

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-14532-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 22.02.2019

Date of issue: 22.02.2019

Holder of certificate:

CAL GmbH & Co. KG
Röntgenstraße 82, 64291 Darmstadt

Tests in the fields:

physical, physico-chemical and chemical analysis of water (waste water, groundwater, surface water, cooling water, water from re cooler systems, water from dental units), sludge, sediments, soils, waste, materials for recycling and soil gas;
physico-chemical and chemical analysis of cosmetics;
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;
sampling of raw and drinking water, waste water, water from barrages and lakes, from aquifers, running waters, water from re cooler systems, sludge, sediments, soils and waste;
selected methods for soil gas sampling;
selected methods for analysis of plastics;
specialist modules for water, soil, contaminated sites and waste;
Health care (hygiene)

The testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates. This does not apply to the areas covered by the specialist modules.

The management system requirements in DIN EN ISO/IEC 17025 are written in language relevant to operations of testing laboratories and operate generally in accordance with the principles of DIN EN ISO 9001.

*The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.
<https://www.dakks.de/en/content/accredited-bodies-dakks>*

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Within the given testing field marked with *, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the free choice of standard or equivalent testing methods.

The listed testing methods are exemplary. The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.

1 Analysis of water (groundwater, surface water, waste water, cooling water and water from re cooler systems, and water from dental units)

1.1 Sampling

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| DIN EN ISO 5667-1 (A 4) 2007-04 | Water quality - Sampling - Part 1: Guidance on the design of sampling programmes and sampling techniques |
| DIN 38402-A 11 2009-02 | Sampling of waste water |
| DIN 38402-A 12 1985-06 | Sampling from barrages and lakes |
| DIN 38402-A 13 1985-12 | Sampling from aquifers |
| 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 |
| DIN 38402-A 15 2010-04 | Sampling from running waters (<i>standard withdrawn</i>) |
| DIN 38402-A 18 1991-05 | Sampling of water from mineral springs and spas |
| DIN 38402-A 19 1988-04 | Sampling of swimming pool and bathing pool water (<i>standard withdrawn</i>) |
| DIN EN ISO 5667-3 (A 21) 2013-03 | Water quality - Sampling - Part 3: Preservation and handling of water samples |
| DIN 38402-A 30 1998-07 | Pretreatment, homogenisation and aliquotation of non-homogeneous water samples |
| DIN EN ISO 19458 (K 19) 2006-12 | Water quality - Sampling for microbiological analysis |

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| ISO 5667-11 2009-04 | Water quality - Sampling - Part 11: Guidance on sampling of groundwaters |
| DIN 19643-1 2012-11 | Treatment of swimming pool and bathing pool water - Part 1: General requirements (Here: <i>sampling</i>) |
| DVWK 128 1992 | Scope of sampling and examination of groundwater samples (<i>rule withdrawn</i>) |
| DVWK 245 1997 | Depth-oriented sampling from groundwater monitoring wells (<i>rule withdrawn</i>) |
| LAWA Groundwater Guideline, Part 3 1993-03 | German Working Group on Water Issues (LAWA) - Groundwater Guideline, Part 3: Groundwater quality |
| DVGW Work Sheet W 551 2004-04 | Drinking water heating and drinking water piping systems - Technical measures to reduce Legionella growth - Design, construction, operation and rehabilitation of drinking water installations |
| UBA Recommendation 23 August 2012 | Systemic examination of drinking water installations for Legionella in accordance with the German Drinking Water Regulation (<i>withdrawn</i>) |
| VDI 6022 sheet 1 2011-07 | Ventilation and indoor-air quality - Hygiene requirements for ventilation and air-conditioning systems and units (VDI Ventilation Code of Practice) (here: <i>Sampling of circulating water</i>) |
| VDI 2047 sheet 2 2015-01 | Open recooler systems - Securing hygienically sound operation of evaporative cooling systems (VDI Cooling Tower Code of Practice) (here: <i>Implementation of sampling only</i>) |
| UBA Recommendation 02 June 2017 | Recommendation of the Federal Environmental Agency for the sampling and detection of Legionella in evaporative cooling plants, cooling towers and wet separators, Sections C and D |

1.2 Flavour and aroma

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| DIN EN 1622 (B 3), Annex C 2006-10 | Water quality - Determination of the threshold odour number (TON) and threshold flavour number (TFN) |
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1.3 Physical and physico-chemical parameters

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| DIN EN ISO 7887 (C 1) 2012-04 | Water quality - Examination and determination of colour |
| DIN EN 27027 (C 2) 2000-04 | Water quality - Determination of turbidity |
| DIN 38404-C 3 2005-07 | Determination of absorption in the range of UV radiation |
| DIN 38404-C 4 1976-12 | Determination of temperature |
| DIN EN ISO 10523 (C 5) 2012-04 | Water quality - Determination of pH |
| DIN 38404-C 6 1984-05 | Determination of the oxidation reduction (redox) potential |
| DIN EN 27888 (C 8) 1993-11 | Water quality - Determination of electrical conductivity |
| DIN 38404-C 10 2012-12 | Calculation of the calcite saturation of water |

1.4 Anions

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| DIN EN ISO 14403-1 (D 2) 2012-10 | Water quality - Determination of total cyanide and free cyanide using flow analysis (FIA and CFA) - Part 1: Method using flow injection analysis (FIA) |
| 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) |
| DIN 38405-D 4 1985-07 | Determination of fluoride |
| DIN 38405-D 27 1992-07 | Determination of readily liberated sulphide |
| DIN EN ISO 23913 (D 41) 2009-09 | Water quality - Determination of chromium(VI) - Method by flow analysis (CFA and FIA) and spectrometric detection |

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DIN ISO 15923-1 (D 49)
2014-07 Water quality - Determination of selected parameters by discrete analysis systems - Part 1: Ammonium, nitrate, nitrite, chloride, orthophosphate, sulphate and silicate with photometric detection

1.4.1 Determination of anions by ion chromatography in water (IC-LFD, IC-UVD) *

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

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

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

DIN EN 15061 (D 34)
2001-12 Water quality - Determination of dissolved bromate - Method by liquid chromatography of ions

1.5 Cations

DIN EN ISO 12846 (E 12)
2012-04 Water quality - Determination of mercury - Method using atomic absorption spectrometry (AAS) with and without enrichment

DIN EN ISO 11885 (E 22)
2009-09 Water quality - Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (ICP-OES)

DIN EN ISO 11732 (E 23)
2005-05 Water quality - Determination of ammonium nitrogen - Method by flow analysis (CFA and FIA) and spectrometric detection

DIN EN ISO 17294-2 (E 29)
2017-01 Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of 62 elements

DIN EN ISO 17852 (E 35)
2008-04 Water quality - Determination of mercury - Method using atomic fluorescence spectrometry

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1.6 Organic parameters

1.6.1 Determination of organic substances by gas chromatography with conventional detectors in water (GC-ECD, GC-FID) *

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| 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 |
| DIN 38407-F 2 1993-02 | Determination of low volatile halogenated hydrocarbons by gas chromatography <i>(standard withdrawn)</i> |
| DIN EN ISO 10301 (F 4) 1997-08 | Water quality - Determination of highly volatile halogenated hydrocarbons - Gas-chromatographic methods |
| DIN EN ISO 10695 (F 6) 2000-11 | Water quality - Determination of selected organic nitrogen and phosphorus compounds - Gas chromatographic method |
| DIN 38407-F 9 1991-05 | Determination of benzene and some of its derivatives by gas chromatography <i>(standard withdrawn)</i> |
| DIN EN 12673 (F 15) 1999-05 | Water quality - Gas chromatographic determination of some selected chlorophenols in water |
| DIN EN ISO 15680 (F 19) 2004-04 | Water quality - Gas chromatographic determination of a number of monocyclic aromatic hydrocarbons, naphthalene and several chlorinated compounds using purge and trap and thermal desorption |
| DIN 38407-F 30 2007-12 | Determination of trihalogenmethanes in bathing water and pool water with headspace-gas chromatography |
| 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 |
| EPA Method 624 1984 | Determination of vinyl chloride by gas chromatography using headspace analysis (purge & trap) |

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1.6.2 Determination of organic substances by gas chromatography with mass-selective detectors in water (GC-MS) *

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| DIN EN ISO 18857 (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 |
| DIN 38407-F 39 2011-09 | Water quality - Determination of selected polycyclic aromatic hydrocarbons (PAHs) - Method using gas chromatography with mass spectrometric detection (GC-MS) |

1.6.3 Determination of organic substances by high performance liquid chromatography with conventional detectors in water (HPLC-FLD, HPLC-UVD) *

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|------------------------------------|---|
| DIN 38407-F 8 1995-10 | Determination of 6 polycyclic aromatic hydrocarbons (PAHs) in water by high performance liquid chromatography (HPLC) with fluorescence detection <i>(standard withdrawn)</i> |
| DIN EN ISO 11369 (F 12) 1997-11 | Water quality - Determination of selected plant treatment agents - Method using high performance liquid chromatography with UV detection after solid-liquid extraction |
| DIN EN ISO 17993 (F 18) 2004-03 | Water quality - Determination of 15 polycyclic aromatic hydrocarbons (PAHs) in water by HPLC with fluorescence detection after liquid-liquid extraction |
| DIN 38407-F 22 2001-10 | Determination of glyphosate and aminomethyl phosphic acid (AMPA) by high performance liquid chromatography (HPLC), post-column derivatisation and fluorescence detection |

1.6.4 Determination of organic substances by high performance liquid chromatography with mass spectrometry in water (HPLC-MS/MS) *

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|---------------------------|--|
| 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) |
| 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 |

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| 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 |
| 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 |

1.7 Gaseous components

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|-----------------------------------|--|
| DIN EN ISO 5814 (G 22) 2013-02 | Water quality - Determination of dissolved oxygen - Electrochemical probe method |
| DIN ISO 17289 (G 25) 2014-12 | Water quality - Determination of dissolved oxygen - Optical sensor method |

1.8 Summary indices of actions and substances

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|----------------------------------|--|
| DIN 38409-H 1 1987-01 | Determination of total dry residue, filtrate dry residue and residue on ignition |
| DIN 38409-H 2 1987-03 | Determination of filterable matter and the residue on ignition |
| DIN EN 1484 (H 3) 1997-08 | Water analysis - Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC) |
| DIN EN ISO 8467 (H 5) 1995-05 | Water quality - Determination of permanganate index |
| DIN 38409-H 7 2005-12 | Determination of acid and base capacity |
| DIN 38409-H 8 1984-09 | Determination of extractable organically bonded halogens (EOX) (<i>standard withdrawn</i>) |
| DIN EN 9562 (H 14) 2005-02 | Water quality - Determination of adsorbable organically bound halogens (AOX) |
| DIN EN 872 (H 33) 2005-04 | Water quality - Determination of suspended solids - Method by filtration through glass fibre filters |

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| DIN EN 12260 (H 34) 2003-12 | Water quality - Determination of nitrogen - Determination of bound nitrogen (TNb), following oxidation to nitrogen oxides |
| DIN EN ISO 14402 (H 37) 1999-12 | Water quality - Determination of phenol index by flow analysis (FIA and CFA) |
| DIN ISO 15705 (H 45) 2003-01 | Water quality - Determination of the chemical oxygen demand index (ST-COD) |
| DIN EN 1899-1 (H 51) 1998-05 | Water quality - Determination of biochemical oxygen demand after <i>n</i> days (BOD _n) - Part 1: Dilution and seeding method with allylthiourea acid addition |
| DIN EN 1899-2 (H 52) 1998-05 | Water quality - Determination of biochemical oxygen demand after <i>n</i> days (BOD _n) - Part 2: Methods for undiluted samples |
| DIN ISO 11349 (H 56) 2015-12 | Water quality - Determination of low-volatility lipophilic substances - Gravimetric method |

1.9 Selected quick tests for water analysis with finished reagents

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|---------------------------|--|
| Lange LCK 304 2013-07 | Determination of ammonia-nitrogen (measuring range 0.015 - 2.0 mg/L) |
| Lange LCK 305 2013-07 | Determination of ammonia-nitrogen (measuring range 1.0 - 12.0 mg/L) |
| Lange LCK 331 2013-04 | Determination of cationic surfactants (measuring range 0.2 - 2.0 mg/L) |
| Lange LCK 332 2013-04 | Determination of anionic surfactants (measuring range 0.05 - 2.0 mg/L) |
| Lange LCK 333 2018-09 | Determination of non-ionic surfactants (measuring range 0.2 - 6.0 mg/L) |
| Lange LCK 341 2013-04 | Determination of nitrite (measuring range 0.015 - 0.6 mg/L) |
| Lange LCK 653 2013-04 | Determination of sulphide (measuring range 0.1 - 2.0 mg/L) |
| Lange LCW 0028 1995-07 | Determination of silicate (measuring range 0.01 - 0.8 mg/L) |

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1.10 Microbiological methods

1.10.1 Detection and determination of bacteria by cultural bacteriological tests in water *

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| DIN EN ISO 6222 (K 5) 1999-07 | Water quality - Enumeration of culturable microorganisms - Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C) |
| 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 |
| DIN EN ISO 16266 (K 11) 2008-05 | Water quality - Detection and enumeration of Pseudomonas aeruginosa - Membrane filtration method |
| DIN EN ISO 9308-1 (K 12) 2001-07 | Water quality - Detection and enumeration of Escherichia coli and coliform bacteria - Part 1: Membrane filtration method (<i>standard withdrawn</i>) |
| 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 |
| DIN EN ISO 9308-3 (K 13) 1999-07 | Water quality - Detection and enumeration of Escherichia coli and coliform bacteria in surface water and waste water - Part 3: Miniaturised method by inoculation in liquid medium (MPN technique) |
| DIN EN ISO 7899-1 (K 14) 1999-07 | Water quality - Detection and enumeration of intestinal enterococci in surface water and waste water - Part 1: Miniaturised method by inoculation in liquid medium (MPN technique) |
| DIN EN ISO 7899-2 (K 15) 2000-11 | Water quality - Detection and enumeration of intestinal enterococci - Part 2: Membrane filtration method |
| DIN EN ISO 11731-2 (K 22) 2008-06 | Water quality - Detection and enumeration of Legionella - Part 2: Direct membrane filtration method with low bacterial counts (<i>standard withdrawn</i>) |
| DIN EN ISO 14189 (K 24) 2016-11 | Water quality - Enumeration of Clostridium perfringens - Method using membrane filtration |
| ISO 11731 2017-05 | Water quality - Enumeration of legionella |

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| Enterolert®-DW/ Quanti-Tray® 2012 | Quantitative detection of Enterococci with Enterolert®-DW/Quanti-Tray® |
| Pseudalert®/Quanti-Tray® 2014-06 | Quantitative detection of Pseudomonas aeruginosa with Pseudalert®/Quanti-Tray® |
| TrinkwV Section 15 (1c) | Enumeration of culturable microorganisms - Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C) |
| UBA Recommendation 23 August 2012 | Systemic examination of drinking water installations for Legionella in accordance with the German Drinking Water Regulation (<i>withdrawn</i>) |

1.10.2 Analysis of water from re cooler systems and cooling water

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|------------------------------------|--|
| DIN 38404-C 4 1976-12 | Determination of temperature |
| DIN EN ISO 10523 (C 5) 2012-04 | Water quality - Determination of pH |
| DIN EN 27888 (C 8) 1993-11 | Water quality - Determination of electrical conductivity |
| DIN EN ISO 6222 (K 5) 1999-07 | Water quality - Enumeration of culturable microorganisms - Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C) |
| DIN EN ISO 16266 (K 11) 2008-05 | Water quality - Detection and enumeration of Pseudomonas aeruginosa - Membrane filtration method |
| ISO 11731 2017-05 | Water quality - Enumeration of legionella |
| TrinkwV Section 15 (1c) | Enumeration of culturable microorganisms - Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C) |
| UBA Recommendation 02 June 2017 | Recommendation of the Federal Environmental Agency for the sampling and detection of Legionella in evaporative cooling plants, cooling towers and wet separators, Sections E and F taking into account Annexes 1 and 2 |

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1.10.3 Analysis of water from dental units

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|--------------------------------------|---|
| DIN 38404-C 4 1976-12 | Determination of temperature |
| DIN EN ISO 6222 (K 5) 1999-07 | Water quality - Enumeration of culturable microorganisms - Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C) |
| DIN EN ISO 16266 (K 11) 2008-05 | Water quality - Detection and enumeration of Pseudomonas aeruginosa - Membrane filtration method |
| DIN EN ISO 11731-2 (K 22) 2008-06 | Water quality - Detection and enumeration of Legionella - Part 2: Direct membrane filtration method with low bacterial counts (<i>standard withdrawn</i>) |
| ISO 11731 2017-05 | Water quality - Enumeration of legionella |
| TrinkwV Section 15 (1c) | Enumeration of culturable microorganisms - Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C) |

2 Analysis of soils, sludge, sediments, waste and materials for recycling

2.1 Sampling

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|----------------------------|---|
| ISO 10381-8 2006-04 | Soil quality - Sampling - Part 8: Guidance on sampling of stockpiles |
| DIN ISO 10381-1 2003-08 | Soil quality - Sampling - Part 1: Guidance on the design of sampling programmes |
| DIN ISO 10381-2 2003-08 | Soil quality - Sampling - Part 2: Guidance on sampling techniques |
| DIN ISO 10381-3 2002-08 | Soil quality - Sampling - Part 3: Guidance on safety |
| DIN ISO 10381-4 2004-04 | Soil quality - Sampling - Part 4: Guidance on the procedure for investigation of natural, near-natural and cultivated sites |
| DIN ISO 10381-5 2007-02 | Soil quality - Sampling - Part 5: Guidance on the procedure for the investigation of urban and industrial sites with regard to soil contamination |

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| DIN EN ISO 5667-13 (S 1) 2011-08 | Water quality - Sampling - Part 13: Guidance on sampling of sludges |
| DIN EN ISO 14688-1 2013-12 | Geotechnical investigation and testing - Identification and classification of soil - Part 1: Identification and description |
| DIN EN ISO 14688-2 2013-12 | Geotechnical investigation and testing - Identification and classification of soil - Part 2: Principles for a classification |
| DIN EN ISO 14689-1 2011-06 | Geotechnical investigation and testing - Identification and classification of rock - Part 1: Identification and description |
| DIN EN 932-1 1996-11 | Test for general properties of aggregates - Part 1: Methods for sampling |
| DIN 4021 1990-10 | Subsoil - Exploration by excavation and borings; sampling <i>(standard withdrawn)</i> |
| DIN 4022-1 1987-09 | Subsoil and groundwater - Classification and description of soil and rock - Borehole logging of soil and rock not involving continuous core sample recovery <i>(standard withdrawn)</i> |
| DIN 4022-2 1981-03 | Subsoil and groundwater - Designation and description of soil types and rock - Stratigraphic representation for borings in rock <i>(standard withdrawn)</i> |
| DIN 4022-3 1982-05 | Subsoil and groundwater - Designation and description of soil types and rock - Borehole log for boring in soil (loose rock) by continuous extraction of cores <i>(standard withdrawn)</i> |
| DIN 4023 2006-02 | Geotechnical investigation and testing - Graphical presentation of logs of boreholes, trial pits, shafts and adits |
| DIN 4220 2008-11 | Pedologic site assessment - Designation, classification and deduction of soil parameters (normative and nominal scaling) |
| DIN 19671-1 1964-05 | Soil drilling apparatus for drawing soil samples in agricultural engineering; groove borers, tube borers |
| DIN 19671-2 1964-11 | Soil drilling apparatus for drawing soil samples in agricultural engineering; rod, rotating borers, sampling spoon, sampling spoon for marshes, twist drills |

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| DIN 19682-1 2007-11 | Soil quality - Field tests- Part 1: Determination of soil colour |
| DIN 19682-2 2007-11 | Soil quality - Field tests- Part 2: Determination of soil texture (<i>standard withdrawn</i>) |
| DIN 38414-S 11 1987-08 | Sampling of sediments |
| DIN 52101 2013-10 | Aggregates test methods - Sampling |
| AbfklärV, Annex 1, Section 1.1 1992-04 | Sampling |
| AbfklärV, Annex 1, Section 2.1 1992-04 | Sampling and preparation |
| DepV, Annex 4, No. 2 2009-04 | Sampling |
| DepV, Annex 4, No. 3.1.1 2009-04 | Sample preparation |
| LAGA Guideline PN 2/98 2001-12 | Guideline on procedures for physical and chemical examination in connection with the disposal of waste - Basic rules for the taking of samples from waste and deposited materials |
| LAWA AQS Data Sheet P8/4 2002-05 | Sampling of suspended solids and sediments |
| VDLUFA Methodenbuch, Volume I 1.2.1 1997 | Sampling of disturbed soil for specific purposes - Sampling from the topsoil of arable and garden soils for analysis for nutrients available to plants |

2.2 Sample pretreatment and sample preparation

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| DIN ISO 11466 1997-06 | Soil quality - Extraction of trace elements soluble in aqua regia (<i>standard withdrawn</i>) |
| DIN EN 13346 (S 7a) 2001-04 | Characterisation of sludges - Determination of trace elements and phosphorus - Aqua regia extraction methods |

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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 |
| DIN 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) |
| 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 <i>(standard withdrawn)</i> |
| DIN 19528 2009-01 | Leaching of solid materials - Percolation method for the joint examination of the leaching behaviour of inorganic and organic substances |
| 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 |
| DIN 19730 2009-07 | Soil quality - Extraction of trace elements from soil using ammonium nitrate solution |
| DIN 38414-S 4 1984-10 | Determination of leachability with water <i>(standard withdrawn)</i> |
| LAGA EW 98T 2002 | Determination of leachability with water in trough test |
| VDLUFA-Methodenbuch Volume I, A 6.2.1.1 2012 | Determination of phosphorus and potassium in the calcium acetate lactate (CAL) extract (here extract preparation) |
| VDLUFA-Methodenbuch Volume I, A 6.2.1.2 1991 | Determination of phosphorus and potassium in double lactate (DL) extract (here extract preparation) |
| VDLUFA-Methodenbuch Volume I, A 6.2.4.1 1991 | Determination of plant-available magnesium in calcium chloride extract (here extract preparation) |

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2.3 Physical and physico-chemical parameters

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| DIN ISO 10390 2005-12 | Soil quality - Determination of pH (<i>standard withdrawn</i>) |
| DIN ISO 11272 2001-01 | Soil quality - Determination of dry bulk density (<i>standard withdrawn</i>) |
| DIN ISO 11465 1996-12 | Soil quality - Determination of dry matter and water content on a mass basis - Gravimetric method (<i>standard withdrawn</i>) |
| DIN EN 12176 (S 5) 1998-06 | Characterisation of sludge - Determination of the pH value (<i>standard withdrawn</i>) |
| DIN EN 12879 (S 3a) 2001-02 | Characterisation of sludges - Determination of loss on ignition of dry mass (<i>standard withdrawn</i>) |
| DIN EN 12880 (S 2a) 2001-02 | Characterisation of sludges - Determination of dry residue and water content |
| DIN EN 14345 2004-12 | Characterisation of waste - Determination of hydrocarbon content by gravimetry |
| DIN EN 15169 2007-05 | Characterisation of waste - Determination of loss on ignition in waste, sludge and sediments |
| DIN 38409-H 1 1987-01 | Determination of total dry residue, filtrate dry residue and residue on ignition (from the eluate) |
| DIN 38409-H 2 1987-03 | Determination of filterable matter and the residue on ignition (from the eluate) |
| DIN 38414-S 17 2017-01 | Determination of the organically bound halogens amenable to extraction |
| DIN 38414-S 18 1989-11 | Determination of adsorbed organically bound halogens (AOX) (Deviation for soils: <i>Elutriation of sample with sodium nitrate solution, shaking after addition of activated carbon</i>) |
| LAGA KW/04 2009-12 | Extractable lipophilic substances in original substance |

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2.4 Non-metals, anions

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|-------------------------------------|--|
| DIN EN ISO 14402 (H 37) 1999-12 | Water quality - Determination of phenol index by flow analysis (FIA and CFA) (Deviation for soils: <i>Elutriation of samples with distilled water, pH = 0.5; steam distillation</i>) |
| DIN EN ISO 14403-1 (D 2) 2012-10 | Water quality - Determination of total cyanide and free cyanide using flow analysis (FIA and CFA) - Part 1: Method using flow injection analysis (FIA) (Deviation for soils: <i>Elutriation with digestion solution, boil for 1 hour under reflux conditions, dispel cyanide and collect with sodium hydroxide solution 1M, digestion solution: 80.5 g magnesium chloride hexahydrate, 190 mL conc. sulphuric acid; diluted to 500 mL with dist. water</i>) |
| 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 (Deviation for soils: <i>Elutriation with 2.5 M NaOH for 24 hours, filtration and dilution 1:100</i>) |
| DIN EN ISO 17380 2013-12 | Soil quality - Determination of total cyanide and easily liberatable cyanide - Continuous flow analysis method |
| DIN 38405-D 24 1987-05 | Photometric determination of chromium(VI) using 1,5-diphenylcarbonohydrazide (Deviation for soils: <i>Determination from the aqueous (1/10) eluate</i>) |

2.5 Elements

| | |
|------------------------------------|--|
| 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 |
| DIN ISO 22036 2009-06 | Soil quality - Determination of trace elements in extracts of soil by inductively coupled plasma atomic emission spectrometry (ICP-AES) |
| DIN EN ISO 11885 (E 22) 2009-09 | Water quality - Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (ICP-OES) (Deviation for soils: <i>Determination in aqua regia extraction solution in accordance with DIN ISO 11466 or in ammonium nitrate extract in accordance with DIN 19730</i>) |

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| | |
|--------------------------------------|--|
| DIN EN ISO 17294-2 (E 29) 2017-05 | Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of 62 elements (Deviation for soils: <i>Determination in aqua regia extraction solution in accordance with DIN ISO 11466 or in ammonium nitrate extract in accordance with DIN 19730</i>) |
| DIN EN ISO 17852 (E 35) 2008-04 | Water quality - Determination of mercury - Method using atomic fluorescence spectrometry (Deviation for soils: <i>Determination in aqua regia extraction solution in accordance with DIN ISO 11466 or in ammonium nitrate extract in accordance with DIN 19730</i>) |
| DIN EN 16170 2017-01 | Sludge, treated biowaste and soil - Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES) |
| DIN EN 16171 2017-01 | Sludge, treated biowaste and soil - Determination of elements using inductively coupled plasma mass spectrometry (ICP-MS) |

2.6 Organic substances

| | |
|--------------------------|--|
| DIN ISO 10694 1996-08 | Soil quality - Determination of organic carbon and total carbon after dry combustion (elemental analysis) (<i>standard withdrawn</i>) |
| DIN EN 13137 2001-12 | Characterisation of waste - Determination of total organic carbon (TOC) in waste, sludges and sediments |
| DIN 19539 2016-12 | Investigation of solids - Temperature-dependent differentiation of total carbon (TOC ₄₀₀ , ROC, TIC ₉₀₀) |

2.6.1 Determination of organic substances by gas chromatography in soils (GC-ECD, GC-FID, GC-MSD) *

| | |
|--------------------------|--|
| DIN ISO 10382 2003-05 | Soil quality - Determination of organochlorine pesticides and polychlorinated biphenyls - Gas chromatographic method with electron capture detection |
| DIN ISO 14154 2005-12 | Soil quality - Determination of selected chlorophenols - Gas chromatographic method with electron capture detection |
| DIN ISO 16703 2011-09 | Soil quality - Determination of content of hydrocarbon in the range C10 to C40 |

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| | |
|-----------------------------------|---|
| DIN ISO 18287 2006-05 | Soil quality - Determination of polycyclic aromatic hydrocarbons (PAH) - Gas chromatographic method with mass spectrometric detection (GC-MS) |
| DIN EN ISO 10301 (F 4) 1997-08 | Water quality - Determination of highly volatile halogenated hydrocarbons - Gas-chromatographic methods (Deviation for soils: <i>Extraction with cyclohexane/acetone</i>) |
| DIN EN ISO 22155 2016-07 | Soil quality - Gas chromatographic determination of volatile aromatic and halogenated hydrocarbons and selected ethers - Static headspace method |
| DIN 38407-F 2 1993-02 | Determination of low volatile halogenated hydrocarbons by gas chromatography (<i>standard withdrawn</i>) (Deviation for soils: <i>Extraction with cyclohexane/acetone</i>) |
| DIN 38407-F 9-1 1991-05 | Determination of benzene and some of its derivatives (<i>standard withdrawn</i>) (Deviation for soils: <i>Extraction with cyclohexane/acetone</i>) |

2.6.2 Determination of organic substances by gas chromatography in sludge and waste (GC-ECD, GC-FID, GC-MSD)

| | |
|-------------------------|--|
| DIN EN 14039 2005-01 | Characterisation of waste - Determination of hydrocarbon content in the range of C10 to C40 by gas chromatography (GC-FID) |
| DIN EN 15308 2016-12 | Characterisation of waste - Determination of selected polychlorinated biphenyls (PCB) in solid waste by using capillary gas chromatography with electron capture or mass spectrometric detection |

2.6.3 Determination of organic substances using high performance liquid chromatography (HPLC-UV, HPLC-FLD)

| | |
|------------------------------------|---|
| DIN ISO 13877 2000-01 | Soil quality - Determination of polynuclear aromatic hydrocarbons - Method using high-performance liquid chromatography (<i>standard withdrawn</i>) |
| DIN EN ISO 17993 (F 18) 2004-03 | Water quality - Determination of 15 polycyclic aromatic hydrocarbons (PAHs) in water by HPLC with fluorescence detection after liquid-liquid extraction (Deviation for soil: <i>Extraction with acetonitrile</i>) |

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DIN 38414-S 21
1996-02 Determination of 6 polycyclic aromatic hydrocarbons (PAHs) by high performance liquid chromatography (HPLC) and fluorescence detection

2.6.4 Determination of organic substances using high performance liquid chromatography with mass spectrometric detection (HPLC-MS/MS)

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)

2.7 Biological analysis

DepV, Annex 4 No. 3.3.1
2016 Breathability determined over 4 days in laboratory test (AT₄)

3 Analysis of soil gas

3.1 Sampling

DIN ISO 10381-7
2007-10 Soil quality - Sampling - Part 7: Guidance on sampling of soil gas

VDI 3865 sheet 2
1998-01 Measurement of organic soil pollutants - Techniques of active sampling of soil gas - Variant 2

3.2 On-site analysis

CAL-QMA 105
2013-01 Sampling of soil gas
(Described herein: *Determination of carbon dioxide, methane, hydrogen sulphide, oxygen and trace gases*)

3.3 Organic parameters

DIN EN ISO 10301 (F 4)
1997-08 Water quality - Determination of highly volatile halogenated hydrocarbons - Gas-chromatographic methods
(Deviation for soil gas: *Extraction with DMAA*)

DIN 38407-F 9-1
1991-05 Determination of benzene and some of its derivatives
(*standard withdrawn*)
(Deviation for soil gas: *Extraction with DMAA*)

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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 |
|-----------------------------|--|

3.4 Selected methods for analysis of plastics

| | |
|--------------------|---|
| AfPS GS 2014-01 | Testing and assessment of polycyclic aromatic hydrocarbons (PAHs) in the award of the GS mark <i>(Here only testing)</i> |
|--------------------|---|

4 Analysis of cosmetics and selected textile commodities in contact with the body

| | |
|-------------------------------|--|
| BVL K 84.00-7 (EG) 1991-09 | Analysis of cosmetic products; detection and quantification of free formaldehyde |
|-------------------------------|--|

| | |
|--------------------------------|---|
| BVL K 84.00-23 (EG) 1995-10 | Analysis of cosmetic products - Detection and determination of benzoic acid, 4-hydroxybenzoic acid, sorbic acid, salicylic acid, and propionic acid in cosmetic products <i>(Deviation: Additional use of the method for determination of dehydroacetic acid and bronopol)</i> |
|--------------------------------|---|

| | |
|------------------------|--|
| CAL-QMA 604 2014-04 | Determination of ascorbic acid by HPLC; food supplements |
|------------------------|--|

| | |
|------------------------|---|
| CAL-QMA 624 2014-04 | Determination of α -tocopherol and α - tocopherol acetate by HPLC; food supplements and cosmetics |
|------------------------|---|

| | |
|------------------------|---|
| CAL-QMA 675 2013-09 | Determination of vitamins B1, B2, B3, B5 and B6 by HPLC; food supplements |
|------------------------|---|

| | |
|------------------------|--|
| CAL-QMA 679 2013-11 | Determination of allergenic fragrances in accordance with EU Directive 2003/15/EC (<i>withdrawn</i>), of phthalates, parabens, triphenyl phosphate and 2-phenoxyethanol by gas chromatography and mass spectrometric detection (GC-MS) |
|------------------------|--|

| | |
|------------------------|---|
| CAL-QMA 695 2018-09 | Determination of preservatives (parabens, phenoxyethanol) by HPLC |
|------------------------|---|

5 Tests in accordance with the German Drinking Water Ordinance - TrinkwV -

Sampling

| Method | Title |
|---|---|
| DIN EN ISO 5667-1 (A 4) 2007-04 | Water quality - Sampling - Part 1: Guidance on the design of sampling programmes and sampling techniques |
| 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 |
| DIN EN ISO 5667-3 (A 21) 2013-03 | Water quality - Sampling - Part 3: Preservation and handling of water samples |
| DIN EN ISO 19458 (K 19) 2006-12 | Water quality - Sampling for microbiological analysis |
| 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 |

ANNEX 1: MICROBIOLOGICAL PARAMETERS

PART I: General requirements for drinking water

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

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

| No. | Parameter | Method |
|-----|----------------------------|-----------------------------------|
| 1 | Escherichia coli (E. coli) | DIN EN ISO 9308-1 (K 12) 2017-09 |
| | | DIN EN ISO 9308-2 (K 6-1) 2014-06 |
| 2 | Enterococci | DIN EN ISO 7899-2 (K 15) 2000-11 |
| | | Enterolert®-DW |
| 3 | Pseudomonas aeruginosa | DIN EN ISO 16266 (K 11) 2008-05 |
| | | 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 |
|-----|------------|-----------------------------------|
| 1 | Acrylamide | DIN 38413-P 6 2007-02 |
| 2 | Benzene | DIN 38407-F 9 1991-05 |
| | | DIN EN ISO 15680 (F 19) 2004-04 |
| 3 | Boron | DIN EN ISO 11885 (E 22) 2009-09 |
| | | DIN EN ISO 17294-2 (E 29) 2017-05 |

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| No. | Parameter | Method |
|-----|---|--|
| 4 | Bromate | DIN EN ISO 15061 (D 34) 2001-12 |
| 5 | Chromium | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| 6 | Cyanide | DIN EN ISO 14403-1 (D 2) 2012-10 DIN EN ISO 14403-2 (D 3) 2012-10 |
| 7 | 1,2-dichloroethane | DIN EN ISO 10301 (F 4) 1997-08 |
| 8 | Fluoride | DIN EN ISO 10304-1 (D 20) 2009-07 |
| 9 | Nitrate | DIN EN ISO 10304-1 (D 20) 2009-07 |
| 10 | Plant protection product active ingredients and biocidal product active ingredients | DIN EN ISO 11369 (F 12) 1997-11 DIN 38407-F 2 1993-02 DIN 38407-F 22 2001-10 DIN 38407-F 35 2010-10 DIN 38407-F 36 2014-09 |
| 11 | Plant protection product active ingredients and biocidal product active ingredients total | DIN EN ISO 11369 (F 12) 1997-11 DIN 38407-F 2 1993-02 DIN 38407-F 22 2001-10 DIN 38407-F 35 2010-10 DIN 38407-F 36 2014-09 |
| 12 | Mercury | DIN EN ISO 17852 (E 35) 2008-04 |
| 13 | Selenium | DIN EN ISO 17294-2 (E 29) 2017-05 |
| 14 | Tetrachloroethene and trichloroethylene | DIN EN ISO 10301 (F 4) 1997-08 |
| 15 | Uranium | DIN EN ISO 17294-2 (E 29) 2017-05 |

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

| No. | Parameter | Method |
|-----|-----------------|--|
| 1 | Antimony | DIN EN ISO 17294-2 (E 29) 2017-05 |
| 2 | Arsenic | DIN EN ISO 17294-2 (E 29) 2017-05 |
| 3 | Benzo[a]pyrene | DIN EN ISO 17993 (F 18) 2004-03 DIN 38407-F 8 1995-10 |
| 4 | Lead | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| 5 | Cadmium | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| 6 | Epichlorohydrin | DIN EN 14207 (P 9) 2003-09 |
| 7 | Copper | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| 8 | Nickel | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| 9 | Nitrite | DIN EN ISO 10304-1 (D 20) 2009-07 DIN ISO 15923-1 (D 49) 2014-07 |

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| No. | Parameter | Method |
|-----|--|--|
| 10 | Polycyclic aromatic hydrocarbons (PAH) | DIN EN ISO 17993 (F 18) 2004-03 DIN 38407-F 8 1995-10 |
| 11 | Trihalomethanes (THM) | DIN EN ISO 10301 (F 4) 1997-08 |
| 12 | Vinyl chloride | DIN EN ISO 15680 (F 19) 2004-04 |

ANNEX 3: INDICATOR PARAMETERS

Part I: General indicator parameters

| No. | Parameter | Method |
|-----|---|---|
| 1 | Aluminium | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| 2 | Ammonium | DIN ISO 15923-1 (D 49) 2014-07 DIN EN ISO 11732 (E 23) 2005-05 |
| 3 | Chloride | DIN EN ISO 10304-1 (D 20) 2009-07 |
| 4 | Clostridium perfringens (including spores) | DIN EN ISO 14189 (K 24) 2016-11 |
| 5 | Coliform bacteria | DIN EN ISO 9308-1 (K 12) 2017-09 DIN EN ISO 9308-2 (K 6-1) 2014-06 |
| 6 | Iron | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| 7 | Colouring (spectral absorption coefficient Hg 436 nm) | DIN EN ISO 7887 (C 1-2) 1994-12 |
| 8 | Odour (as TON) | Not used DIN EN 1622 (B 3) 2006-10 (Annex C) |
| 9 | Taste | DIN EN 1622-B 3, Annex C (2006-10) |
| 10 | Colony count at 22 °C | DIN EN ISO 6222 (K 5) 1999-07 TrinkwV Section 15 (1c) |
| 11 | Colony count at 36 °C | DIN EN ISO 6222 (K 5) 1999-07 TrinkwV Section 15 (1c) |
| 12 | Electrical conductivity | DIN EN 27888 (C 8) 1993-11 |
| 13 | Manganese | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| 14 | Sodium | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| 15 | Organically bound carbon (TOC) | DIN EN 1484 (H 3) 1997-08 |
| 16 | Oxidisability | DIN EN ISO 8467 (H 5) 1995-05 |
| 17 | Sulphate | DIN EN ISO 10304-1 (D 20) 2009-07 |
| 18 | Turbidity | DIN EN ISO 7027 (C 2) 2000-04 |
| 19 | Hydrogen ion concentration | DIN EN ISO 10523 (C 5) 2012-04 |
| 20 | Calcite dissolving capacity | DIN 38404-C 10 2012-12 |

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

| Parameter | Method |
|------------------|---|
| Legionella spec. | ISO 11731 1998-05 (<i>standard withdrawn</i>); DIN EN ISO 11731-2 (K 22) 2008-06 (<i>standard withdrawn</i>); UBA Recommendation 2012-08 applicable until 28.02.2019 |

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 |
|------------------------|--|
| Calcium | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| Potassium | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| Magnesium | DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-05 |
| Acid and base capacity | DIN 38409-H 7 2005-12 |
| Phosphate | DIN EN ISO 10304-1 (D 20) 2009-07 DIN EN ISO 11885 (E 22) 2009-09 DIN ISO 15923-1 (D 49) 2014-07 |

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

6 Analysis of industrial water in accordance with the German ordinance on evaporative cooling systems, cooling towers and wet separators - 42nd BImSchV Section 3 (8) of 12 July 2017

Sampling

| Method | Title |
|------------------------------------|---|
| DIN EN ISO 19458 (K 19) 2006-12 | Water quality - Sampling for microbiological analysis ----- 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

| Parameter | Method |
|--------------------------------|---|
| Legionella | ISO 11731 2017-05 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 |
| Colony count at 22°C and 36 °C | DIN EN ISO 6222 (K 5) 1999-07 |

7 Test method list for SPECIALIST MODULE FOR WATER
Revised: LAWA of 13.11.2015

Section 1: Sampling and general parameters

| Parameter | Method | Was | Sur | Raw |
|----------------------------------|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Sampling of waste water | DIN 38402-A 11: 2009-02 | <input checked="" type="checkbox"/> | | |
| Sampling from running waters | DIN 38402-A 15: 1986-07 | | <input checked="" type="checkbox"/> | |
| | DIN 38402-A 15: 2010-04 | | <input checked="" type="checkbox"/> | |
| Sampling from aquifers | DIN 38402-A 13: 1985-12 | | | <input checked="" type="checkbox"/> |
| Sampling from barrages and lakes | DIN 38402-A 12: 1985-06 | | <input checked="" type="checkbox"/> | |
| Homogenisation of samples | DIN 38402-A 30: 1998-07 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Temperature | DIN 38404-C 4: 1976-12 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| pH value | DIN EN ISO 10523: 2012-04 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Conductivity (25 °C) | DIN EN 27888: 1993-11 (C 8) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Odour | DIN EN 1622: 2006-10 (B 3) Annex C | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Colouring | DIN EN ISO 7887: 1994-12 (C 1) Section 2 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Turbidity | DIN EN ISO 7027: 2000-04 (C 2) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Oxygen | DIN EN 25814: 1992-11 (G 22) | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Redox potential | DIN 38404-C 6: 1984-05 | | | <input checked="" type="checkbox"/> |

Section 2: Photometry, ion chromatography, titrimetry

| Parameter | Method | Was | Sur | Raw |
|-----------------------------------|--------------------------------|-----|-------------------------------------|-------------------------------------|
| UV absorption at 254 nm (SAC 254) | DIN 38404-C 3: 2005-07 | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| UV absorption at 436 nm (SAC 436) | DIN EN ISO 7887: 2012-09 (C 1) | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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| Parameter | Method | Was | Sur | Raw |
|-----------------------------|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Ammonium nitrogen | DIN EN ISO 11732: 2005-05 (E 23) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38406-E 5: 1983-10 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 14911: 1999-12 (E 34) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN ISO 15923-1: 2014-07 (D 49) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Nitrite nitrogen | DIN EN 26777: 1993-04 (D 10) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 10304-1: 2009-07 (D 20) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 13395: 1996-12 (D 28) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN ISO 15923-1: 2014-07 (D 49) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Nitrate nitrogen | DIN EN ISO 10304-1: 2009-07 (D 20) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 13395: 1996-12 (D 28) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN 38405-D 9: 2011-09 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN 38405-D 29: 1994-11 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN ISO 15923-1: 2014-07 (D 49) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Total phosphorus | DIN EN ISO 6878: 2004-09 (D 11) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 15681-1: 2005-05 (D 45) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 15681-2: 2005-05 (D 46) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Orthophosphate | DIN EN ISO 10304-1: 2009-07 (D 20) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 6878: 2004-09 (D 11) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 15681-1: 2004-07 (D 45) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 15681-2: 2005-05 (D 46) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN ISO 15923-1: 2014-07 (D 49) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Fluoride (dissolved) | DIN 38405-D 4, section 1985-07 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 10304-1: 2009-07 (D 20) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Chloride | DIN EN ISO 10304-1: 2009-07 (D 20) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 15682: 2002-01 (D 31) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN ISO 15923-1: 2014-07 (D 49) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 10304-4: 1999-07 (D 25) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN 38405-D 1: 1985-12 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Sulphate | DIN EN ISO 10304-1: 2009-07 (D 20) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38405-D 5: 1985-01 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN ISO 15923-1: 2014-07 (D 49) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cyanide (readily liberated) | DIN 38405-D 13-2: 1981-02 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 14403-1: 2012-10 (D 2) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 14403-2: 2012-10 (D 3) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38405-D 7: 2002-04 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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| Parameter | Method | Was | Sur | Raw |
|------------------------------|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Cyanide (total) | DIN 38405-D 13-2: 1981-02 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 14403-1: 2012-10 (D 2) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 14403-2: 2012-10 (D 3) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38405-D 7: 2002-04 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chromium(VI) | DIN 38405-D 24: 1987-05 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 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 checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 18412: 2007-02 (D 40) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Sulphide (readily liberated) | DIN 38405-D 27: 1992-07 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Section 3: Elemental analysis

| Parameter | Method | Was | Sur | Raw |
|-----------|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Aluminium | DIN EN ISO 11885: 2009-09 (E 22) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 12020: 2000-05 (E 25) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 15586: 2004-02 (E 4) | <input type="checkbox"/> | <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"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | 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"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN 38406-E 6: 1998-07 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | 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"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 5961: 1995-05 (E 19) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 15586: 2004-02(E 4) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Calcium | DIN EN ISO 11885: 2009-09 (E 22) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38406-E 3: 2002-03 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 7980: 2000-07 (E 3a) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 14911: 1999-12 (E 34) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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| Parameter | Method | Was | Sur | Raw |
|-----------|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Chromium | DIN EN ISO 11885: 2009-09 (E 22) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN 1233: 1996-08 (E 10) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 15586: 2004-02 (E 4) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Iron | DIN EN ISO 11885: 2009-09 (E 22) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38406-E 32: 2000-05 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 15586: 2004-02 (E 4) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN 38406-E 1: 1983-05 | | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E29), with collision cell | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 14911: 1999-12 (E 34) | | <input type="checkbox"/> | <input type="checkbox"/> |
| Copper | DIN EN ISO 11885: 2009-09 (E 22) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38406-E 7: 1991-09 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 15586: 2004-02 (E 4) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Manganese | DIN EN ISO 11885: 2009-09 (E 22) | | | <input checked="" type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | | | <input checked="" type="checkbox"/> |
| | 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"/> |
| Sodium | 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"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 14911: 1999-12 (E 34) | | <input type="checkbox"/> | <input type="checkbox"/> |
| Nickel | DIN EN ISO 11885: 2009-09 (E 22) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38406-E 11: 1991-09 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 15586: 2004-02 (E 4) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mercury | DIN EN 1483: 2007-07 (E 12) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 17852: 2008-04 (E 35) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 12846: 2012-08 (E 12) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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| Parameter | Method | Was | Sur | Raw |
|--|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Zinc | DIN EN ISO 11885: 2009-09 (E 22) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38406-E 8: 2004-10 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 15586: 2004-02 (E 4) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Boron | DIN EN ISO 11885: 2009-09 (E 22) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Magnesium | DIN EN ISO 11885: 2009-09 (E 22) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38406-E 3: 2002-03 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 7980: 2000-07 (E 3a) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 14911: 1999-12 (E 34) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Phosphorus (phosphorus compounds in original sample as phosphorus) | DIN EN ISO 11885: 2009-09 (E 22) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 17294-2: 2005-02 (E 29) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Section 4/5: Group and sum parameters

| Parameter | Method | Was | Sur | Raw |
|--|--|-------------------------------------|-------------------------------------|-------------------------------------|
| Biological oxygen demand (BOD ₅) | DIN EN 1899-1: 1998-05 (H 51) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN 1899-2: 1998-05 (H 52) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Chemical oxygen demand (COD) | DIN 38409-H 41: 1980-12 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN 38409-H 44: 1992-05 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN ISO 15705: 2003-01 (H 45) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Phenol index | DIN 38409-H 16-2: 1984-06 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN 38409-H 16-1: 1984-06 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 14402: 1999-12 (H 37) Methods in accordance with Section 4 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Filterable solids | DIN EN 872: 2005-04 (H 33) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | DIN 38409-H 2-3: 1987-03 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Acid and base capacity | DIN 38409-H 7: 2005-12 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Total organic carbon (TOC) | DIN EN 1484: 1997-08 (H 3) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Dissolved organic carbon (DOC) | DIN EN 1484: 1997-08 (H 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Total bound nitrogen (TN _b) | DIN EN 12260: 2003-12 (H 34) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 11905-1: 1998-08 (H 36) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Adsorbable organic halogens (AOX) | DIN EN ISO 9562: 2005-02 (H 14) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38409-H 22: 2001-02 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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Section 6: Gas chromatographic methods

| Parameter | Method | Was | Sur | Raw |
|---|--|-------------------------------------|-------------------------------------|-------------------------------------|
| Volatile halogenated hydrocarbons (VOC) | DIN EN ISO 10301: 1997-08 (F 4)* | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38407-F 43: 2014-10 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 15680: 2004-04 (F 19) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Benzene and derivatives (BTEX) | DIN 38407-F 9: 1991-05* | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38407-F 43: 2014-10 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN ISO 15680: 2004-04 (F 19) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Organochlorine insecticides (OCP) | DIN 38407-F 2: 1993-02* | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 6468: 1997-02 (F 1)* | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN 38407-F 37: 2013-11 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Polychlorinated biphenyls (PCB) | DIN EN ISO 6468: 1997-02 (F 1)* | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38407-F 2: 1993-02* | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38407-F 3: 1998-07 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mono, dichlorobenzenes | DIN EN ISO 15680: 2004-04 (F 19) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38407-F 43: 2014-10 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Tri to hexachlorobenzene | DIN EN ISO 6468: 1997-02 (F 1)* | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38407-F 2: 1993-02* | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38407-F 43: 2014-10 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | DIN EN 38407-F 37: 2013-11 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chlorophenols | DIN EN 12673: 1999-05 (F 15) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Organophosphorus and organic nitrogen compounds | DIN EN ISO 10695: 2000-11 (F 6) * | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Polycyclic aromatic hydrocarbons (PAHs)** | DIN 38407-F 39: 2011-09 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN ISO 28540: 2014-05 (F 40) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Hydrocarbon index | DIN EN ISO 9377-2: 2001-07 (H 53) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

* Mass spectrometric detection allowed

** Section 6 is also fully met when PAHs are analysed using a method in section 7

Section 7: HPLC methods

| Parameter | Method | Was | Sur | Raw |
|---|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Polycyclic aromatic hydrocarbon substances (PAHs)** | DIN EN ISO 17993: 2004-03 (F 18) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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| Parameter | Method | Was | Sur | Raw |
|---|------------------------------------|-----|-------------------------------------|-------------------------------------|
| 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 checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38407-F 35: 2010-10 | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN 38407-F 36: 2014-09 | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

* *Mass spectrometric detection allowed*

** *Section 7 is also fully met when PAHs are analysed using a method in section 6*

Section 8: Microbiological methods

| Parameter | Method | Was | Sur | Raw |
|------------------------|--|-----|-------------------------------------|-------------------------------------|
| Colony count | DIN EN ISO 6222: 1999-07 (K 5) | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Total coliform count | DIN EN ISO 9308-2: 2014-09 (K 6-1) in conjunction with | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 9308-1: 2014-09 (K 12) | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Faecal coliform count | DIN EN ISO 9308-1: 2001-07 (K 12) | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 9308-3: 1999-07 (K 13) | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Intestinal enterococci | DIN EN ISO 7899-2: 2000-11 (K 15) | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | DIN EN ISO 7899-1: 1999-07 (K 14) | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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

not used

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

not used

8 Test method list for specialist module for SOIL AND CONTAMINATED SITES
Revised: 16.08.2012

Test area 1: Solids

Section 1.1: Sampling and on-site examination

| Test parameters | Methods/notes | Method | |
|--|--|--|-------------------------------------|
| Sampling plans | | BBodSchV DIN ISO 10381-1: 2003 DIN ISO 10381-5: 2007 | <input checked="" type="checkbox"/> |
| Sampling for the analysis of suspected contaminated sites and contaminated sites | Hand drilling, sampling on excavations, small percussion bore holes 50 - 80 mm, samples in undisturbed bedding | DIN ISO 10381-2: 2003 DIN EN ISO 22475-1: 2007 | <input checked="" type="checkbox"/> |
| | Stockpile sampling | LAGA PN 98: 2001 | |

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| Test parameters | Methods/notes | Method | |
|---|--|---|-------------------------------------|
| Sampling after soil digestion for analysis of suspected contaminated sites and contaminated sites for volatile pollutants | The extraction agent must be present in the sample vessels prior to sampling | Handbuch Altlasten, Volume 7, Part 4, HLUg 2000 | <input checked="" type="checkbox"/> |
| Sampling for investigation of natural, near-natural and cultivated sites | | DIN ISO 10381-4: 2004 VDLUFa Methodenhandbuch Volume 1, A1 | <input checked="" type="checkbox"/> |
| Sampling of sediments | | DIN 38414-11: 1987 | <input checked="" type="checkbox"/> |
| Sampling of suspended solids - optional | | DIN 38402-24: 2007 | <input checked="" type="checkbox"/> |
| Sample description | | Arbeitshilfe für die Bodenansprache im vor- und nachsorgenden Bodenschutz, excerpt from KA5, 2009 Bodenkundliche Kartieranleitung 5th Edition (KA5): 2005 | <input checked="" type="checkbox"/> |
| | Series of standards on geotechnical investigation and testing | DIN EN ISO 14688-1: 2011 DIN EN ISO 14689-1: 2011 DIN EN ISO 22475-1: 2007 | <input checked="" type="checkbox"/> |
| Determination of soil texture | Feel test in the field | Arbeitshilfe für die Bodenansprache im vor- und nachsorgenden Bodenschutz, excerpt from KA5, 2009 Bodenkundliche Kartieranleitung 5th Edition (KA5): 2005 DIN 19682-2: 2007 | <input checked="" type="checkbox"/> |
| Sample storage, sample pretreatment in the field, sample transport | | DIN 19747: 2009 DIN ISO 10381-1: 2003 DIN ISO 10831-2: 2003 DIN ISO 18512: 2009 | <input checked="" type="checkbox"/> |
| | Overlay of soil with solvent in the field for analysis for volatile pollutants | DIN ISO 22155: 2006 | |

Section 1.2: Laboratory - Analysis of inorganic parameters

| Basic parameters and sample preparation | | | |
|---|---------------|-----------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Sample preparation and processing | | DIN 19747: 2009 | <input checked="" type="checkbox"/> |

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

| Analysis of inorganic parameters | | | |
|---|--|--------------------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Aqua regia extract | Thermal, open vessel | DIN ISO 11466: 1997 | <input checked="" type="checkbox"/> |
| | Microwave digestion | DIN EN 13657: 2003 | <input checked="" type="checkbox"/> |
| Ammonium nitrate extract | | DIN 19730: 2009 | <input checked="" type="checkbox"/> |
| Alkaline digestion method - optional | Metaborate fusion for chromium(VI) analysis | DIN EN 15192: 2007 | <input type="checkbox"/> |
| Extraction for determination of thallium - optional | HNO ₃ , H ₂ O ₂ | DIN ISO 20279: 2006 | <input type="checkbox"/> |
| Arsenic (As) Antimony (Sb) | ICP-OES | DIN ISO 22036: 2009 | <input checked="" type="checkbox"/> |
| | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |
| | 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"/> |
| | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |
| Mercury (Hg) | AAS | DIN EN 1483: 2007 | <input type="checkbox"/> |
| | Cold vapour AAS or cold vapour AFS | DIN ISO 16772: 2005 | <input checked="" type="checkbox"/> |
| Cyanide | | DIN ISO 17380: 2011 | <input type="checkbox"/> |
| | | DIN ISO 11262: 2012 | <input checked="" type="checkbox"/> |
| Chromium(VI) - optional | IC with photometric detection | DIN EN 15192: 2007 | <input type="checkbox"/> |

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| Analysis of inorganic parameters | | | |
|---|-----------------------|--------------------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Molybdenum (Mo) | ICP-OES | DIN ISO 22036: 2009 | <input checked="" type="checkbox"/> |
| Vanadium (V) - optional | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |
| Selenium (Se) - optional | ICP-OES | DIN ISO 22036: 2009 | <input checked="" type="checkbox"/> |
| | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |
| | ET-AAS or hydride AAS | DIN ISO 20280: 2010 | <input type="checkbox"/> |
| Thallium (Tl) from the HNO ₃ /H ₂ O ₂ -extract - optional | ET-AAS | DIN ISO 20279: 2006 | <input type="checkbox"/> |
| | ICP-OES | DIN ISO 22036: 2009 | <input checked="" type="checkbox"/> |
| | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |
| Uranium (U) | ICP-OES | DIN ISO 22036: 2009 | <input type="checkbox"/> |
| Tungsten (W) - optional | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |

Section 1.3: Laboratory - Analysis of organic parameters

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

| Analysis of organic parameters | | | |
|--|---|---------------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Polycyclic aromatic hydrocarbons (PAH) 16 PAH (EPA) | GC-MS | DIN ISO 18287: 2006 | <input checked="" type="checkbox"/> |
| | HPLC-UV/F Acenaphthylene cannot be determined by fluorescence detector | DIN ISO 13877: 2000 | <input checked="" type="checkbox"/> |
| | | DIN 38414-23: 2002 | <input type="checkbox"/> |
| Hexachlorobenzene | GC-ECD, GC-MS | DIN ISO 10382: 2006 | <input checked="" type="checkbox"/> |
| Pentachlorophenol | GC-ECD, GC-MS | DIN ISO 14154: 2005 | <input checked="" type="checkbox"/> |

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| Analysis of organic parameters | | | |
|--|---|-------------------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Aldrin, DDT, HCH mixture | GC-ECD, GC-MS | DIN ISO 10382: 2006 | <input checked="" type="checkbox"/> |
| | | DIN EN 15308: 2008 | <input checked="" type="checkbox"/> |
| Polychlorinated biphenyls (PCB) | GC-ECD, GC-MS Extraction with acetone/petroleum ether or Soxhlet extraction The type of summation must be indicated (PCB6/PCB7) | DIN ISO 10382: 2003 | <input checked="" type="checkbox"/> |
| | | DIN EN 15308: 2008 | <input checked="" type="checkbox"/> |
| | | DIN 38414-20: 1996 | <input checked="" type="checkbox"/> |
| Typical explosive compounds (HPLC) - optional | Extraction with methanol or acetonitrile and quantification using HPLC-UV/DAD | E DIN ISO 11916-1: 2011 | <input type="checkbox"/> |
| Typical explosive compounds (GC) - optional | Extraction with methanol. Dissolution in toluene and quantification using GC-ECD or GC-MS | E DIN ISO 11916-2: 2011 | <input type="checkbox"/> |
| Petroleum hydrocarbons (C ₁₀ -C ₄₀) - optional | GC-FID | DIN ISO 16703: 2005 | <input checked="" type="checkbox"/> |
| | | LAGA KW/04: 2009 | <input type="checkbox"/> |
| BTEX aromatic compounds, VOC - optional | Headspace, GC | DIN ISO 22155: 2006 | <input checked="" type="checkbox"/> |

Test area 1.4: Analysis - Dioxins and furans

not used

Test area 2: Eluates and percolates, aqueous media
Section 2.1: Sampling and on-site examination

| Sampling | | | |
|---|----------------------------|--|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Sampling programmes and sampling techniques | | DIN EN ISO 5667-1: 2007 | <input checked="" type="checkbox"/> |
| 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 | <input checked="" type="checkbox"/> |
| Sampling of leachate | | No standardised method currently available Where applicable E-DWA-M 905: 2008 | <input checked="" type="checkbox"/> |
| Sampling of surface water (running waters) | AQS Data Sheet P 8/3: 1998 | DIN 38402-15: 2010 | <input checked="" type="checkbox"/> |

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| Sampling | | | |
|--|---------------|--------------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Sampling of surface water (barrages and lakes) | | DIN 38402-12: 1985 | <input checked="" type="checkbox"/> |

| On-site testing | | | |
|---|---------------|-------------------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Colouring | | DIN EN ISO 7887: 2012 | <input checked="" type="checkbox"/> |
| Turbidity | | DIN EN ISO 7027: 2000 | <input checked="" type="checkbox"/> |
| Odour | | DEV B1/2 1971 | <input checked="" type="checkbox"/> |
| Temperature | | DIN 38404-4: 1976 | <input checked="" type="checkbox"/> |
| pH value | | DIN EN ISO 10523: 2012 | <input checked="" type="checkbox"/> |
| Oxygen content | | DIN EN 25814: 1992 | <input checked="" type="checkbox"/> |
| Electrical conductivity | | DIN EN 27888: 1993 | <input checked="" type="checkbox"/> |
| Redox potential | | DIN 38404-6: 1984 | <input checked="" type="checkbox"/> |
| Sample storage, sample pretreatment, sample transport | | DIN EN ISO 5667-3: 2004 | <input checked="" type="checkbox"/> |

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

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

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| Analysis - Inorganic parameters | | | |
|--|------------------------------------|---------------------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Antimony (Sb) Arsenic (As) | ICP-OES | DIN EN ISO 11885: 2009 | <input checked="" type="checkbox"/> |
| | ICP-OES | DIN ISO 22036: 2009 | <input checked="" type="checkbox"/> |
| | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |
| | 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"/> |
| | ICP-OES | DIN ISO 22036: 2009 | <input checked="" type="checkbox"/> |
| | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |
| Mercury (Hg) | AAS | DIN EN 1483: 2007 | <input type="checkbox"/> |
| | Cold vapour AAS or cold vapour AFS | DIN ISO 16772: 2005 | <input checked="" type="checkbox"/> |
| Cyanide (CN-), total Cyanide, readily liberated | Spectrophotometry | DIN EN ISO 14403: 2002 | <input checked="" type="checkbox"/> |
| | | DIN 38405-13: 2011 | <input checked="" type="checkbox"/> |
| | | DIN EN ISO 17380: 2011 | <input type="checkbox"/> |
| Fluoride, chloride, sulphate | Ion chromatography | DIN EN ISO 10304-1:2009 | <input checked="" type="checkbox"/> |
| | Individual method | DIN 38405-1, -4, -5: 1985 | <input type="checkbox"/> |
| Vanadium (V) - optional | ET-AAS | DIN EN ISO 15586: 2004 | <input type="checkbox"/> |
| | ICP-OES | DIN EN ISO 11885: 2009 | <input checked="" type="checkbox"/> |
| | ICP-OES | DIN ISO 22036: 2009 | <input checked="" type="checkbox"/> |
| | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |
| Uranium (U) - optional | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |
| Tin (Sn) Thallium (Tl) Tungsten (W) - optional | ICP-OES | DIN EN ISO 11885: 2009 | <input checked="" type="checkbox"/> |
| | ICP-OES | DIN ISO 22036: 2009 | <input type="checkbox"/> |
| | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |

| Analysis - Inorganic parameters | | | |
|---------------------------------|-----------------------|--------------------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Selenium (Se) - optional | ET-AAS | DIN EN ISO 15586: 2004 | <input type="checkbox"/> |
| | ICP-OES | DIN EN ISO 11885: 2009 | <input checked="" type="checkbox"/> |
| | ICP-OES | DIN ISO 22036: 2009 | <input checked="" type="checkbox"/> |
| | ICP-MS | DIN EN ISO 17294-2: 2005 | <input checked="" type="checkbox"/> |
| | ET-AAS or hydride AAS | DIN ISO 20280: 2010 | <input type="checkbox"/> |
| Chromium (Cr VI) | Spectrophotometry | DIN 38405-24: 1987 | <input checked="" type="checkbox"/> |
| | 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 | |
| Batch test - Elution of inorganic substances | | DIN 19529: 2009 | <input checked="" type="checkbox"/> |
| Batch test - Elution of organic substances | | DIN 19527: 2012 | <input checked="" type="checkbox"/> |
| Batch test - Elution of inorganic substances - optional | | DIN EN 12457-4: 2003 | <input checked="" type="checkbox"/> |
| Percolation method for organic and inorganic substances - optional | | DIN 19528: 2009 | <input checked="" type="checkbox"/> |
| Examination for absorption availability - optional | | DIN 19738: 2004 | <input type="checkbox"/> |

| Analysis - Organic parameters | | | |
|---|-------------------------------------|------------------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| 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"/> |
| | 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"/> |
| | Headspace-SPME, GC-MS | DIN 38407-41: 2011 | <input checked="" type="checkbox"/> |

| Analysis - Organic parameters | | | |
|---|--|-------------------------|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Aldrin | GC-ECD, GC-MS | DIN EN ISO 6468: 1997 | <input checked="" type="checkbox"/> |
| | | DIN 38407-2: 1993 | <input checked="" type="checkbox"/> |
| Dichlorodiphenyltrichloroethane (DDT) | GC-ECD, GC-MS | DIN EN ISO 6468: 1997 | <input checked="" type="checkbox"/> |
| | | DIN 38407-2: 1993 | <input checked="" type="checkbox"/> |
| Chlorophenols | GC-ECD, GC-MS | DIN EN 12673: 1999 | <input checked="" type="checkbox"/> |
| Chlorobenzenes (Cl3-Cl6) | GC-ECD, GC-MS | DIN 38407-2: 1993 | <input checked="" type="checkbox"/> |
| | Liquid extraction, GC-ECD, GC-MS | DIN EN ISO 6468: 1997 | <input checked="" type="checkbox"/> |
| Chlorobenzenes (Cl1-Cl3) | Liquid extraction and headspace, GC-ECD, MS where applicable | DIN EN ISO 10301: 1997 | <input checked="" type="checkbox"/> |
| Polychlorinated biphenyls (PCB) | GC-ECD, GC-MS Type of summation (PCB6 / PCB7) must be specified | DIN 38407-2: 1993 | <input checked="" type="checkbox"/> |
| | | DIN 38407-3: 1998 | <input type="checkbox"/> |
| 16 PAH (EPA) | GC-MS | DIN EN ISO 17993: 2004 | <input checked="" type="checkbox"/> |
| | HPLC-F | DIN 38407-39: 2011 | <input checked="" type="checkbox"/> |
| Naphthalene | GC-FID, GC-MS | DIN EN ISO 15680: 2004 | <input type="checkbox"/> |
| | | DIN 38407-9: 1991 | <input checked="" type="checkbox"/> |
| Petroleum hydrocarbons (MKW, C ₁₀ -C ₄₀) | GC-FID | DIN EN ISO 9377-2: 2001 | <input checked="" type="checkbox"/> |
| Typical explosive compounds (HPLC) - optional | HPLC / UV detection | DIN EN ISO 22478: 2006 | <input type="checkbox"/> |
| Typical explosive compounds (GC) - optional | Determination of selected nitroaromatic compounds using GC | DIN 38407-17: 1999 | <input type="checkbox"/> |
| Phenols - optional | GC-ECD, GC-MS | ISO 8165-2: 1999 | <input type="checkbox"/> |
| | | DIN EN 12673: 1999 | <input checked="" type="checkbox"/> |

Test area 3 - Soil gas, landfill gas

Section 3.1: Sampling and on-site examination

| Sampling | | | |
|----------------------|---------------|---|-------------------------------------|
| Test parameters | Methods/notes | Method | |
| Pile core probing | | DIN ISO 10381-2: 2003 DIN EN ISO 22475-1: 2007 | <input checked="" 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"/> |

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

Section 3.2: Laboratory - Analysis of soil gas, landfill gas

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

For the requirements for the sampling of water, soil and soil gas on federal properties, full competence is confirmed in accordance with the construction guideline "Arbeitshilfen Boden- und Grundwasserschutz" (soil and groundwater protection aids) (BfR AH BoGwS), Annex 2.5.

9 Test method list for specialist module for WASTE
Revised: LAGA, May 2018

Test area 1: Sewage sludge

| | Sections / Parameters | Basis / Methods | |
|------------|--|---|-------------------------------------|
| | | AbfklärV | |
| 1.1 | Sampling and sample preparation | Section 32 (3) and (4) AbfklärV | |
| a) | Sampling | DIN EN ISO 5667-13 (08.11) and DIN 19698-1 (05.14) | <input checked="" type="checkbox"/> |
| b) | Sample preparation | DIN 19747 (07.09) | <input checked="" type="checkbox"/> |

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| 1.2 | Heavy metals and chromium VI ¹ | Section 5 (1) (1) AbfklärV | |
|-----|--|---|-------------------------------------|
| | Heavy metals | | |
| | Aqua regia digestion | DIN EN 16174 (11.12) | <input checked="" type="checkbox"/> |
| | | DIN EN 16174 Method A (11.12) | <input type="checkbox"/> |
| | | DIN EN 13346 Method A (04.01) | <input checked="" type="checkbox"/> |
| | Arsenic, lead, cadmium, chromium, copper, nickel, zinc, iron (from aqua regia digestion) | DIN EN ISO 11885 (09.09) | <input checked="" type="checkbox"/> |
| | | DIN ISO 11047 (05.03) | <input type="checkbox"/> |
| | | DIN EN ISO 17294-2 (01.17) | <input checked="" type="checkbox"/> |
| | | DIN EN 16170 (01.17) | <input type="checkbox"/> |
| | | DIN EN 16171 (01.17) | <input type="checkbox"/> |
| | | CEN/TS 16172; DIN SPEC 91258 (04.13) | <input type="checkbox"/> |
| | | DIN ISO 22036 (06.09) | <input type="checkbox"/> |
| | Thallium (from aqua regia digestion) | DIN EN ISO 11885 (09.09) | <input checked="" type="checkbox"/> |
| | | DIN ISO 11047 (05.03) | <input type="checkbox"/> |
| | | DIN EN ISO 17294-2 (01.17) | <input checked="" type="checkbox"/> |
| | | DIN 38406-26 (07.97) | <input type="checkbox"/> |
| | | DIN EN 16170 (01.17) | <input type="checkbox"/> |
| | | DIN EN 16171 (01.17) | <input type="checkbox"/> |
| | | CEN/TS 16172; DIN SPEC 91258 (04.13) | <input type="checkbox"/> |
| | | DIN ISO 22036 (06.09) | <input type="checkbox"/> |
| | Mercury (from aqua regia digestion) | DIN EN ISO 17852 (04.08) | <input checked="" type="checkbox"/> |
| | | DIN EN 16175-1 (12.16) | <input type="checkbox"/> |
| | | DIN EN 16175-2 (12.16) | <input type="checkbox"/> |
| | | DIN EN 16171 (01.17) | <input type="checkbox"/> |
| | | DIN EN ISO 12846 (08.12) | <input checked="" type="checkbox"/> |

¹ 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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| | | | |
|--|---|---|--------------------------|
| | Chromium VI (from alkaline hot extract) ² | DIN EN 16318 (07.16) | <input type="checkbox"/> |
| | | DIN EN 15192 (02.07) | <input type="checkbox"/> |
| | | DIN 10304-3 (11.97) ³ | <input type="checkbox"/> |
| | | DIN EN ISO 17294-2 (01.17) ⁵ | <input type="checkbox"/> |

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

| | | | |
|------------|---|--|-------------------------------------|
| 1.4 | Physical parameters, nutrients | Section 5 (1) (3) - (9) AbfklärV | |
| | Dry residue | DIN EN 15934 (11.12) | <input type="checkbox"/> |
| | | DIN EN 12880 (02.01) | <input checked="" type="checkbox"/> |
| | Organic substance as loss on ignition (from dry residue) | DIN EN 15935 (11.12) | <input type="checkbox"/> |
| | | DIN EN 12879 (02.01) | <input checked="" type="checkbox"/> |
| | pH value | DIN EN 15933 (11.12) | <input type="checkbox"/> |
| | | DIN 38414-5 (07.09) | <input checked="" type="checkbox"/> |
| | Alkaline agents as CaO | VDLUFÄ Methodenbuch Volume II.2, Method 4.5.1 | <input type="checkbox"/> |
| | Ammonium nitrogen (NH ₄ -N) | DIN 38406-5 (10.83) | <input type="checkbox"/> |
| | Total nitrogen (N _{total}) | DIN EN 13342 (01.01) | <input type="checkbox"/> |
| | | DIN EN 16169 (11.12) | <input type="checkbox"/> |
| | | DIN ISO 11261 (05.97) | <input type="checkbox"/> |
| | Aqua regia digestion | DIN EN 16174 (11.12) | <input checked="" type="checkbox"/> |
| | | DIN EN 13346 Method A (04.01) | <input type="checkbox"/> |

² For the alkaline hot extract, the DIN EN 16318 or DIN EN 15192 methods must be used.

³ 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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| | | | |
|--|---|----------------------------|-------------------------------------|
| | Phosphorus (P) (from aqua regia digestion) (conversion: phosphorus (P) = 2,291 for phosphorus pentoxide (P ₂ O ₅)) | DIN EN ISO 11885 (09.09) | <input checked="" type="checkbox"/> |
| | | DIN EN ISO 6878 (09.04) | <input type="checkbox"/> |
| | | DIN EN ISO 17294-2 (01.17) | <input checked="" type="checkbox"/> |
| | | DIN EN 16171 (01.17) | <input type="checkbox"/> |
| | | DIN EN 16170 (01.17) | <input type="checkbox"/> |

Sections 1.5 and 1.6

not used

| | | | |
|-----|----------------------|---|-------------------------------------|
| 1.7 | Benzo(a)pyrene (BaP) | DIN EN 15527 (09.08) | <input type="checkbox"/> |
| | | DIN 38414-23 (02.02) | <input checked="" type="checkbox"/> |
| | | DIN CEN/TS 16181; DIN SPEC 91243 (12.13) | <input type="checkbox"/> |

| | | | |
|-----|--|----------------------|-------------------------------------|
| 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"/> |
|-----|--|----------------------|-------------------------------------|

Test area 2: Base

| | Sections / Parameters | Basis / Methods | |
|-----|---------------------------------|---|-------------------------------------|
| | | 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) <u>and</u> DIN ISO 10381-4 (04.04) | <input checked="" type="checkbox"/> |
| b) | Sample preparation | DIN ISO 19747 (07.09) | <input checked="" type="checkbox"/> |
| 2.2 | Heavy metals | Section 4 (1) AbfklärV Section 9 (2) BioAbfV | |
| | Aqua regia digestion | DIN EN 16174 (11.12) | <input checked="" type="checkbox"/> |
| | | DIN EN 13657 (01.03) | <input checked="" type="checkbox"/> |

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| | | |
|--|--|-------------------------------------|
| 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"/> |
| | DIN ISO 22036 (06.09) | <input checked="" type="checkbox"/> |
| | DIN EN 16170 (01.17) | <input type="checkbox"/> |
| | DIN EN 16171 (01.17) | <input type="checkbox"/> |
| | DIN EN ISO 11885 (09.09) | <input checked="" type="checkbox"/> |
| Mercury (from aqua regia digestion) | DIN ISO 16772 (06.05) | <input checked="" type="checkbox"/> |
| | DIN EN 12846 (08.12)* a method incorrectly specified in legislation; DIN EN ISO 12846 (08.12) correct | <input checked="" type="checkbox"/> |
| | EN 16175-1 (12.16) | <input type="checkbox"/> |
| | EN 16175-2 (12.16) | <input type="checkbox"/> |
| | DIN EN 16171 (01.17) | <input type="checkbox"/> |
| | DIN EN ISO 17852 (04.08) | <input type="checkbox"/> |

| | | | |
|---|---|---|--|
| 2.3 | Physical parameters, phosphate | Section 4 (1) AbfklärV Section 9 (2) BioAbfV | |
| Phosphate (from CAL/DL extract; P-content determination must be converted to o-phosphate) | VDLUF A Methodenbuch, Volume I, Method A 6.2.1.1 (6th Part 2012) | <input type="checkbox"/> | |
| | VDLUF A Methodenbuch, Volume I, Method A 6.2.1.2 (Main Volume) | <input type="checkbox"/> | |
| | DIN EN ISO 10304-1 (07.09) | <input type="checkbox"/> | |
| | DIN ISO 22036 (06.09) | <input type="checkbox"/> | |
| Soil texture (clay content) | DIN 19682-2 (07.14) | <input type="checkbox"/> | |
| | DIN 18123 (04.11) | <input type="checkbox"/> | |
| pH value | DIN EN 15933 (11.12) | <input type="checkbox"/> | |
| | ISO 10390 (02.05) | <input checked="" type="checkbox"/> | |
| | VDLUF A-Methodenhandbuch I A 5.1.1 | <input type="checkbox"/> | |
| Dry residue | DIN EN 15934 (11.12) | <input checked="" type="checkbox"/> | |
| | DIN EN 12880 (02.01) | <input checked="" type="checkbox"/> | |

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| | | | |
|-----|--|---|-------------------------------------|
| | Organic substances | Section 4 (2) AbfKlärV | |
| 2.4 | Polychlorinated biphenyls (PCB) | DIN ISO 10382 (05.03) | <input checked="" type="checkbox"/> |
| | | DIN EN 16167 (11.12) | <input type="checkbox"/> |
| 2.5 | Benzo(a)pyrene (BaP) | DIN ISO 18287 (05.06) | <input checked="" type="checkbox"/> |
| | | DIN CEN TS 16181; DIN SPEC 91243 (12.13) | <input type="checkbox"/> |
| | | DIN 38414-23 (02.02) | <input checked="" type="checkbox"/> |

Test area 3: Biowaste

not used

Test area 4: Waste oil, insulating liquid

not used

Test area 5: Landfill waste

| | Sections/ Parameter | Basis/ Method | |
|-----|--------------------------------|---|-------------------------------------|
| | | Section 6 (2), Section 8 (1), (3) and (5) DepV | |
| 5.1 | Sampling | LAGA PN 98 (12.01) | <input checked="" type="checkbox"/> |

| | | | |
|-----|--|---|-------------------------------------|
| 5.2 | Determination of total content in solid | | |
| | Sample preparation | DIN 19747 (07.09) | <input checked="" type="checkbox"/> |
| | Digestion method (aqua regia) | DIN EN 13657 (01.03) | <input checked="" type="checkbox"/> |
| | Loss on ignition | DIN EN 15169 (05.07) | <input checked="" type="checkbox"/> |
| | TOC (total organic carbon) | DIN EN 13137 (12.01) | <input checked="" type="checkbox"/> |
| | BTEX (benzene and derivatives) | DIN 38407-F9 (05.91) Handbuch Altlasten HLUG, Volume 7, Methods of analysis, Part 4 (2000) | <input checked="" type="checkbox"/> |
| | | DIN EN ISO 22155 (07.16) | <input checked="" type="checkbox"/> |
| | PCB (polychlorinated biphenyls) | DIN EN 15308 (05.08) | <input checked="" type="checkbox"/> |
| | Petroleum hydrocarbons | DIN EN 14039 (01.05) in conjunction with LAGA KW/04 (12.09) | <input checked="" type="checkbox"/> |
| | PAH (polycyclic aromatic hydrocarbons) | DIN ISO 18287 (05.06) | <input checked="" type="checkbox"/> |
| | Density | DIN 18125- 2 (03.11) | <input type="checkbox"/> |

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| | | | |
|--|--|---|-------------------------------------|
| | Gross calorific value | DIN EN 15170 (05.09) | <input type="checkbox"/> |
| | 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"/> |
| | | DIN ISO 22036 (06.09) | <input checked="" type="checkbox"/> |
| | Mercury | DIN EN 12846 (08.12)* a method incorrectly specified in legislation; DIN EN ISO 12846 (08.12) correct | <input checked="" type="checkbox"/> |
| | | DIN EN ISO 17852 (04.08) | <input checked="" type="checkbox"/> |
| | Extractable lipophilic substances | LAGA KW/04 (12.09) | <input checked="" type="checkbox"/> |

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| 5.3 | Determination of contents in eluate | | |
| | Eluate preparation with liquid/solid ratio 10/1 | DIN EN 12457- 4 (01.03) | <input checked="" type="checkbox"/> |
| | Eluate preparation each with constant pH 4 and 11 / acid neutralisation capacity | LAGA Guideline EW 98 (2002) | <input checked="" type="checkbox"/> |
| | Up-flow percolation test | DIN CEN/TS 14405 (09.04) | <input type="checkbox"/> |
| | | DIN 19528 (01.09) | <input checked="" type="checkbox"/> |
| | pH value of eluate | DIN 38404- 5 (07.09) | <input checked="" type="checkbox"/> |
| | DOC | DIN EN 1484 (08.97) | <input checked="" type="checkbox"/> |
| | DOC at a pH between 7.5 and 8 | LAGA Guideline EW 98 p (2002) | <input checked="" type="checkbox"/> |
| | Phenols | DIN 38409- 16 (06.84) | <input type="checkbox"/> |
| | | DIN EN ISO 14402 (12.99) | <input checked="" type="checkbox"/> |
| | | DIN 38407- 27 (10.12) | <input type="checkbox"/> |
| | Arsenic | DIN EN ISO 11969 (11.96) | <input type="checkbox"/> |
| | | DIN EN ISO 11885 (09.09) | <input checked="" type="checkbox"/> |
| | | DIN ISO 22036 (06.09) | <input checked="" type="checkbox"/> |
| | | DIN EN ISO 15586 (02.04) | <input type="checkbox"/> |
| | | DIN EN ISO 17294- 2 (02.05) | <input checked="" type="checkbox"/> |
| | | DIN EN ISO 17294-2 (01.17) | <input type="checkbox"/> |

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| Lead, cadmium, copper, nickel, zinc, chromium | DIN EN ISO 15586 (02.04) | <input type="checkbox"/> |
| | DIN EN ISO 17294- 2 (02.05) | <input checked="" type="checkbox"/> |
| | DIN EN ISO 11885 (09.09) | <input checked="" type="checkbox"/> |
| | DIN ISO 22036 (06.09) | <input checked="" type="checkbox"/> |
| | DIN EN ISO 17294-2 (01.17) | <input type="checkbox"/> |
| Mercury | DIN EN ISO 12846 (08.12) | <input checked="" type="checkbox"/> |
| | DIN EN ISO 17852 (04.08) | <input checked="" type="checkbox"/> |
| Barium, molybdenum, selenium | DIN ISO 22036 (06.09) | <input checked="" type="checkbox"/> |
| | DIN EN ISO 11885 (09.09) | <input checked="" type="checkbox"/> |
| | DIN EN ISO 17294- 2 (02.05) | <input checked="" type="checkbox"/> |
| | DIN EN ISO 17294-2 (01.17) | <input type="checkbox"/> |
| Antimony | DIN ISO 22036 (06.09) | <input checked="" type="checkbox"/> |
| | DIN EN ISO 11885 (09.09) | <input checked="" type="checkbox"/> |
| | DIN EN ISO 15586 (02.04) | <input type="checkbox"/> |
| | DIN 38405- 32 (05.00) | <input type="checkbox"/> |
| | DIN EN ISO 17294- 2 (02.05) | <input checked="" type="checkbox"/> |
| | DIN EN ISO 17294-2 (01.17) | <input type="checkbox"/> |
| Total dissolved solids | DIN EN 15216 (01.08) | <input type="checkbox"/> |
| | DIN 38409- 1 (01.87) | <input checked="" type="checkbox"/> |
| | DIN 38409- 2 (03.87) | <input checked="" type="checkbox"/> |
| Conductivity of eluate | DIN EN 27888 (11.93) | <input checked="" type="checkbox"/> |
| Determination of dry residue | DIN EN 14346 (03.07) | <input checked="" type="checkbox"/> |
| Chloride | DIN EN ISO 10304- 1 (07.09) | <input checked="" type="checkbox"/> |
| | DIN 38405- 1 (12.85) | <input type="checkbox"/> |
| | DIN EN ISO 15682 (01.02) | <input type="checkbox"/> |
| Sulphate | DIN EN ISO 10304- 1 (07.09) | <input checked="" type="checkbox"/> |
| | DIN 38405- 5 (01.85) | <input checked="" type="checkbox"/> |
| Cyanide, readily liberated | DIN 38405- 13 (04.11) | <input type="checkbox"/> |
| | In waste containing sulphide: DIN ISO 17380 (05.06) | <input type="checkbox"/> |
| | DIN EN ISO 14403- 1 (10.12) | <input checked="" type="checkbox"/> |

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| | Fluoride | DIN 38405- 4 (07.85) | <input type="checkbox"/> |
| | | DIN EN ISO 10304- 1 (07.09) | <input checked="" type="checkbox"/> |
| 5.4 | Biodegradability of the dry residue of the original substance | Annex 4 No. 3.3 DepV | |
| | Breathability over 4 days (AT ₄) | Annex 4 No. 3.3.1 DepV | <input checked="" type="checkbox"/> |
| | Gas formation over 21 days (GB ₂₁) | Annex 4 No. 3.3.2 DepV | <input type="checkbox"/> |

Test area 6: Wood waste

not used

Abbreviations used:

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| AbfklärV | German Sewage Sludge Ordinance |
| Was | Waste water (including landfill seepage water) |
| BioAbfV | German Biowaste Ordinance |
| CAL-QMA | In-house method of Chemisch Analytisches Laboratorium (Chemical Analytical Laboratory) |
| DIN | Deutsches Institut für Normung e.V. (German Institute for Standardization) |
| DVWK | Deutscher Verband für Wasserwirtschaft und Kulturbau (German Association for Water Management and Land Improvement) |
| EN | European Standard |
| Raw | Raw and groundwater |
| IEC | International Electrotechnical Commission |
| ISO | International Organization for Standardization |
| LAGA | Länderarbeitsgemeinschaft Abfall (Regional Working Group on Waste) |
| LAWA | Länderarbeitsgemeinschaft Wasser (Regional Working Group on Water) |
| Sur | Surface water |
| TrinkwV | German Drinking Water Ordinance |
| UBA | Umweltbundesamt (Federal Environment Agency) |
| VDI | Verein deutscher Ingenieure (Association of German Engineers) |
| VDLUFA | Verband Deutscher Landwirtschaftlicher Untersuchungs- und Forschungsanstalten (Association of German Agricultural Testing and Research Institutions) |

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