SAC 436)	DIN EN ISO 7887: 2012-04 (C 1), Verfahren B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
Ammonium nitrogen	<b>DIN EN ISO 11732: 2005-05 (E 23)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, PI, SV
	<b>DIN 38406-E 5: 1983-10</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 14911: 1999-12 (E 34)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SV
	<b>DIN ISO 15923-1: 2014-07 (D 49)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Nitrite nitrogen	<b>DIN EN 26777: 1993-04 (D 10)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN ISO 10304-1: 2009-07 (D 20)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HE
	<b>DIN EN ISO 13395: 1996-12 (D 28)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN ISO 15923-1: 2014-07 (D 49)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Nitrate nitrogen	<b>DIN EN ISO 10304-1: 2009-07 (D 20)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HE, PI
	<b>DIN EN ISO 13395: 1996-12 (D 28)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN 38405-D 9: 2011-09</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN 38405-D 29: 1994-11		<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN ISO 15923-1: 2014-07 (D 49)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Phosphorus, total	<b>DIN EN ISO 6878: 2004-09 (D 11)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI, SV

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Parameter	Method	Was	Sur	Raw	Location
<i>(see also section 3)</i>	<b>DIN EN ISO 15681-1: 2005-05 (D 45)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 15681-2: 2005-05 (D 46)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
Orthophosphate	DIN EN ISO 10304-1: 2009-07 (D 20)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HE
	DIN EN ISO 6878: 2004-09 (D 11)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI, SV
	DIN EN ISO 15681-1: 2004-07 (D 45)		<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 15681-2: 2005-05 (D 46)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN ISO 15923-1: 2014-07 (D 49)		<input type="checkbox"/>	<input type="checkbox"/>	
Fluoride (dissolved)	<b>DIN 38405-D 4-1, 1985-07</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FG, HE
	<b>DIN EN ISO 10304-1: 2009-07 (D 20)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HE, PI, SV
Chloride	<b>DIN EN ISO 10304-1: 2009-07 (D 20)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HE, PI, SV
	<b>DIN EN ISO 15682: 2002-01 (D 31)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN ISO 15923-1: 2014-07 (D 49)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 10304-4: 1999-07 (D 25)			<input type="checkbox"/>	
	<b>DIN 38405-D 1-1 und D 1-2: 1985-12</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN 38405-D 1-3 und D 1-4: 1985-12</b>		<input type="checkbox"/>	<input type="checkbox"/>	
Sulphate	<b>DIN EN ISO 10304-1: 2009-07 (D 20)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HE, PI, SV
	<b>DIN 38405-D 5-1: 1985-01</b>		<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN 38405 D 5-2:1985-01</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN ISO 15923-1: 2014-07 (D 49)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cyanide (readily liberated)	<b>DIN 38405-D 13-2: 1981-02</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN ISO 14403-1: 2012-10 (D 2)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 14403-2: 2012-10 (D 3)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN 38405-D 7: 2002-04		<input type="checkbox"/>	<input type="checkbox"/>	
Cyanide (total)	<b>DIN 38405-D 13-1: 1981-02</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN ISO 14403-1: 2012-10 (D 2)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 14403-2: 2012-10 (D 3)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN 38405-D 7: 2002-04		<input type="checkbox"/>	<input type="checkbox"/>	
Chromium VI	<b>DIN 38405-D 24: 1987-05</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, PI

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Parameter	Method	Was	Sur	Raw	Location
	DIN EN ISO 10304-3: 1997-11 (D 22), Section 6 (dissolved chromate)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 23913: 2009-09 (D 41)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 18412: 2007-02 (D 40)			<input checked="" type="checkbox"/>	PI
Sulphide (readily liberated)	DIN 38405-D 27: 1992-07	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI

**Section 3: Elemental analysis**

Parameter	Method	Was	Sur	Raw	Location
Aluminium	DIN EN ISO 11885: 2009-09 (E 22)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 12020: 2000-05 (E 25)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 15586: 2004-02 (E 4)		<input type="checkbox"/>	<input type="checkbox"/>	
Arsenic	DIN EN ISO 11969: 1996-11 (D 18)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 11885: 2009-09 (E 22)	<input checked="" type="checkbox"/>			PI
	DIN EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN 38405-D 35: 2004-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lead	DIN EN ISO 11885: 2009-09 (E 22)	<input checked="" type="checkbox"/>			PI
	DIN 38406-E 6: 1998-07	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cadmium	DIN EN ISO 11885: 2009-09 (E 22)	<input checked="" type="checkbox"/>			PI
	DIN EN ISO 5961: 1995-05 (E 19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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Parameter	Method	Was	Sur	Raw	Location
Calcium	DIN EN ISO 11885: 2009-09 (E 22)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN 38406-E 3: 2002-03		<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 7980: 2000-07 (E 3a)		<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 17294-2: 2017-01 (E 29)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>	
Chromium	<b>DIN EN ISO 11885: 2009-09 (E 22)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN 1233: 1996-08 (E 10)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 17294-2: 2017-01 (E 29)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN ISO 15586: 2004-02 (E 4)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Iron	<b>DIN EN ISO 11885: 2009-09 (E 22)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN 38406-E 32: 2000-05</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 15586: 2004-02 (E 4)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 17294-2: 2017-01 (E 29)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
Potassium	DIN 38406-E 13: 1992-07		<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 11885: 2009-09 (E 22)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 17294-2: 2017-01 (E 29)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>	
Copper	<b>DIN EN ISO 11885: 2009-09 (E 22)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN 38406-E 7: 1991-09</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 17294-2: 2017-01 (E 29)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN ISO 15586: 2004-02 (E 4)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Manganese	DIN EN ISO 11885: 2009-09 (E 22)			<input checked="" type="checkbox"/>	PI
	DIN EN ISO 17294-2: 2017-01 (E 29)			<input checked="" type="checkbox"/>	PI
	DIN 38406-E 33: 2000-06			<input type="checkbox"/>	
	DIN EN ISO 15586: 2004-02 (E 4)			<input type="checkbox"/>	
	DIN EN ISO 14911: 1999-12 (E 34)			<input type="checkbox"/>	

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Parameter	Method	Was	Sur	Raw	Location
Natrium	DIN 38406-E 14: 1992-07		<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 11885: 2009-09 (E 22)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 17294-2: 2017-01 (E 29)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>	
Nickel	<b>DIN EN ISO 11885: 2009-09 (E 22)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN 38406-E 11: 1991-09</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 17294-2: 2017-01 (E 29)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN ISO 15586: 2004-02 (E 4)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mercury	<b>DIN EN ISO 17852: 2008-04 (E 35)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 12846: 2012-08 (E 12)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI, SV
Zinc	<b>DIN EN ISO 11885: 2009-09 (E 22)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN 38406-E 8: 2004-10</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 17294-2: 2017-01 (E 29)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN ISO 15586: 2004-02 (E 4)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boron	<b>DIN EN ISO 11885: 2009-09 (E 22)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN ISO 17294-2: 2017-01 (E 29)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
Magnesium	DIN EN ISO 11885: 2009-09 (E 22)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN 38406-E 3: 2002-03		<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 7980: 2000-07 (E 3a)		<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 17294-2: 2017-01 (E 29)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>	
Phosphorus, total (see also section 2)	<b>DIN EN ISO 11885: 2009-09 (E 22)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN ISO 17294-2: 2017-01 (E 29)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI

**Section 4/5: Group and sum parameters**

Parameter	Method	Was	Sur	Raw	Location
Biological oxygen demand (BOD <sub>5</sub> )	<b>DIN EN 1899-1: 1998-05 (H 51)</b>	<input checked="" type="checkbox"/>			GE
	<b>DIN EN 1899-2: 1998-05 (H 52)</b>		<input checked="" type="checkbox"/>		GE

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Parameter	Method	Was	Sur	Raw	Location
Chemical oxygen demand (COD)	<b>DIN 38409-H 41: 1980-12</b>	<input checked="" type="checkbox"/>			PI
	DIN 38409-H 44: 1992-05		<input type="checkbox"/>		
	DIN ISO 15705: 2003-01 (H 45)		<input checked="" type="checkbox"/>		FG, GE, HI, PI
Phenol index	<b>DIN 38409-H 16-2: 1984-06</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN 38409-H 16-1: 1984-06		<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN EN ISO 14402: 1999-12 (H 37)</b> Method as per section 4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
Filterable solids	<b>DIN EN 872: 2005-04 (H 33)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		FG, GE, HI, PI
	DIN 38409-H 2-3: 1987-03		<input checked="" type="checkbox"/>		FG, GE, HI, PI
Acid and base capacity	DIN 38409-H 7: 2005-12		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FG, GE, PI, SV
Total organic carbon (TOC)	<b>DIN EN 1484: 1997-08 (H 3)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, PI, SV
Dissolved organic carbon (DOC)	DIN EN 1484: 1997-08 (H 3)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, PI, SV
Total bound nitrogen (TN <sub>b</sub> )	<b>DIN EN 12260: 2003-12 (H 34)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE
	<b>DIN EN ISO 11905-1: 1998-08 (H 36)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
Adsorbable organic halogens (AOX)	<b>DIN EN ISO 9562: 2005-02 (H 14)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE

**Section 6: Gas chromatographic methods**

Parameter	Method	Was	Sur	Raw	Location
Volatile halogenated hydrocarbons (VOC)	<b>DIN EN ISO 10301: 1997-08 (F 4)*</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, HI, PI
	<b>DIN 38407-F 43: 2014-10</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, HI, PI
	<b>DIN EN ISO 15680: 2004-04 (F 19)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 17943: 2016-11 (F 41)		<input type="checkbox"/>	<input type="checkbox"/>	

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Parameter	Method	Was	Sur	Raw	Location
Benzene and derivatives (BTEX)	<b>DIN 38407-F 9: 1991-05*</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, HI, PI
	<b>DIN 38407-F 43: 2014-10</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, HI, PI
	<b>DIN EN ISO 15680: 2004-04 (F 19)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 17943: 2016-11 (F 41)		<input type="checkbox"/>	<input type="checkbox"/>	
Organochlorine insecticides (OCP)	DIN EN ISO 6468: 1997-02 (F 1)*		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN 38407-F 37: 2013-11		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN 16693: 2015-12 (F 51)		<input type="checkbox"/>	<input type="checkbox"/>	
Polychlorinated biphenyls (PCB)	DIN EN ISO 6468: 1997-02 (F 1)*		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, PI
	DIN 38407-F 3: 1998-07		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, PI
	DIN 38407-F 37: 2013-11		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
Mono, dichlorobenzenes	DIN EN ISO 15680: 2004-04 (F 19)		<input type="checkbox"/>	<input type="checkbox"/>	
	DIN 38407-F 43: 2014-10		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, PI
Tri to hexachlorobenzene	<b>DIN EN ISO 6468: 1997-02 (F 1)*</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN 38407-F 2: 1993-02</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN ISO 15680 (F19):2004-04**</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>DIN 38407-F 43: 2014-10**</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	<b>DIN 38407-F 37: 2013-11</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN EN 16693: 2015-12 (F 51)***		<input type="checkbox"/>	<input type="checkbox"/>	
Chlorophenols	DIN EN 12673: 1999-05 (F 15)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
Organophosphorus and organic nitrogen compounds	DIN EN ISO 10695: 2000-11 (F 6) *		<input type="checkbox"/>	<input type="checkbox"/>	
Polycyclic aromatic hydrocarbons (PAH) (see also section 7)	<b>DIN 38407-F 39: 2011-09</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, PI
	<b>DIN ISO 28540: 2014-05 (F 40)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, PI
	DIN EN 16691: 2015-12 (F 50)		<input type="checkbox"/>	<input type="checkbox"/>	
Hydrocarbon index	<b>DIN EN ISO 9377-2: 2001-07 (H 53)</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GE, HI, PI

\* Mass spectrometric detection allowed

\*\* Only applicable to trichlorobenzene

\*\*\* Only applicable to hexachlorobenzene



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**Section 7: HPLC methods**

Parameter	Method	Was	Sur	Raw	Location
Polycyclic aromatic hydrocarbons (PAH)* (see also section 6)	<b>DIN EN ISO 17993: 2004-03 (F 18)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Plant protection products and pesticides (PPP) (The methods should be applied according to substance-specific requirements.)	DIN EN ISO 11369: 1997-11 (F 12)*		<input type="checkbox"/>	<input type="checkbox"/>	
	DIN 38407-F 35: 2010-10		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI
	DIN 38407-F 36: 2014-09		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI

\* Mass spectrometric detection allowed

**Section 8: Microbiological methods (not used)**

**Section 9.1: Biological methods, bio-assays (part 1)**

Parameter	Method	Was	Sur	Raw
Fish egg test	<b>DIN EN ISO 15088: 2009-08 (T 6)</b>	<input type="checkbox"/>		
Luminescent bacteria inhibition test	<b>DIN EN ISO 11348-1: 2009-05 (L 51)</b>	<input type="checkbox"/>		
	<b>DIN EN ISO 11348-2: 2009-05 (L 52)</b>	<input checked="" type="checkbox"/>		GE

**Section 9.2: Biological methods, bio-assays (part 2)**

Parameter	Method	Was	Sur	Raw
Saprobic index	DIN 38410-M 1: 2004-10		<input type="checkbox"/>	
Chlorophyll a	DIN 38412-L 16: 1985-12		<input checked="" type="checkbox"/>	PI
Phaeophytin	DIN 38416-L 16: 1985-12		<input type="checkbox"/>	
Daphnia test	<b>DIN 38412-L 30: 1989-03</b>	<input checked="" type="checkbox"/>		GE
Algae test	<b>DIN 38412-L 33: 1991-03</b>	<input type="checkbox"/>		
Umu test	<b>DIN 38415-T 3: 1996-12</b>	<input type="checkbox"/>		

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13 Test methods for the specialist module for soil and contaminated sites, revised: 16.08.2012

Test area 1: Solids

Section 1.1: Sampling and on-site examination

Not used.

Section 1.2: Laboratory – Analysis of inorganic parameters

Basic parameters and sample preparation				
Test parameters	Methods/notes	Method		Location
Sample preparation and processing		DIN 19747: 2009	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Dry matter		DIN ISO 11465: 1996	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
		DIN EN 14346: 2007	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Organic carbon and total carbon after dry combustion (TOC)	Air-dried soil samples	DIN ISO 10694: 1996	<input checked="" type="checkbox"/>	GE, PI
		DIN EN 13137: 2001	<input checked="" type="checkbox"/>	GE, PI
		DIN EN 15936: 2012	<input checked="" type="checkbox"/>	GE, PI
pH value (CaCl <sub>2</sub> )		DIN ISO 10390: 2005	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Gross density – <b>optional</b>		DIN ISO 11272: 2001	<input checked="" type="checkbox"/>	GE
Particle size distribution – <b>optional</b>	Pipette analysis	DIN ISO 11277: 2002	<input type="checkbox"/>	
	Hydrometer method	DIN 18123: 2011 with LAGA PN98	<input checked="" type="checkbox"/>	PI

Analysis of inorganic parameters				
Test parameters	Methods/notes	Method		Location
Aqua regia extract	Thermal, open vessel	DIN ISO 11466: 1997	<input checked="" type="checkbox"/>	HI, PI
	Microwave digestion	DIN EN 13657: 2003	<input checked="" type="checkbox"/>	HI, PI
Ammonium nitrate extract		DIN 19730: 2009	<input checked="" type="checkbox"/>	HI, PI
Alkaline digestion method – <b>optional</b>	Metaborate fusion for chromium(VI) analysis	DIN EN 15192: 2007	<input type="checkbox"/>	
Extraction for determination of thallium – <b>optional</b>	HNO <sub>3</sub> , H <sub>2</sub> O <sub>2</sub>	DIN ISO 20279: 2006	<input type="checkbox"/>	

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Analysis of inorganic parameters				
Test parameters	Methods/notes	Method		Location
Arsenic (As) Antimony (Sb)	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI
	ET-AAS or hydride AAS	DIN ISO 20280: 2010	<input type="checkbox"/>	
Cadmium (Cd) Chromium (Cr), total Cobalt (Co) Copper (Cu) Nickel (Ni) Lead (Pb) Zinc (Zn)	ET-AAS	DIN ISO 11047: 2003	<input type="checkbox"/>	
	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI
Mercury (Hg)	AAS	DIN EN 1483: 2007	<input checked="" type="checkbox"/>	PI
	Cold vapour AAS or cold vapour AFS	DIN ISO 16772: 2005	<input checked="" type="checkbox"/>	PI
Cyanide		DIN ISO 17380: 2011	<input checked="" type="checkbox"/>	PI
		DIN ISO 11262: 2012	<input checked="" type="checkbox"/>	PI
Chromium(VI) – <b>optional</b>	IC with photometric detection	DIN EN 15192: 2007	<input type="checkbox"/>	
Molybdenum (Mo) Vanadium (V) – <b>optional</b>	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI
Selenium (Se) – <b>optional</b>	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI
	ET-AAS or hydride AAS	DIN ISO 20280: 2010	<input type="checkbox"/>	
Thallium (Tl) from the HNO <sub>3</sub> /H <sub>2</sub> O <sub>2</sub> -extract – <b>optional</b>	ET-AAS	DIN ISO 20279: 2006	<input type="checkbox"/>	
	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI
Uranium (U) Tungsten (W) – <b>optional</b>	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI

Section 1.3: Laboratory – Analysis of organic parameters

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Basic parameters and sample preparation				
Test parameters	Methods/notes	Method		Location
Sample preparation and processing		DIN 19747: 2009	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Dry matter		DIN ISO 11465: 1996	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
		DIN EN 14346: 2007	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Organic carbon and total carbon after dry combustion (TOC)	Air-dried soil samples	DIN ISO 10694: 1996	<input checked="" type="checkbox"/>	GE, PI
		DIN EN 13137: 2001	<input checked="" type="checkbox"/>	GE, PI
		DIN EN 15936: 2012	<input checked="" type="checkbox"/>	PI, GE
pH value (CaCl <sub>2</sub> )		DIN ISO 10390: 2005	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Gross density – <b>optional</b>		DIN ISO 11272: 2001	<input checked="" type="checkbox"/>	GE
Particle size distribution – <b>optional</b>	Pipette analysis	DIN ISO 11277: 2002	<input type="checkbox"/>	
	Hydrometer method	DIN 18123: 2011 with LAGA PN98	<input checked="" type="checkbox"/>	PI

Analysis of organic parameters				
Test parameters	Methods/notes	Method		Location
Polycyclic aromatic hydrocarbons (PAH)  16 PAH (EPA)	GC-MS	DIN ISO 18287: 2006	<input checked="" type="checkbox"/>	GE, HI, PI
	HPLC-UV/F Acenaphthylene cannot be determined by fluorescence detector	DIN ISO 13877: 2000	<input type="checkbox"/>	
		DIN 38414-23: 2002	<input type="checkbox"/>	
Hexachlorobenzene	GC-ECD, GC-MS	DIN ISO 10382: 2006	<input checked="" type="checkbox"/>	PI
Pentachlorophenol	GC-ECD, GC-MS	DIN ISO 14154: 2005	<input checked="" type="checkbox"/>	PI
Aldrin, DDT, HCH mixture	GC-ECD, GC-MS	DIN ISO 10382: 2003	<input checked="" type="checkbox"/>	PI
		DIN EN 15308: 2008	<input checked="" type="checkbox"/>	PI
Polychlorinated biphenyls (PCB)	GC-ECD, GC-MS	DIN ISO 10382: 2003	<input checked="" type="checkbox"/>	GE, HI, PI

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Analysis of organic parameters				
Test parameters	Methods/notes	Method		Location
	Extraction with acetone/petroleum ether or Soxhlet extraction The type of summation must be indicated (PCB6/PCB7)	DIN EN 15308: 2008	<input checked="" type="checkbox"/>	GE, HI, PI
		DIN 38414-20: 1996	<input checked="" type="checkbox"/>	GE, HI, PI
Typical explosive compounds (HPLC) – <b>optional</b>	Extraction with methanol or acetonitrile and quantification using HPLC-UV/DAD	E DIN ISO 11916-1: 2011	<input checked="" type="checkbox"/>	PI
Typical explosive compounds (GC) – <b>optional</b>	Extraction with methanol. Dissolution in toluene and quantification using GC-ECD or GC-MS	E DIN ISO 11916-2: 2011	<input checked="" type="checkbox"/>	PI
Petroleum hydrocarbons (C <sub>10</sub> -C <sub>40</sub> ) – <b>optional</b>	GC-FID	DIN ISO 16703: 2005	<input checked="" type="checkbox"/>	GE, HI, PI
		LAGA KW/04: 2009	<input checked="" type="checkbox"/>	GE, HI, PI
BTEX aromatic compounds, VOC – <b>optional</b>	Headspace, GC	DIN ISO 22155: 2006	<input checked="" type="checkbox"/>	GE, HI, PI

Section 1.4: Laboratory – Analysis of dioxins and furans

Basic parameters and sample preparation				
Test parameters	Methods/notes	Method		Location
Sample preparation and processing		DIN 19747: 2009	<input checked="" type="checkbox"/>	PI
Dry matter		DIN ISO 11465: 1996	<input checked="" type="checkbox"/>	PI
		DIN EN 14346: 2007	<input checked="" type="checkbox"/>	PI
Organic carbon and total carbon after dry combustion (TOC)	Air-dried soil samples	DIN ISO 10694: 1996	<input checked="" type="checkbox"/>	PI
		DIN EN 13137: 2001	<input checked="" type="checkbox"/>	PI
		DIN EN 15936: 2012	<input checked="" type="checkbox"/>	PI
pH value (CaCl <sub>2</sub> )		DIN ISO 10390: 2005	<input checked="" type="checkbox"/>	PI
Gross density – <b>optional</b>		DIN ISO 11272: 2001	<input type="checkbox"/>	
Particle size distribution – <b>optional</b>	Pipette analysis	DIN ISO 11277: 2002	<input type="checkbox"/>	
	Hydrometer method	DIN 18123: 2011 with LAGA PN98	<input checked="" type="checkbox"/>	PI

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Basic parameters and sample preparation				
Test parameters	Methods/notes	Method		Location
PCDD / PCDF, DL-PCBs	GC-MS, analysis in accordance with the internal standard method using the relevant 13C12-labelled standards for a congener in each case	DIN 38414-24: 2000 DL-PCB: Making allowance for DIN 38407-3: 1998	☒	PI

**Test area 2: Eluates and percolates, aqueous media**

**Section 2.1: Sampling and on-site examination**

Sampling				
Test parameters	Methods/notes	Method		Location
Sampling programmes and sampling techniques		DIN EN ISO 5667-1: 2007	☒	B, FG, GE, HI, PI
Sampling of groundwater	AQS Data Sheet P 8/2: 1996	ISO 5667-11: 2009 DIN 38402-13: 1985 DVGW Work Sheet S W 112: 2011	☒	B, FG, GE, HI, PI
Sampling of leachate		No standardised method currently available Where applicable E-DWA-M 905: 2008	☒	GE, HI, PI
Sampling of surface water (running waters)	AQS Data Sheet P 8/3: 1998	DIN 38402-15: 2010	☒	GE, HI, PI
Sampling of surface water (barrages and lakes)		DIN 38402-12: 1985	☒	B, GE, HI, PI

On-site testing				
Test parameters	Methods/notes	Method		Location
Colouring		DIN EN ISO 7887: 2012	☒	B, FG, GE, PI
Turbidity		DIN EN ISO 7027: 2000	☒	FG, GE, PI

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On-site testing				
Test parameters	Methods/notes	Method		Location
Odour		DEV B1/2 1971	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Temperature		DIN 38404-4: 1976	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
pH value		DIN EN ISO 10523: 2012	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Oxygen content		DIN EN 25814: 1992	<input checked="" type="checkbox"/>	FG, GE, HI, PI
Electrical conductivity		DIN EN 27888: 1993	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Redox potential		DIN 38404-6: 1984	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Sample storage, sample pretreatment, sample transport		DIN EN ISO 5667-3: 2004	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI

Section 2.2: Laboratory – Analysis of eluates/percolates for inorganic parameters

Eluates/percolates				
Test parameters	Methods/notes	Method		Location
Batch test – Elution of inorganic substances		DIN 19529: 2009	<input checked="" type="checkbox"/>	GE, HI, PI
Batch test – Elution of organic substances		DIN 19527: 2012	<input checked="" type="checkbox"/>	GE, HI
Batch test – Elution of inorganic substances – <b>optional</b>		DIN EN 12457-4: 2003	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Percolation method for organic and inorganic substances – <b>optional</b>		DIN 19528: 2009	<input checked="" type="checkbox"/>	HI
Examination for absorption availability – <b>optional</b>		DIN 19738: 2004	<input checked="" type="checkbox"/>	HI

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Analysis – Inorganic parameters				
Test parameters	Methods/notes	Method		Location
Antimony (Sb) Arsenic (As)	ICP-OES	DIN EN ISO 11885: 2009	<input checked="" type="checkbox"/>	PI
	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI
	ET-AAS or hydride AAS	DIN ISO 20280: 2010	<input type="checkbox"/>	
Lead (Pb) Cadmium (Cd) Chromium (Cr), total Cobalt (Co) Copper (Cu) Molybdenum (Mo) Nickel (Ni) Zinc (Zn)	ET-AAS	DIN EN ISO 15586: 2004	<input type="checkbox"/>	
	ICP-OES	DIN EN ISO 11885: 2009	<input checked="" type="checkbox"/>	PI
	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI
Mercury (Hg)	AAS	DIN EN 1483: 2007	<input checked="" type="checkbox"/>	PI
	Cold vapour AAS or cold vapour AFS	DIN ISO 16772: 2005	<input checked="" type="checkbox"/>	PI
Cyanide (CN-), total Cyanide, readily liberated	Spectrophotometry	DIN EN ISO 14403: 2002	<input checked="" type="checkbox"/>	PI
		DIN 38405-13: 2011	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 17380: 2011	<input checked="" type="checkbox"/>	PI
Fluoride, chloride, sulphate	Ion chromatography	DIN EN ISO 10304-1:2009	<input checked="" type="checkbox"/>	HE, PI
	Individual method	DIN 38405-1, -4, -5: 1985	<input checked="" type="checkbox"/>	FG, HE nur D4
Vanadium (V) – <b>optional</b>	ET-AAS	DIN EN ISO 15586: 2004	<input type="checkbox"/>	
	ICP-OES	DIN EN ISO 11885: 2009	<input checked="" type="checkbox"/>	PI
	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI
Uranium (U) – <b>optional</b>	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI



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Analysis – Inorganic parameters				
Test parameters	Methods/notes	Method		Location
Tin (Sn) Thallium (Tl) Tungsten (W) – <b>optional</b>	ICP-OES	DIN EN ISO 11885: 2009	<input checked="" type="checkbox"/>	PI
	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI
Selenium (Se) – <b>optional</b>	ET-AAS	DIN EN ISO 15586: 2004	<input type="checkbox"/>	
	ICP-OES	DIN EN ISO 11885: 2009	<input checked="" type="checkbox"/>	PI
	ICP-OES	DIN ISO 22036: 2009	<input checked="" type="checkbox"/>	PI
	ICP-MS	DIN EN ISO 17294-2: 2005	<input checked="" type="checkbox"/>	PI
	ET-AAS or hydride AAS	DIN ISO 20280: 2010	<input type="checkbox"/>	
Chromium (Cr VI)	Spectrophotometry	DIN 38405-24: 1987	<input checked="" type="checkbox"/>	GE, PI
	Ion chromatography	DIN EN ISO 10304-3: 1997	<input type="checkbox"/>	

Section 2.3: Laboratory – Analysis of eluates/percolates for organic parameters

Eluates/percolates				
Test parameters	Methods/notes	Method		Location
Batch test – Elution of inorganic substances		DIN 19529: 2009	<input checked="" type="checkbox"/>	GE, HI, PI
Batch test – Elution of organic substances		DIN 19527: 2012	<input checked="" type="checkbox"/>	GE, HI
Batch test – Elution of inorganic substances – <b>optional</b>		DIN EN 12457-4: 2003	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
Percolation method for organic and inorganic substances – <b>optional</b>		DIN 19528: 2009	<input checked="" type="checkbox"/>	HI
Examination for absorption availability – <b>optional</b>		DIN 19738: 2004	<input checked="" type="checkbox"/>	HI

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Analysis – Organic parameters				
Test parameters	Methods/notes	Method		Location
Aromatics (BTEX)	Purge + trap / desorption, GC-MS	DIN EN ISO 15680: 2004	<input type="checkbox"/>	
	Liquid extraction and headspace, GC	DIN 38407-9: 1991	<input checked="" type="checkbox"/>	GE, HI, PI
	Headspace-SPME, GC-MS	DIN 38407-41: 2011	<input type="checkbox"/>	
Volatile halogenated hydrocarbons (VOC)	Purge + trap / desorption, GC-MS	DIN EN ISO 15680: 2004	<input type="checkbox"/>	
	Liquid extraction and headspace, GC	DIN EN ISO 10301: 1997	<input checked="" type="checkbox"/>	GE, HI, PI
	Headspace-SPME, GC-MS	DIN 38407-41: 2011	<input type="checkbox"/>	
Aldrin	GC-ECD, GC-MS	DIN EN ISO 6468: 1997	<input checked="" type="checkbox"/>	PI
		DIN 38407-2: 1993	<input checked="" type="checkbox"/>	PI
Dichlorodiphenyltrichloroethane (DDT)	GC-ECD, GC-MS	DIN EN ISO 6468: 1997	<input checked="" type="checkbox"/>	PI
		DIN 38407-2: 1993	<input checked="" type="checkbox"/>	PI
Chlorophenols	GC-ECD, GC-MS	DIN EN 12673: 1999	<input checked="" type="checkbox"/>	PI
Chlorobenzenes (Cl3-Cl6)	GC-ECD, GC-MS	DIN 38407-2: 1993	<input checked="" type="checkbox"/>	PI
	Liquid extraction, GC-ECD, GC-MS	DIN EN ISO 6468: 1997	<input checked="" type="checkbox"/>	PI
Chlorobenzenes (Cl1-Cl3)	Liquid extraction and headspace, GC-ECD, MS where applicable	DIN EN ISO 10301: 1997	<input checked="" type="checkbox"/>	GE, PI
Polychlorinated biphenyls (PCB)	GC-ECD, GC-MS Type of summation (PCB6 / PCB7) must be specified	DIN 38407-2: 1993	<input checked="" type="checkbox"/>	GE, PI
		DIN 38407-3: 1998	<input checked="" type="checkbox"/>	GE, PI
16 PAH (EPA)	HPLC-F	DIN EN ISO 17993: 2004	<input type="checkbox"/>	
	GC-MS	DIN 38407-39: 2011	<input checked="" type="checkbox"/>	GE, PI
Naphthalene	GC-FID, GC-MS	DIN EN ISO 15680: 2004	<input type="checkbox"/>	
		DIN 38407-9: 1991	<input checked="" type="checkbox"/>	GE, PI
Petroleum hydrocarbons (MKW, C <sub>10</sub> -C <sub>40</sub> )	GC-FID	DIN EN ISO 9377-2: 2001	<input checked="" type="checkbox"/>	GE, HI, PI

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Analysis – Organic parameters				
Test parameters	Methods/notes	Method		Location
Typical explosive compounds (HPLC) – <b>optional</b>	HPLC / UV detection	DIN EN ISO 22478: 2006	<input checked="" type="checkbox"/>	PI
Typical explosive compounds (GC) – <b>optional</b>	Determination of selected nitroaromatic compounds using GC	DIN 38407-17: 1999	<input checked="" type="checkbox"/>	PI
Phenols – <b>optional</b>	GC-ECD, GC-MS	ISO 8165-2: 1999	<input checked="" type="checkbox"/>	PI
		DIN EN 12673: 1999	<input checked="" type="checkbox"/>	PI

**Test area 3: Soil gas, landfill gas**

**Section 3.1: Sampling and on-site examination**

Sampling				
Test parameters	Methods/notes	Method		Location
Pile core probing		DIN ISO 10381-2: 2003 DIN EN ISO 22475-1: 2007	<input type="checkbox"/>	
Sampling of soil gas		VDI 3865 Blatt 2: 1998 VDI 3865 Blatt 1: 2005 DIN ISO 10381-7: 2007	<input checked="" type="checkbox"/>	GE, PI

On-site testing				
Test parameters	Methods/notes	Method		Location
Carbon dioxide (CO <sub>2</sub> )	Direct-display instrument		<input checked="" type="checkbox"/>	GE
Methane (CH <sub>4</sub> )	Direct-display instrument		<input checked="" type="checkbox"/>	GE
Hydrogen sulphide (H <sub>2</sub> S)	Direct-display instrument		<input checked="" type="checkbox"/>	GE
Oxygen (O <sub>2</sub> )	Direct-display instrument		<input checked="" type="checkbox"/>	GE
Sum parameter trace gases	Direct-display instrument		<input checked="" type="checkbox"/>	GE

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**Section 3.2: Laboratory – Analysis of soil gas, landfill gas**

Test parameters	Methods/notes	Method		Location
Aromatics (BTEX)		VDI 3865 Blatt 3: 1998	<input checked="" type="checkbox"/>	GE, PI
		VDI 3865 Blatt 4: 2000	<input type="checkbox"/>	
Volatile halogenated hydrocarbons (VOC)		VDI 3865 Blatt 3: 1998	<input checked="" type="checkbox"/>	GE, PI
		VDI 3865 Blatt 4: 2000	<input type="checkbox"/>	

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**Test area 1: Sewage sludge**

	Sections / Parameters	Basis / Methods		Locations
		AbfklärV		
<b>1.1</b>	<b>Sampling and sample preparation</b>	<b>Section 32 (3) and (4) AbfklärV</b>		
a)	Sampling	<b>DIN EN ISO 5667-13 (08.11)</b> <b>and</b> <b>DIN 19698-1 (05.14)</b>	<input checked="" type="checkbox"/>	GE, HI, PI
b)	Sample preparation	<b>DIN 19747 (07.09)</b>	<input checked="" type="checkbox"/>	FG, GE, HI, PI
<b>1.2</b>	<b>Heavy metals and chromium VI<sup>2</sup></b>	<b>Section 5 (1) (1) AbfklärV</b>		
	Heavy metals			
	Aqua regia digestion	<b>DIN EN 16174 (11.12)</b>	<input checked="" type="checkbox"/>	HI, PI
		DIN EN 16174 Method A (11.12)	<input checked="" type="checkbox"/>	HI, PI
		<b>DIN EN 13346 Method A (04.01)</b>	<input checked="" type="checkbox"/>	HI, PI
	Arsenic, lead, cadmium, chromium, copper, nickel, zinc, iron (from aqua regia digestion)	<b>DIN EN ISO 11885 (09.09)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN ISO 11047 (05.03)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 17294-2 (01.17)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN 16170 (01.17)</b>	<input checked="" type="checkbox"/>	PI

<sup>2</sup> By way of derogation from Part III No. 1, proof of competence for section 1.2 may also be provided without chromium VI.

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		<b>DIN EN 16171 (01.17)</b>	<input checked="" type="checkbox"/>	PI
		<b>CEN/TS 16172; DIN SPEC 91258 (04.13)</b>	<input type="checkbox"/>	
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
	Thallium (from aqua regia digestion)	<b>DIN EN ISO 11885 (09.09)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN ISO 11047 (05.03)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 17294-2 (01.17)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN 38406-26 (07.97)</b>	<input type="checkbox"/>	
		<b>DIN EN 16170 (01.17)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN 16171 (01.17)</b>	<input checked="" type="checkbox"/>	PI
		<b>CEN/TS 16172; DIN SPEC 91258 (04.13)</b>	<input type="checkbox"/>	
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
	Mercury (from aqua regia digestion)	<b>DIN EN ISO 17852 (04.08)</b>	<input type="checkbox"/>	
		<b>DIN EN 16175-1 (12.16)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN 16175-2 (12.16)</b>	<input type="checkbox"/>	
		<b>DIN EN 16171 (01.17)</b>	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 12846 (08.12)	<input checked="" type="checkbox"/>	PI
	Chromium VI (from alkaline hot extract) <sup>3</sup>	<b>DIN EN 16318 (07.16)</b>	<input checked="" type="checkbox"/>	GE, PI
		DIN EN 15192 (02.07)	<input type="checkbox"/>	
		DIN 10304-3 (11.97) <sup>4</sup>	<input type="checkbox"/>	
		DIN EN ISO 17294-2 (01.17) <sup>5</sup>	<input type="checkbox"/>	

<b>1.3</b>	<b>Adsorbed organic bound halogens</b>	<b>Section 5 (1) (2) AbfklärV</b>		
	AOX (from dry residue)	<b>DIN 38414-18 (11.89)</b>	<input type="checkbox"/>	
		<b>DIN EN 16166 (11.12)</b>	<input type="checkbox"/>	

<b>1.4</b>	<b>Physical parameters, nutrients</b>	<b>Section 5 (1) (3) - (9) AbfklärV</b>		
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<sup>3</sup> For the alkaline hot extract, the DIN EN 16318 or DIN EN 15192 methods must be used.

<sup>4</sup> Instead of post-column derivatisation with 1,5-diphenylcarbonohydrazide, determination of Cr(IV) after separation by ion chromatography in accordance with DIN 10304-3 can also be carried out by coupling with ICP-MS detection based on DIN EN ISO 17294-2.

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	Dry residue	<b>DIN EN 15934 (11.12)</b>	<input checked="" type="checkbox"/>	FG, GE, HI, PI
		DIN EN 12880 (02.01)	<input checked="" type="checkbox"/>	FG, GE, HI, PI
	Organic substance as loss on ignition (from dry residue)	<b>DIN EN 15935 (11.12)</b>	<input checked="" type="checkbox"/>	FG, GE, HI, PI
		DIN EN 12879 (02.01)	<input checked="" type="checkbox"/>	FG, GE, HI, PI
	pH value	<b>DIN EN 15933 (11.12)</b>	<input checked="" type="checkbox"/>	FG, GE, HI, PI
		DIN 38414-5 (07.09)	<input checked="" type="checkbox"/>	FG, GE, HI, PI
	Alkaline agents as CaO	<b>VDLUFA Methodenbuch Volume II.2, Method 4.5.1</b>	<input checked="" type="checkbox"/>	PI
	Ammonium nitrogen (NH <sub>4</sub> -N)	<b>DIN 38406-5 (10.83)</b>	<input checked="" type="checkbox"/>	PI
	Total nitrogen (N <sub>total</sub> )	<b>DIN EN 13342 (01.01)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN 16169 (11.12)</b>	<input checked="" type="checkbox"/>	PI
		DIN ISO 11261 (05.97)	<input checked="" type="checkbox"/>	PI
	Aqua regia digestion	<b>DIN EN 16174 (11.12)</b>	<input checked="" type="checkbox"/>	HI, PI
		<b>DIN EN 13346 Method A (04.01)</b>	<input checked="" type="checkbox"/>	HI, PI
	Phosphorus (P) (from aqua regia digestion) (conversion: phosphorus (P) = 2,291 for phosphorus pentoxide (P <sub>2</sub> O <sub>5</sub> ))	<b>DIN EN ISO 11885 (09.09)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN ISO 6878 (09.04)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 17294-2 (01.17)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN 16171 (01.17)</b>	<input checked="" type="checkbox"/>	PI
		DIN EN 16170 (01.17)	<input checked="" type="checkbox"/>	PI
	<b>Persistent organic pollutants</b>	<b>Section 5 (2) (1) - (4) AbfklärV</b>		
<b>1.5</b>	<b>Polychlorinated biphenyls (PCB)</b>	<b>DIN 38414-20 (01.96)</b>	<input checked="" type="checkbox"/>	GE, HI, PI
		<b>DIN EN 16167 (11.12)</b>	<input checked="" type="checkbox"/>	GE, HI, PI
<b>1.6</b>		<b>DIN CEN/TS 16190; DIN SPEC 91267 (05.12)</b>	<input type="checkbox"/>	

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	Polychlorinated dibenzodioxins and furans (PCDD/PCDF) and dioxin-like polychlorinated biphenyls (DL-PCB)	DIN 38414-24 (10.00)	<input checked="" type="checkbox"/>	PI
1.7	Benzo(a)pyrene (BaP)	DIN EN 15527 (09.08)	<input checked="" type="checkbox"/>	GE, HI, PI
		DIN 38414-23 (02.02)	<input type="checkbox"/>	
		DIN CEN/TS 16181; DIN SPEC 91243 (12.13)	<input checked="" type="checkbox"/>	GE, HI, PI
1.8	Polyfluorinated compounds (PFC) with the individual substances perfluorooctanoic acid and perfluorooctanesulphonic acid (PFOA/PFOS)	DIN 38414-14 (08.11)	<input checked="" type="checkbox"/>	PI

Test area 2: Base

	Sections / Parameters	Basis / Methods		Locations
		AbfKlärV and BioAbfV		
2.1	Sampling and sample preparation	Section 32 (2) AbfKlärV and Section 9 BioAbfV		
a)	Sampling	DIN ISO 10381-1 (08.03) and DIN ISO 10381-4 (04.04)	<input type="checkbox"/>	
b)	Sample preparation	DIN ISO 19747 (07.09)	<input checked="" type="checkbox"/>	FG, GE, HI, PI
2.2	Heavy metals	Section 4 (1) AbfKlärV Section 9 (2) BioAbfV		
	Aqua regia digestion	DIN EN 16174 (11.12)	<input checked="" type="checkbox"/>	HI, PI
		DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>	HI, PI
	Lead, cadmium, chromium, copper, nickel, zinc, (from aqua regia digestion)	DIN ISO 11047 (05.03)	<input type="checkbox"/>	
		DIN EN ISO 17294-2 (01.17)	<input checked="" type="checkbox"/>	PI
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
		DIN EN 16170 (01.17)	<input checked="" type="checkbox"/>	PI
		DIN EN 16171 (01.17)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI

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	Mercury (from aqua regia digestion)	DIN ISO 16772 (06.05)	<input checked="" type="checkbox"/>	PI
		DIN EN 12846 (08.12)* a method incorrectly specified in legislation; DIN EN ISO 12846 (08.12) correct	<input checked="" type="checkbox"/>	PI
		EN 16175-1 (12.16)	<input checked="" type="checkbox"/>	PI
		EN 16175-2 (12.16)	<input type="checkbox"/>	
		DIN EN 16171 (01.17)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 17852 (04.08)	<input type="checkbox"/>	
<b>2.3</b>	<b>Physical parameters, phosphate</b>	<b>Section 4 (1) AbfKlärV Section 9 (2) BioAbfV</b>		
	Phosphate (from CAL/DL extract; P-content determination must be converted to o-phosphate)	VDLUFA Methodenbuch, Volume I, Method A 6.2.1.1 (6th Part 2012)	<input checked="" type="checkbox"/>	PI
		VDLUFA Methodenbuch, Volume I, Method A 6.2.1.2 (Main Volume)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 10304-1 (07.09)	<input type="checkbox"/>	
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
	Soil texture (clay content)	DIN 19682-2 (07.14)	<input type="checkbox"/>	
		DIN 18123 (04.11)	<input checked="" type="checkbox"/>	PI
	pH value	DIN EN 15933 (11.12)	<input checked="" type="checkbox"/>	FG, GE, HI, PI
		ISO 10390 (02.05)	<input checked="" type="checkbox"/>	FG, GE, HI, PI
		VDLUFA Methodenhandbuch I A 5.1.1	<input checked="" type="checkbox"/>	PI
	Dry residue	DIN EN 15934 (11.12)	<input checked="" type="checkbox"/>	FG, GE, HI, PI
		DIN EN 12880 (02.01)	<input checked="" type="checkbox"/>	FG, GE, HI, PI
	<b>Organic substances</b>	<b>Section 4 (2) AbfKlärV</b>		

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2.4	Polychlorinated biphenyls (PCB)	DIN ISO 10382 (05.03)	<input checked="" type="checkbox"/>	GE, HI, PI
		DIN EN 16167 (11.12)	<input checked="" type="checkbox"/>	GE, HI, PI
2.5	Benzo(a)pyrene (BaP)	DIN ISO 18287 (05.06)	<input checked="" type="checkbox"/>	GE, HI, PI
		DIN CEN TS 16181; DIN SPEC 91243 (12.13)	<input checked="" type="checkbox"/>	GE, HI, PI
		DIN 38414-23 (02.02)	<input type="checkbox"/>	

Test area 3: Biowaste

	Sections/ Parameter	Basis/ Method		Locations
		BioAbfV		
3.1	Sampling and sample preparation	Section 4 (9) BioAbfV		
a)	Sampling	DIN EN 12579 (01.00) <u>and</u> DIN 51750- 1 (12.90) <u>and</u> DIN 51750- 2 (12.90) <u>and</u> DIN EN ISO 5667- 13 (08.11)	<input checked="" type="checkbox"/>	GE, PI
b)	Sample preparation	DIN 19747 (07.09) in conjunction with Annex 3, Section 1.3.3	<input checked="" type="checkbox"/>	GE, PI
		DIN EN 13040 (02.07)	<input checked="" type="checkbox"/>	GE, HI, PI

3.2	Heavy metals	Section 4 (5) BioAbfV		
	Aqua regia digestion	DIN EN 13650 (01.02)	<input checked="" type="checkbox"/>	PI
		DIN EN 16174 (11.12)	<input checked="" type="checkbox"/>	HI, PI
		DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>	HI, PI
		DIN EN 13346 (04.01)	<input checked="" type="checkbox"/>	HI, PI
	Lead (from aqua regia digestion)	DIN 38406- 6 (07.98)	<input type="checkbox"/>	
		DIN ISO 11047 (05.03)	<input type="checkbox"/>	
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>	
		DIN EN ISO 17294- 2 (02.05)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
	Cadmium	DIN EN ISO 5961 (05.95)	<input type="checkbox"/>	

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(from aqua regia digestion)	<b>DIN ISO 11047 (05.03)</b>	<input type="checkbox"/>	
	<b>DIN EN ISO 11885 (04.98)</b>	<input type="checkbox"/>	
	<b>DIN EN ISO 17294- 2 (02.05)</b>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 17294- 2 (01.17)	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
Chromium (from aqua regia digestion)	<b>DIN EN 1233 (08.96)</b>	<input type="checkbox"/>	
	<b>DIN ISO 11047 (05.03)</b>	<input type="checkbox"/>	
	<b>DIN EN ISO 11885 (04.98)</b>	<input type="checkbox"/>	
	<b>DIN EN ISO 17294- 2 (02.05)</b>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 17294- 2 (01.17)	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
Copper (from aqua regia digestion)	<b>DIN 38406- 7 (09.91)</b>	<input type="checkbox"/>	
	<b>DIN ISO 11047 (05.03)</b>	<input type="checkbox"/>	
	<b>DIN EN ISO 11885 (04.98)</b>	<input type="checkbox"/>	
	<b>DIN EN ISO 17294- 2 (02.05)</b>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 17294- 2 (01.17)	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
Nickel (from aqua regia digestion)	<b>DIN 38406- 11 (09.91)</b>	<input type="checkbox"/>	
	<b>DIN ISO 11047 (05.03)</b>	<input type="checkbox"/>	
	<b>DIN EN ISO 11885 (04.98)</b>	<input type="checkbox"/>	
	<b>DIN EN ISO 17294- 2 (02.05)</b>	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 17294- 2 (01.17)	<input checked="" type="checkbox"/>	PI
	DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
Mercury (from aqua regia digestion)	<b>DIN EN 1483 (07.07)</b>	<input checked="" type="checkbox"/>	PI
	<b>DIN EN 12338 (10.98)</b>	<input type="checkbox"/>	
	DIN EN ISO 12846 (08.12)	<input checked="" type="checkbox"/>	PI

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	Zinc (from aqua regia digestion)	<b>DIN 38406- 8 (10.04)</b>	<input type="checkbox"/>	
		<b>DIN ISO 11047 (05.03)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 11885 (04.98)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 17294- 2 (02.05)</b>	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 17294- 2 (01.17)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI

<b>3.3</b>	<b>Physical parameters, foreign matter</b>	<b>Section 4 (5) BioAbfV</b>		
	Dry residue	<b>DIN EN 13040 (02.07)</b>	<input checked="" type="checkbox"/>	GE, HI, PI
		DIN EN 13040 (01.08)	<input checked="" type="checkbox"/>	GE, HI, PI
	pH value	<b>DIN EN 13037 (02.00)</b>	<input type="checkbox"/>	
		DIN EN 13037 (01.12)	<input checked="" type="checkbox"/>	GE, PI
	Salt content	<b>DIN EN 13038 (02.00)</b>	<input type="checkbox"/>	
		DIN EN 13038 (01.12)	<input checked="" type="checkbox"/>	GE, PI
	Organic substance as loss on ignition (from dry residue)	<b>DIN EN 13039 (02.00)</b>	<input checked="" type="checkbox"/>	GE, PI
	Stones and foreign matter	<b>Annex 3 BioAbfV, No. 1.3.3 Method book for the analysis of organic fertilisers, soil improvers and substrates, Bundesgütegemeinschaft Kompost e.V.</b>	<input checked="" type="checkbox"/>	GE, PI

<b>3.4</b>	<b>Process inspection *)</b>	<b>Section 3 (4) BioAbfV</b>		
	- <b>Determination of minimum holding time</b>			
	Tracer test with spores of Bacillus globigii	<b>Annex 2 BioAbfV</b>	<input type="checkbox"/>	
	Tracer test with lithium	<b>Annex 2 BioAbfV</b>	<input type="checkbox"/>	
	- <b>Disease hygiene</b>			
	Salmonella senftenberg W 775 (H <sub>2</sub> S-neg.)	<b>Annex 2 BioAbfV</b>	<input type="checkbox"/>	
	- <b>Phyto-hygiene</b>			
	Plasmodiophora brassicae (clubroot)	<b>Annex 2 BioAbfV</b>	<input type="checkbox"/>	

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	Tomato seeds	Annex 2 BioAbfV	<input type="checkbox"/>	
	Tobacco mosaic virus (TMV)	Annex 2 BioAbfV	<input type="checkbox"/>	
<b>3.5</b>	<b>Testing of sanitised biowaste *)</b>	<b>Section 3 (4) BioAbfV</b>		
	- <b>Disease hygiene</b>			
	Salmonella	Annex 2 BioAbfV	<input checked="" type="checkbox"/>	HH
	- <b>Phyto-hygiene</b>			
	Viable seeds and parts of plants capable of producing shoots	Annex 2 BioAbfV	<input checked="" type="checkbox"/>	GE, PI

\*) By way of derogation from Section III No. 1, proof of competence for sections 3.4 and 3.5 can be provided for each individual parameter.

**Test area 4: Waste oil, insulating liquid**

	Sections/ Parameter	Basis/ Method		Locations
		Section 5 (3) AltöIV		
<b>4.1</b>	<b>Sampling</b>	Annex 2, No. 1	<input type="checkbox"/>	
		DIN 51750- 1 (08.83)	<input type="checkbox"/>	
		DIN 51750- 1 (12.90)	<input type="checkbox"/>	
		DIN 51750- 2 (03.84)	<input type="checkbox"/>	
		DIN 51750- 2 (12.90)	<input type="checkbox"/>	
<b>4.2</b>	<b>PCB, halogen (only in accordance with AltöIV)</b>	<b>Annex 2 No. 2, 3</b>		
	PCB	DIN EN 12766- 1 (11.00) in conjunction with DIN EN 12766- 2 (12.01), Method B	<input checked="" type="checkbox"/>	GE, PI
	Total halogen (for AltöIV only)	Annex 2, No. 3 AltöIV	<input checked="" type="checkbox"/>	GE

**Test area 5: Landfill waste**

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	Sections/ Parameter	Basis/ Method		Locations
		Section 6 (2), Section 8 (1), (3) and (5) DepV		
5.1	Sampling	LAGA PN 98 (12.01)	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
5.2	Determination of total content in solid			
	Sample preparation	DIN 19747 (07.09)	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
	Digestion method (aqua regia)	DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>	HI, PI
	Loss on ignition	DIN EN 15169 (05.07)	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
	TOC (total organic carbon)	DIN EN 13137 (12.01)	<input checked="" type="checkbox"/>	GE, PI
	BTEX (benzene and derivatives)	DIN 38407-F9 (05.91) Handbuch Altlasten HLUG, Volume 7, Methods of analysis, Part 4 (2000)	<input checked="" type="checkbox"/>	GE, HI, PI
		DIN EN ISO 22155 (07.16)	<input checked="" type="checkbox"/>	GE, HI, PI
	PCB (polychlorinated biphenyls)	DIN EN 15308 (05.08)	<input checked="" type="checkbox"/>	GE, HI, PI
	Petroleum hydrocarbons	DIN EN 14039 (01.05) in conjunction with LAGA KW/04 (12.09)	<input checked="" type="checkbox"/>	GE, HI, PI
	PAH (polycyclic aromatic hydrocarbons)	DIN ISO 18287 (05.06)	<input checked="" type="checkbox"/>	GE, HI, PI
	Density	DIN 18125- 2 (03.11)	<input checked="" type="checkbox"/>	GE
	Gross calorific value	DIN EN 15170 (05.09)	<input checked="" type="checkbox"/>	HE
	Cadmium, chromium, copper, nickel, lead and zinc	DIN ISO 11047 (05.03)	<input type="checkbox"/>	
		DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
	Mercury	DIN EN 12846 (08.12)* ein method incorrectly specified in legislation; DIN EN ISO 12846 (08.12) correct	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 17852 (04.08)	<input type="checkbox"/>	

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	Extractable lipophilic substances	<b>LAGA KW/04 (12.09)</b>	<input checked="" type="checkbox"/>	GE, HI, PI
<b>5.3</b>	<b>Determination of contents in eluate</b>			
	Eluate preparation with liquid/solid ratio 10/1	<b>DIN EN 12457- 4 (01.03)</b>	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
	Eluate preparation each with constant pH 4 and 11 / acid neutralisation capacity	<b>LAGA Guideline EW 98 (2002)</b>	<input checked="" type="checkbox"/>	FG, GE, HI, PI
	Up-flow percolation test	<b>DIN CEN/TS 14405 (09.04)</b>	<input type="checkbox"/>	
		<b>DIN 19528 (01.09)</b>	<input type="checkbox"/>	HI
	pH value of eluate	<b>DIN 38404- 5 (07.09)</b>	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
	DOC	<b>DIN EN 1484 (08.97)</b>	<input checked="" type="checkbox"/>	GE, PI
	DOC at a pH between 7.5 and 8	<b>LAGA Guideline EW 98 p (2002)</b>	<input type="checkbox"/>	
	Phenols	<b>DIN 38409- 16 (06.84)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN ISO 14402 (12.99)</b>	<input checked="" type="checkbox"/>	PI
		DIN 38407- 27 (10.12)	<input checked="" type="checkbox"/>	PI
	Arsenic	<b>DIN EN ISO 11969 (11.96)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 11885 (09.09)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN ISO 22036 (06.09)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN ISO 15586 (02.04)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 17294- 2 (02.05)</b>	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 17294-2 (01.17)	<input checked="" type="checkbox"/>	PI
	Lead, cadmium, copper, nickel, zinc, chromium	<b>DIN EN ISO 15586 (02.04)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 17294- 2 (02.05)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN ISO 11885 (09.09)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN ISO 22036 (06.09)</b>	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 17294-2 (01.17)	<input checked="" type="checkbox"/>	PI
	Mercury	<b>DIN EN ISO 12846 (08.12)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN ISO 17852 (04.08)</b>	<input type="checkbox"/>	
	Barium, molybdenum, selenium	<b>DIN ISO 22036 (06.09)</b>	<input checked="" type="checkbox"/>	PI

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		<b>DIN EN ISO 11885 (09.09)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN ISO 17294- 2 (02.05)</b>	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 17294-2 (01.17)	<input checked="" type="checkbox"/>	PI
	Antimony	<b>DIN ISO 22036 (06.09)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN ISO 11885 (09.09)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN ISO 15586 (02.04)</b>	<input type="checkbox"/>	
		<b>DIN 38405- 32 (05.00)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 17294- 2 (02.05)</b>	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 17294-2 (01.17)	<input checked="" type="checkbox"/>	PI
	Total dissolved solids	<b>DIN EN 15216 (01.08)</b>	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
		<b>DIN 38409- 1 (01.87)</b>	<input checked="" type="checkbox"/>	FG, GE, HI, PI
		<b>DIN 38409- 2 (03.87)</b>	<input checked="" type="checkbox"/>	FG, GE, HI, PI
	Conductivity of eluate	<b>DIN EN 27888 (11.93)</b>	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
	Determination of dry residue	<b>DIN EN 14346 (03.07)</b>	<input checked="" type="checkbox"/>	B, FG, GE, HI, PI
	Chloride	<b>DIN EN ISO 10304- 1 (07.09)</b>	<input checked="" type="checkbox"/>	HE, PI
		<b>DIN 38405- 1 (12.85)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 15682 (01.02)</b>	<input type="checkbox"/>	
	Sulphate	<b>DIN EN ISO 10304- 1 (07.09)</b>	<input checked="" type="checkbox"/>	HE, PI
		<b>DIN 38405- 5 (01.85)</b>	<input type="checkbox"/>	
	Cyanide, readily liberated	<b>DIN 38405- 13 (04.11)</b>	<input checked="" type="checkbox"/>	PI
		<b>In waste containing sulphide:</b>		
		<b>DIN ISO 17380 (05.06)</b>	<input checked="" type="checkbox"/>	PI
		<b>DIN EN ISO 14403- 1 (10.12)</b>	<input type="checkbox"/>	
	Fluoride	<b>DIN 38405- 4 (07.85)</b>	<input checked="" type="checkbox"/>	FG, HE
		<b>DIN EN ISO 10304- 1 (07.09)</b>	<input checked="" type="checkbox"/>	HE, PI

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<b>5.4</b>	<b>Biodegradability of the dry residue of the original substance</b>	<b>Annex 4 No. 3.3 DepV</b>		
	Breathability over 4 days (AT <sub>4</sub> )	<b>Annex 4 No. 3.3.1 DepV</b>	<input checked="" type="checkbox"/>	GE
	Gas formation over 21 days (GB <sub>21</sub> )	<b>Annex 4 No. 3.3.2 DepV</b>	<input checked="" type="checkbox"/>	GE

**Test area 6: Wood waste**

	Sections/ Parameter	Basis/ Method		Location
		<b>AltholzV</b>		
<b>6.1</b>	<b>Sampling and sample preparation</b>	<b>Section 6 (6) AltholzV</b>		
	<b>a) Sampling</b>	LAGA PN 98 in conjunction with <b>Annex IV No. 1.1, AltholzV</b>	<input checked="" type="checkbox"/>	FG, GE, HI, PI
	<b>b) Sample preparation</b>	DIN 19747 (07.09) in conjunction with <b>Annex IV No. 1.3</b>	<input checked="" type="checkbox"/>	GE, HI
	<b>Preparation of laboratory sample</b>	DIN 19747 (07.09) in conjunction with <b>DIN 51701- 3 (08.85)</b>	<input checked="" type="checkbox"/>	GE, HI
	<b>Moisture content</b>	<b>DIN 52183 (11.77)</b>	<input checked="" type="checkbox"/>	GE, HI, PI

<b>6.2</b>	<b>Heavy metals</b>	<b>Annex IV No. 1.4.3 AltholzV</b>		
	Aqua regia digestion	<b>E DIN EN 13657 (10.99)</b>	<input checked="" type="checkbox"/>	HI, PI
		DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>	HI, PI
	Arsenic (from aqua regia digestion)	<b>DIN EN ISO 11969 (11.96)</b>	<input type="checkbox"/>	
		DIN ISO 11047 (05.03)	<input type="checkbox"/>	
		DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 17294- 2 (01.17)	<input checked="" type="checkbox"/>	PI
	Lead (from aqua regia digestion)	<b>DIN 38406- 6 (07.98)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 11885 (04.98)</b>	<input type="checkbox"/>	
		<b>DIN ISO 11047 (05.98)</b>	<input type="checkbox"/>	
		DIN ISO 11047 (05.03)	<input type="checkbox"/>	
		DIN EN ISO 17294- 2 (01.17)	<input checked="" type="checkbox"/>	PI



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		DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
	Cadmium (from aqua regia digestion)	<b>DIN EN ISO 5961 (05.95)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 11885 (04.98)</b>	<input type="checkbox"/>	
		<b>DIN ISO 11047 (06.95)</b>	<input type="checkbox"/>	
		DIN ISO 11047 (05.03)	<input type="checkbox"/>	
		DIN EN ISO 17294-2 (01.17)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
	Chromium (from aqua regia digestion)	<b>DIN EN 1233 (08.96)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 11885 (04.98)</b>	<input type="checkbox"/>	
		<b>DIN ISO 11047 (06.95)</b>	<input type="checkbox"/>	
		DIN ISO 11047 (05.03)	<input type="checkbox"/>	
		DIN EN ISO 17294-2 (01.17)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
	Copper (from aqua regia digestion)	<b>DIN 38406- 7 (09.91)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 11885 (04.98)</b>	<input type="checkbox"/>	
		<b>DIN ISO 11047 (06.95)</b>	<input type="checkbox"/>	
		DIN ISO 11047 (05.03)	<input type="checkbox"/>	
		DIN EN ISO 17294-2 (01.17)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 11885 (09.09)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 22036 (06.09)	<input checked="" type="checkbox"/>	PI
	Mercury (from aqua regia digestion)	<b>DIN EN 1483 (08.97)</b>	<input type="checkbox"/>	
		<b>DIN EN ISO 12338 (10.98)</b>	<input type="checkbox"/>	
		DIN EN ISO 12846 (08.12)	<input checked="" type="checkbox"/>	PI
		DIN EN ISO 17852 (04.08)	<input type="checkbox"/>	
<b>6.3</b>	<b>Halogens</b>	<b>Annex IV No. 1.4.2 AltholzV</b>		
	Fluorine, chlorine	<b>DIN 51727 (06.01)</b>	<input checked="" type="checkbox"/>	HE

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		DIN 51727 (11.11)	<input checked="" type="checkbox"/>	HE
		DIN EN 14582 (06.07) in conjunction with <b>DIN EN ISO 10304- 1 (04.95)</b>	<input checked="" type="checkbox"/>	HE
		DIN EN ISO 10304- 1 (07.09)	<input checked="" type="checkbox"/>	HE
<b>6.4</b>	<b>Organic parameters</b>	<b>Annex IV No. 1.4.4 and 1.4.5 AltholzV</b>		
	Pentachlorophenol (PCP)	<b>Annex IV AltholzV, No. 1.4.4</b>	<input checked="" type="checkbox"/>	GE, PI
		DIN ISO 14154 (12.05)	<input checked="" type="checkbox"/>	GE, PI
	Polychlorinated biphenyls (PCB)	<b>Annex IV AltholzV, No. 1.4.5 in conjunction with DIN 38414- 20 (01.96)</b>	<input checked="" type="checkbox"/>	GE, PI

**15 Test methods in accordance with the German Drinking Water Regulation – TrinkwV**

**Sampling**

<b>Method</b>	<b>Title</b>	<b>Location</b>
DIN EN ISO 5667-1 (A 4) 2007-04	Water quality – Sampling – Part 1: Guidance on the design of sampling programmes and sampling techniques	B, FG, GE, HE, HH, HI, MG, PI
DIN ISO 5667-5 (A 14) 2011-02	Water quality – Sampling – Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems	B, FG, GE, HE, HH, HI, MG, PI
DIN EN ISO 5667-3 (A 21) 2013-03	Water quality – Sampling – Part 3: Preservation and handling of water samples	B, FG, GE, HE, HH, HI, MG, PI
DIN EN ISO 19458 (K 19) 2006-12	Water quality – Sampling for microbiological analysis	B, FG, GE, HE, HH, HI, MG, PI
Recommendation of the Federal Environment Agency 18 December 2018	Assessment of the quality of drinking water with respect to the parameters lead, copper and nickel	B, FG, GE, HE, HH, HI, MG, PI

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**ANNEX 1: MICROBIOLOGICAL PARAMETERS**

**PART I: General requirements for drinking water**

No.	Parameter	Method	Location
1	Escherichia coli (E. coli)	DIN EN ISO 9308-1 (K 12) 2017-09	HH, MG
		DIN EN ISO 9308-2 (K 6-1) 2014-06	HH
2	Enterococci	DIN EN ISO 7899-2 (K 15) 2000-11	HH, MG
		Enterolert®-DW	-
		Chromocult® Enterococci Agar	-

**PART II: Requirements for drinking water intended for transfer in sealed containers**

No.	Parameter	Method	Location
1	Escherichia coli (E. coli)	DIN EN ISO 9308-1 (K 12) 2017-09	HH, MG
		DIN EN ISO 9308-2 (K 6-1) 2014-06	HH
2	Enterococci	DIN EN ISO 7899-2 (K 15) 2000-11	HH, MG
		Enterolert®-DW	-
		Chromocult® Enterococci Agar	-
3	Pseudomonas aeruginosa	DIN EN ISO 16266 (K 11) 2008-05	HH, MG
		Pseudalert®/Quanti-Tray	-

**ANNEX 2: CHEMICAL PARAMETERS**

**PART I: Chemical parameters whose concentration does not usually increase in the distribution network, including the drinking water installation**

No.	Parameter	Method	Location
1	Acrylamide	DIN 38413-P6 2007-02	PI
2	Benzene	DIN 38407-F 9-1 1991-05	GE, PI
		DIN 38407-F43 2014-10	GE, PI
3	Boron	DIN EN ISO 11885 (E 22) 2009-09	PI
		DIN EN ISO 17294-2 (E29) 2017-01	PI
4	Bromate	DIN EN ISO 15061 (D 34) 2001-12	PI
5	Chromium	DIN EN ISO 11885 (E 22) 2009-09	PI
		DIN EN ISO 17294-2 (E29) 2017-01	PI
6	Cyanide	DIN EN ISO 14403-2 (D 3) 2012-10	PI
7	1,2-dichloroethane	DIN EN ISO 10301 (F4) 1997-08	GE, PI
		DIN 38407-F43 2014-10	GE, PI
8	Fluoride	DIN 38405-D 4 1985-07	FG
		DIN EN ISO 10304-1 (D20) 2009-07	HE, PI
9	Nitrate	DIN EN ISO 10304-1 (D20) 2009-07	HE, PI
		DIN EN ISO 13395 (D28) 1996-12	PI
10	Plant protection product active ingredients and biocidal product active ingredients	DIN 38407-F35 2010-10	PI
		DIN 38407-F36 2014-09	PI
		DIN 38407-F37 2013-11	PI
		DIN ISO 16308 2017-09	PI

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No.	Parameter	Method	Location
11	Plant protection product active ingredients and biocidal product active ingredients total	DIN 38407-F35 2010-10	PI
		DIN 38407-F36 2014-09	PI
		DIN 38407-F37 2013-11	PI
		DIN ISO 16308 2017-09	PI
12	Mercury	DIN EN ISO 12846 (E12) 2012-08 DIN EN ISO 17294-2 (E29) 2017-01	PI PI
13	Selenium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2017-01	PI PI
14	Tetrachloroethene and trichloroethylene	DIN EN ISO 10301 (F4) 1997-08 DIN 38407-F43 2014-10	GE, PI GE, PI
15	Uranium	DIN EN ISO 17294-2 (E 29) 2017-01	PI

**PART II: Chemical parameters whose concentration may increase in the distribution network, including the drinking water installation**

No.	Parameter	Method	Location
1	Antimony	DIN EN ISO 11885 (E 22) 2009-09	PI
		DIN EN ISO 17294-2 (E29) 2017-01	PI
2	Arsenic	DIN EN ISO 11885 (E 22) 2009-09	PI
		DIN EN ISO 17294-2 (E29) 2017-01	PI
3	Benzo[a]pyrene	DIN 38407-F 39 2011-09	PI
		DIN ISO 28540 (F 40) 2014-05	PI
4	Lead	DIN EN ISO 11885 (E 22) 2009-09	PI
		DIN EN ISO 17294-2 (E29) 2017-01	PI
5	Cadmium	DIN EN ISO 11885 (E 22) 2009-09	PI
		DIN EN ISO 17294-2 (E29) 2017-01	PI
6	Epichlorohydrin	DIN EN 14207 (P9) 2003-09	PI
7	Copper	DIN EN ISO 11885 (E 22) 2009-09	PI
		DIN EN ISO 17294-2 (E29) 2017-01	PI
8	Nickel	DIN EN ISO 11885 (E 22) 2009-09	PI
		DIN EN ISO 17294-2 (E29) 2017-01	PI
9	Nitrite	DIN EN ISO 13395 (D28) 1996-12	PI
		DIN EN ISO 10304-1 (D20) 2009-07	HE
10	Polycyclic aromatic hydrocarbons (PAH)	DIN 38407-F 39 2011-09	PI
		DIN ISO 28540 (F 40) 2014-05	PI
11	Trihalomethanes (THM)	DIN EN ISO 10301 (F4) 1997-08	GE, PI
		DIN 38407-F43 2014-10	GE, PI
12	Vinyl chloride	DIN 38407-F43 2014-10	GE, PI

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**ANNEX 3: INDICATOR PARAMETERS**

**Part I: General indicator parameters**

No.	Parameter	Method	Location
1	Aluminium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2017-01	PI PI
2	Ammonia	DIN EN ISO 11732 (E 23) 2005-05	GE, PI
3	Chloride	DIN EN ISO 10304-1 (D 20) 2009-07	HE, PI
4	Clostridium perfringens (including spores)	<b>DIN EN ISO 14189 (K 24) 2016-11</b>	HH
5	Coliform bacteria	<b>DIN EN ISO 9308-1 (K 12) 2017-09</b>	HH, MG
		<b>DIN EN ISO 9308-2 (K 6-1) 2014-06</b>	HH
6	Iron	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2017-01	PI PI
7	Colouring (spectral absorption coefficient Hg 436 nm)	DIN EN ISO 7887 (C 1) 2012-04	PI
8	Odour (as TON)	<b>DIN EN 1622 (B 3) 2006-10</b>	PI
		<b>DIN EN 1622 (B 3) 2006-10 (Annex C)</b>	B, FG, GE, HI, PI
9	Taste	DEV-B1/2 Part a 1971	HI, PI
10	Colony count at 22 °C	<b>DIN EN ISO 6222 (K 5) 1999-07</b>	HH, MG
		<b>TrinkwV Section 15 (1c)</b>	HH, MG
11	Colony count at 36 °C	<b>DIN EN ISO 6222 (K 5) 1999-07</b>	HH, MG
		<b>TrinkwV Section 15 (1c)</b>	HH, MG
12	Electrical conductivity	DIN EN 27888-C 8 (1993-11)	B, FG, GE, HE, HH, HI, MG, PI
13	Manganese	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2017-01	PI PI
14	Sodium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E29) 2017-01	PI PI
15	Organically bound carbon (TOC)	DIN EN 1484 (H3) 2019-04	GE, PI
16	Oxidisability	DIN EN ISO 8467 (H5) 1995-05	FG, PI
17	Sulphate	DIN EN ISO 10304-1 (D 20) 2009-07	HE, PI
18	Turbidity	DIN EN ISO 7027-1 (C21) 2016-11	MG, PI
19	Hydrogen ion concentration	DIN EN ISO 10523 (C5) 2012-04	B, FG, GE, HE, HH, HI, MG, PI
20	Calcite dissolving capacity	DIN 38404-C10 2012-10	GE, PI

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**Part II: Specific requirements for drinking water in systems in the drinking water installation**

Parameter	Method	Location
Legionella spec.	ISO 11731 2017-05 UBA recommendation 18 December 2018	HH, MG

**APPENDIX 3a: Requirements for drinking water with regard to radioactive substances**

Not used.

**Parameters not included in Annexes 1 to 3 of the German Drinking Water Ordinance**

**Additional periodic testing**

Parameter	Method	Location
Calcium	DIN EN ISO 11885 (E 22) 2009-09	PI
	DIN EN ISO 17294-2 (E29) 2017-01	PI
Potassium	DIN EN ISO 11885 (E 22) 2009-09	PI
	DIN EN ISO 17294-2 (E29) 2017-01	PI
Magnesium	DIN EN ISO 11885 (E 22) 2009-09	PI
	DIN EN ISO 17294-2 (E29) 2017-01	PI
Acid and base capacity	DIN 38409-H 7 2005-12	FG, GE, PI
Phosphate	DIN EN ISO 10304-1 (D 20) 2009-07	HE
	DIN EN ISO 15681-2 (D 46) 2019-05	PI
	DIN EN ISO 6878 (D 11) 2004-09	PI

The accreditation does not replace the recognition or approval procedure of the competent authority pursuant to Section 15 (4) TrinkwV.

**16 Sampling and microbiological analysis of industrial water in accordance with Section 3 (8) 42nd BImSchV 2017**

**Sampling**

Component	Standard / Guideline / Technical rule		Location
	Title	Description	
Sampling	Water quality – Sampling for microbiological analysis	DIN EN ISO 19458 (K 19): 2006-12	FG, GE, HI, PI, SV
	Recommendation of the Federal Environmental Agency for the sampling and detection of Legionella in evaporative cooling plants, cooling towers and wet separators dated 02.06.2017, Sections C and D		

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**Microbiological analyses**

Component	Standard / Guideline / Technical rule		Location
	Title	Description	
Legionella	Water quality – Enumeration of legionella	ISO 11731: 2017-05	HH
	Recommendation of the Federal Environmental Agency for the sampling and detection of Legionella in evaporative cooling plants, cooling towers and wet separators dated 02.06.2017, Sections E and F taking into account Annexes 1 and 2		
General colony count	Water quality – Enumeration of culturable micro-organisms – Colony count by inoculation in a nutrient agar culture medium	DIN EN ISO 6222 (K 5): 1999-07	HH

**Abbreviations used**

AbfKlärV	German Sewage Sludge Ordinance
AltholzV	German Waste Wood Ordinance
AltöIV	German Waste Oil Regulation
ASU	Amtliche Sammlung von Untersuchungsverfahren (Official Collection of Test Methods)
WW	Waste water (including landfill leachate)
BBodSchV	Federal Soil Protection and Contaminated Sites Ordinance
BioAbfV	German Biowaste Ordinance
BGK	Bundesgütegemeinschaft Kompost e.V. (Federal Compost Quality Association)
CEN/TS	European Committee for Standardization / Technical Specifications
DIN	Deutsches Institut für Normung e.V. (German Institute for Standardization)
DIN SPEC	A kind of prestandard (SPEC for specification)
DepV	German Landfill Ordinance
DGF	Deutsche Gesellschaft für Fettwissenschaft e.V. (German Society for Fat Research)
EGA IGC	European Industrial Gases Association
EN	European standard
FCC	Food Chemicals Codex
RW	Running waters
FHH	Freie und Hansestadt Hamburg (Free and Hanseatic City of Hamburg)
GW	Raw and groundwater

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In-house method ST-MA-M xx-yyy	In-house method of GBA Gesellschaft für Bioanalytik mbH
HLUG	Hessisches Landesamt für Umwelt und Geologie (Hessian Agency for Nature Conservation, Environment and Geology)
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
CW	Water from recoler systems
ISBT	International Society of Beverage Technologists
LAGA	Länderarbeitsgemeinschaft Abfall (Regional Working Group on Waste)
LAWA	Länderarbeitsgemeinschaft Wasser (Regional Working Group on Water)
LUA	State Environment Agency
MinTafelWV	German Mineral and Bottled Water Ordinance
SW	Surface water
Ph. Eur.	European Pharmacopoeia
SPW	Swimming pool and bathing pool water
Senatsverwaltung UVK Berlin	Senate Department for the Environment, Transport and Climate Protection, Berlin
LW	Seepage water (leachate)
TL Streu	Technical delivery conditions for de-icing salt
TrinkwV	German Drinking Water Ordinance
UB	Umweltbehörde (Environmental Protection Agency)
UBA	Umweltbundesamt (Federal Environment Agency)
USP	U.S. Pharmacopeial Convention
VDI	Verein deutscher Ingenieure (Association of German Engineers)
VDLUFA	Verband deutscher landwirtschaftlicher Untersuchungs- und Forschungsanstalten (Association of German Agricultural Testing and Research Institutions)
VGB-M	Data sheet of VGB PowerTech
WA	Water