

Deutsche Akkreditierungsstelle GmbH

Annex to the accreditation certificate D-PL-14087-01-00 in accordance with ISO/IEC 17025:2005

Validity period: 29/05/2018 to 28/05/2023 Issue date: 29/05/2018 Owner

of the certificate:

**AWV Dr. Busse GmbH
Jößnitzer Straße 113, 08525 Plauen, Germany**

Testing in the following fields:

**Physical, physicochemical and chemical analysis of water, sludge, sediments and eluates;
Physical, physicochemical and chemical analysis of soils and their eluates; analysis of waste material and waste eluates;**

Analysis of waste material for deposition according to the German Landfill Ordinance Annex 4; selected chemical analysis of drinking water in accordance with the German drinking water ordinance, sampling of raw and drinking water;

Analyses of solid fuels, secondary fuels and biofuels; selected analyses of plastics and coating materials; sampling of waste water, swimming and bathing pool water, water from stagnant bodies of water, from aquifers and running waters, sludges, sediments, soils, sewage sludge, compost, as well as recyclable waste material and substances; specialist modules water, soil and contaminated sites, as well as waste

For abbreviations used, please see last page'

Within the scopes specified in chapters 1 and 3 to 6, the test laboratory is permitted to implement the standardised test procedures listed here, or any equivalent procedures, as per the amended standards, without prior information or approval by the DakkS (German Accreditation Body).

The test laboratory has an up-to-date list of all test procedures in a flexible accreditation area.

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1 Analysis of water

1.1 Sampling

ISO 5667-4 1987-04	Water quality - Sampling - Part 4 : Guidance on sampling from lakes, natural and man-made
DIN EN ISO 5667-6 2016-12	Water quality - Sampling - Part 6: Guidance on sampling of rivers and streams
ISO 5667-11 1993-03	Water quality - Sampling - Part 11: guidance on sampling of groundwaters
ISO 5667-18 2001-04	Water quality - Sampling - Part 18 : Guidance on sampling of groundwater at contaminated sites
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 38402-A 19 1988-04	Sampling from swimming and bathing pools <i>(withdrawn standard)</i>
DIN EN ISO 5667-3 (A 21) 2004-05 and amendment 1 2006-08	Water quality - Sampling - Part 3: Preservation and handling of water samples <i>(withdrawn standard)</i>
DIN 4030-2 1991-06	Assessment of water, soil and gases for their aggressiveness to concrete; sampling and analysis of water and soil samples
UBA recommendation 23 August 2012	Systematic analyses of drinking-water installations for the presence of legionella in accordance with the German drinking water ordinance <i>(Deviation: only sampling here)</i>
UBA method, Federal Health Gazette 2003-12, pp. 296–300	Assessment of drinking water quality with regard to the parameters of lead, copper and nickel <i>(Deviation: only sampling here)</i>

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1.2 Physical and physicochemical procedures

DIN EN ISO 10523 (C 5) 2012-04	Water quality - Determination of pH
DIN 38404-C 10 2012-12	Calculation of the calcite saturation of water

1.3 Anions

DIN 38405-D 1-1 1985-12	Quantitative determination of chloride ions according to Mohr
DIN EN ISO 14403 (D 6) 2002-07	Water quality – determination of total cyanide and free cyanide using continuous flow analysis
DIN EN ISO 6878 (D 11) 2004-09	Water quality - Determination of phosphorus - Ammonium molybdate photometric method
DIN 38405-D 13 2011-04	Determination of cyanides
DIN EN ISO 11969 (D 18) 1996-11	Water quality - Determination of arsenic - Atomic absorption spectrometry (hydride system)
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 38405-D 21 1990-10	Photometric determination of dissolved silicate
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 38405-D 26 1989-04	Photometric determination of dissolved sulfide
DIN 38405-D 27 1992-07	Determination of readily liberated sulfide

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DIN EN ISO 18412 (D 40) Water quality - Determination of chromium(VI) -
2007-02 Photometric method for weakly contaminated water

1.4 Cations

DIN 38406-E 1 1983-05	Determination of iron
DIN 38406-E 2 1983-05	Determination of manganese
DIN 38406-E 3 2002-03	Determination of calcium and magnesium, complexometric method
DIN EN ISO 12846 (E 12) 2012-08	Water quality - Determination of mercury - Method using atomic absorption spectrometry
DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (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

1.5 Jointly determinable substances

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>(withdrawn standard)</i>
DIN 38407-F 3 1998-07	Determination of polychlorinated biphenyls by gas chromatography
DIN EN 12673 (F 15) 1999-05	Water quality - Gas chromatographic determination of some selected chlorophenols in water

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DIN EN ISO 17993 (F 18) 2004-03	Water quality – Determination of 15 polycyclic aromatic hydrocarbons (PAH) in water by HPLC with fluorescence detection after liquid-liquid extraction
DIN 38407-F 39 2008-08	Determination of selected polycyclic aromatic hydrocarbons (PAH) - Method using gas chromatography and mass spectrometric detection (GC-MS) <i>(withdrawn standard)</i>
DIN 38407-F 43 2014-10	Determination of selected easily volatile organic compounds in water – Method using gas chromatography and mass spectrometry by static headspace technique (HS-GC-MS)

1.6 Gaseous compounds

DIN EN ISO 7393-2 (G 4-2) 2000-04	Water quality - Determination of free chlorine and total chlorine - Part 2: Colorimetric method using N,N-diethyl-1,4-phenylenediamine, for routine control purposes
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1.7 Summary action and substance parameters

DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate dry residue and residue on ignition
DIN EN 1484 (H 3) 1997-08	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 6 1986-01	Water hardness
DIN 38409-H 7 2005-12	Determination of acid and base-neutralising capacities
DIN 38409-H 8 1984-09	Determination of extractable organically bound halogens (EOX) <i>(withdrawn standard)</i>

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DIN 38409-H 9 1980-07	Determination of the settleable matter by volume in water and waste water
DIN 38409-H 10 1980-07	Determination of the settleable matter by mass concentration in water and waste water
DIN EN ISO 9562 (H 14) 2005-02	Determination of adsorbable organically bound halogens (AOX)
DIN 38409-H 16 1984-06	Determination of the phenol index
DIN 38409-H 22 2001-02	Determination of dissolved adsorbable and organically bound halogens in salt loaded water (SPE-AOX)
DEV H 25 22nd delivery 1989	Determination of purgeable organically bound halogens (POX)
DIN EN ISO 14402 (H 37) 1999-12	Water quality - Determination of phenol index by flow analysis (FIA and CFA)
DIN 38409-H 44 1992-05	Determination of the chemical oxygen demand (COD), ranging from 5 to 50 mg/l
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

2 Sampling, sample preparation and analysis of waste materials according to the German Landfill Ordinance, Annex 4

DepV, Annex 4	Parameter	Section 8, Para. 1, 3 and 5, DepV	
2	Sampling	LAGA PN 98 (December 2001)	<input checked="" type="checkbox"/>
3	Determination of total content in solids and the elutable proportion		
3.1	Determination of total content in solids		
3.1.1	Sample preparation	DIN 19747 (July 2009)	<input checked="" type="checkbox"/>

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DepV, Annex 4	Parameter	Section 8, Para. 1, 3 and 5, DepV	
3.1.2	Digestion method (aqua regia)	DIN EN 13657 (January 2003)	<input checked="" type="checkbox"/>
3.1.3	Organic proportion of dry residue of the original substance		
3.1.3.1	Loss on ignition	DIN EN 15169 (May 2007)	<input checked="" type="checkbox"/>
3.1.3.2	TOC (total organic carbon)	DIN EN 13137 (December 2001)	<input checked="" type="checkbox"/>
3.1.4	BTEX (benzene; toluene; ethylbenzene; o, m and p-xylene; styrene; cumene)	DIN 38407-F 9 (May 1991)	<input checked="" type="checkbox"/>
		Contaminated sites manual HLUG, Volume 7, Part 4 (2000)	<input checked="" type="checkbox"/>
3.1.5	PCB (polychlorinated biphenyls – sum of 7 PCB congeners, PCB-28, -52, -101, -118, -138, -153, -180)	DIN EN 15308 (May 2008)	<input checked="" type="checkbox"/>
3.1.6	Mineral oil hydrocarbons (C 10 to C40)	DIN EN 14039 (January 2005) in connection with LAGA KW/04 (December 2009)	<input checked="" type="checkbox"/>
3.1.7	PAH (polycyclic aromatic hydrocarbons)	DIN ISO 18287 (May 2006)	<input checked="" type="checkbox"/>
3.1.8	Density	DIN 18125-2 (March 2011)	<input type="checkbox"/>
3.1.9	Calorific value	DIN EN 15170 (May 2009)	<input checked="" type="checkbox"/>
03/01/2010	Cadmium, chromium, copper, nickel, lead, zinc	DIN ISO 11047 (May 2003)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
03/01/2011	Mercury	DIN EN ISO 12846 (E 12) (August 2012)	<input checked="" type="checkbox"/>
		DIN EN ISO 17852 (E 35) (April 2008)	<input type="checkbox"/>
03/01/2012	Extractable lipophilic substances	LAGA KW/04 (December 2009)	<input checked="" type="checkbox"/>
3.2	Determination of content in the eluate		
3.2.1	Eluate production		
3.2.1.1	Eluate production with a liquid/solid ratio of 10/1	DIN EN 12457-4 (January 2003)	<input checked="" type="checkbox"/>
3.2.1.2	Eluate production with the relevant pH value 4 and 11/acid neutralisation capacity	LAGA regulation EW 98 (2002)	<input type="checkbox"/>

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DepV, Annex 4	Parameter	Section 8, Para. 1, 3 and 5, DepV	
3.2.2	Percolation test in the upward stream	DIN 19528 (January 2009)	<input type="checkbox"/>
		DIN CEN/TS 14405 (September 2004)	<input type="checkbox"/>
3.2.3	pH value of the eluate	DIN 38404-5 (July 2009)	<input checked="" type="checkbox"/>
3.2.4	DOC (dissolved organic carbon)		
3.2.4.1	DOC	DIN EN 1484 (H 3) (August 1997)	<input checked="" type="checkbox"/>
3.2.4.2	DOC with a pH value between 7.5 and 8	LAGA regulation EW 98 (2002)	<input type="checkbox"/>
3.2.5	Phenols	DIN 38409-H 16 (June 1984)	<input type="checkbox"/>
		DIN EN ISO 14402 (H 37) (December 1999)	<input checked="" type="checkbox"/>
3.2.6	Arsenic	DIN EN ISO 11969 (D 18) (November 1996)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
3.2.7	Lead	DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
3.2.8	Cadmium	DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>

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DepV, Annex 4	Parameter	Section 8, Para. 1, 3 and 5, DepV	
3.2.9	Copper	DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
03/02/2010	Nickel	DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
03/02/2011	Mercury	DIN EN ISO 12846 (E 12) (August 2012)	<input checked="" type="checkbox"/>
		DIN EN ISO 17852 (E 35) (April 2008)	<input type="checkbox"/>
03/02/2012	Zinc	DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
		DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
03/02/2013	Chloride	DIN EN ISO 10304-1 (D 20) (July 2009)	<input checked="" type="checkbox"/>
		DIN 38405-D 1 (December 1985)	<input type="checkbox"/>
		DIN EN ISO 15682 (D 31) (January 2002)	<input type="checkbox"/>
03/02/2014	Sulphate	DIN EN ISO 10304-1 (D 20) (July 2009)	<input checked="" type="checkbox"/>
		DIN 38405-D 5 (January 1985)	<input type="checkbox"/>

DepV, Annex 4	Parameter	Section 8, Para. 1, 3 and 5, DepV	
03/02/2015	Cyanide, readily liberated	DIN 38405-D 13 (April 2011)	<input checked="" type="checkbox"/>
		With sulphide-containing waste: DIN ISO 17380 (May 2006)	<input type="checkbox"/>
		DIN EN ISO 14403-1 (D 2) (October 2012)	<input type="checkbox"/>
03/02/2016	Fluoride	DIN 38405-D 4 (July 1985)	<input checked="" type="checkbox"/>
		DIN EN ISO 10304-1 (D 20) (July 2009)	<input type="checkbox"/>
03/02/2017	Barium	DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
03/02/2018	Chromium, total	DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input type="checkbox"/>
		DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
03/02/2019	Molybdenum	DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
03/02/2020	Antimony	DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (February 2004)	<input type="checkbox"/>
		DIN 38405-E 32 (May 2000)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>

DepV, Annex 4	Parameter	Section 8, Para. 1, 3 and 5, DepV	
03/02/2021	Selenium	DIN ISO 22036 (June 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (September 2009)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (February 2005)	<input type="checkbox"/>
03/02/2022	Total content of dissolved solids	DIN EN 15216 (January 2008)	<input checked="" type="checkbox"/>
		DIN 38409-H 1 (January 1987)	<input checked="" type="checkbox"/>
		DIN 38409-H 2 (March 1987)	<input checked="" type="checkbox"/>
03/02/2023	Conductivity of the eluate	DIN EN 27888 (C 8) (November 1993)	<input checked="" type="checkbox"/>
03/02/2024	Determination of dry residue	DIN EN 14346 (March 2007)	<input checked="" type="checkbox"/>
3.3	Biological degradability of dry residue of the original substance		
3.3.1	Respiratory activity over 4 days (AT ₄)		<input type="checkbox"/>
3.3.2	Gas generation rate in the fermentation test over 21 days (GB ₂₁)		<input type="checkbox"/>

3 Test procedures according to German drinking water

ordinance - TrinkwV -

Sampling

Procedure	Title
DIN EN ISO 5667-01 (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 1: Preservation and handling of water samples
DIN EN ISO 19458 (K 19) 2006-12	Water quality - Sampling for microbiological analysis
Federal Health Gazette - health research - health protection 2004	Recommendation of the German Federal Environment Agency Assessment of drinking water quality with regard to the parameters of lead, copper and nickel

47:296-300	
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Only valid in conjunction with the German original version

ANNEX 1: MICROBIOLOGICAL PARAMETERS

PART I: General requirements for drinking water

not documented

PART II: Requirements for drinking water intended for supply in closed containers

not documented

ANNEX 2: CHEMICAL PARAMETERS

PART I: Chemical parameters whose concentration generally doesn't further increase within the distribution network, including the drinking water installation

Serial no.	Parameter	Procedure
1	Acrylamide	not documented
2	Benzene	DIN 38407-F 43 2014-10
3	Boron	DIN EN ISO 11885 (E 22) 2009-09
4	Bromate	not documented
5	Chromium	DIN EN ISO 11885 (E 22) 2009-09
6	Cyanide	DIN EN ISO 14403 (D 6) 2002-07
7	1,2-Dichlorethane	DIN EN ISO 10301 (F 4) 1997-08
8	Fluoride	DIN 38405-D 4 1985-07
9	Nitrate	DIN EN ISO 10304-1 (D 20) 2009-07
10	Active components in agricultural pesticides and biocides	not documented
11	Active components in agricultural pesticides and biocides, overall	not documented
12	Mercury	DIN EN ISO 12846 (E 12) 2012-08
13	Selenium	DIN EN ISO 11885 (E 22) 2009-09
14	Tetrachlorethylene and trichlorethylene	DIN EN ISO 10301 (F 4) 1997-08
15	Uranium	not documented

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

Serial no.	Parameter	Procedure
1	Antimony	DIN EN ISO 11885 (E 22) 2009-09
2	Arsenic	DIN EN ISO 11885 (E 22) 2009-09
3	Benzo-(a)-pyrene	DIN EN ISO 17993 (F 18) 2004-03
4	Lead	DIN EN ISO 11885 (E 22) 2009-09
5	Cadmium	DIN EN ISO 11885 (E 22) 2009-09
6	Epichlorohydrin	not documented

Serial no.	Parameter	Procedure
7	Copper	DIN EN ISO 11885 (E 22) 2009-09
8	Nickel	DIN EN ISO 11885 (E 22) 2009-09
9	Nitrite	DIN EN 26777 (D 10) 1993-04
10	Polycyclic aromatic hydrocarbons	DIN EN ISO 17993 (F 18) 2004-03
11	Trihalogenmethane	DIN EN ISO 10301 (F 4) 1997-08
12	Vinylchloride	DIN EN ISO 10301 (F 4) 1997-08

ANNEX 3: INDICATOR PARAMETERS

Part I: General indicator parameters

Serial no.	Parameter	Procedure
1	Aluminium	DIN EN ISO 11885 (E 22) 2009-09
2	Ammonium	DIN EN ISO 11732 (E 23) 2005-05
3	Chloride	DIN EN ISO 10304-1 (D 20) 2009-07
4	Clostridium perfringens (including spores)	not documented
5	Coliform bacteria	not documented
6	Iron	DIN EN ISO 11885 (E 22) 2009-09
7	Colour (spectral absorption coefficient Hg 436 nm)	DIN EN ISO 7887 (C 1-2) 1994-12
8	Odour	DIN EN 1622 (B 3) 2006-10
9	Taste	DEV B1/2 Part a 1971
10	Colony count at 22 °C	not documented
11	Colony count at 36 °C	not documented
12	Electrical conductivity	DIN EN 27888 (C 8) 1993-11
13	Manganese	DIN EN ISO 11885 (E 22) 2009-09
14	Sodium	DIN EN ISO 11885 (E 22) 2009-09
15	Total organic carbon (TOC)	not documented
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

Part II: Special requirements for drinking water in systems of the drinking water installation

not documented

ANNEX 3a: Requirements for drinking water as regards radioactive substances

not documented

**Parameters that are not included in Annex 1 to 3 of the German drinking water ordinance;
other periodic analyses**

Parameter	Procedure
Calcium	DIN EN ISO 11885 (E 22) 2009-09
Potassium	DIN EN ISO 11885 (E 22) 2009-09
Magnesium	DIN EN ISO 11885 (E 22) 2009-09
Acidity	DIN 38409-H7 2004-03
Phosphate	DIN EN ISO 6878 2004-09

Accreditation does not replace the procedure for approval or certification by the competent authority according to section 15, item 4, TrinkwV.

4 Analysis of soils and soil eluates

4.1 Sampling

DIN EN 932-1 1996-11	Test for general properties of aggregates - Part 1: Methods for sampling
DIN 4030-2 1991-06	Assessment of water, soil and gases for their aggressiveness to concrete; sampling and analysis of water and soil samples
AbfKlärv (Sewage Sludge Directive), Annex 1, 2.1 1992-04	Sampling, sample preparation and analysis of sewage sludge and soil

4.2 Preparation and pretreatment of samples

DIN ISO 11464 2006-12	Soil quality - Pretreatment of samples for physicochemical analyses (<i>withdrawn standard</i>)
DIN ISO 11466 1997-06	Soil quality - extraction of soluble trace elements in aqua regia
DIN ISO 14507 2004-07	Soil quality - sample pretreatment for determining of organic contaminations in soils (<i>withdrawn standard</i>)
DIN 19747 2009-07	Investigation of solids - Pre-treatment, preparation and processing of samples for chemical, biological and physical investigations

DIN 38414-S 4 1984-10	Determination of leachability by water
VDLUFA I, D 2.1 1997	Determination of the soil texture of fine soil using the finger test method

4.3 Physical and physicochemical procedures

DIN ISO 11265 1997-06	Soil quality - Determination of the specific electrical conductivity
VDLUFA I, A 5.1.1 1991	Determination of the pH value

4.4 Inorganic parameters

ISO 11262 2012-04	Soil quality - Determination of cyanide
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 38405-D 24 1987-05	Photometric determination of chromium(VI) using 1,5-diphenylcarbonohydrazide

4.5 Jointly determinable parameters

DIN ISO 10694 1996-08	Soil quality - Determination of organic carbon and total organic carbon after dry combustion (elementary analysis)
DIN ISO 13877 2000-10	Soil quality - Determination of polycyclic aromatic hydrocarbons - Method using high-performance liquid chromatography (HPLC)

DIN ISO 14154 2005-12	Soil quality - Determination of some selected chlorophenols - Gas-chromatographic method
DIN EN ISO 16703 2011-09	Soil quality - Determination of content of hydrocarbon in the range C ₁₀ to C ₄₀ by gas chromatography
DIN ISO 18287 2006-05	Soil quality - Determination of polycyclic aromatic hydrocarbons - Gas chromatographic method with mass spectrometric detection (GC-MS)
DIN ISO 22155 2006-07	Soil quality - Gas chromatographic determination of the proportion of volatile aromatic and halogenated hydrocarbons and selected ethers - Static headspace method
DIN EN ISO 14402 (H 37) 1999-12	Water quality - Determination of phenol index by flow analysis (FIA and CFA) (Deviation for soils: <i>extraction using CuSO₄ + H₃PO₄, preservation using H₂SO₄ 1:4</i>)
DIN EN 13137 2001-12	Characterisation of waste - Determination of total organic carbon (TOC) in waste, sludges and sediments
DIN EN 15308 2016-12	Characterisation of waste - Determination of selected polychlorinated biphenyls (PCB) in solid waste by gas chromatography with electron capture or mass spectrometric detection (also applies to polychlorinated terphenyls - PCT)
DIN EN 15527 2008-09	Determination of polycyclic aromatic hydrocarbons (PAH) in waste using gas chromatography mass spectrometry (GC/MS)
DIN 38409-H 16-3 1984-06	Determination of the phenol index (Deviation for soils: <i>Suspending the samples using de-ionised water, pH = 0.5; steam distillation, UV/VIS photometry</i>)
DIN 38414-S 17 2012-02	Determination of extractable organically bound halogens (EOX)
DIN 38414-S 18 1989-11	Determination of adsorbed organically bound halogens (AOX)

DIN 38414-S 20 1996-01	Sludge and sediments - Determination of 6 polychlorinated biphenyls
DIN 38414-S 23 2002-02	Sludge and sediments - Determination of 15 polycyclic aromatic hydrocarbons (PAH) by high performance liquid chromatography (HPLC) and fluorescence detection
DIN ISO 10382 2003-05	Soil quality - Determination of polychlorinated biphenyls
DEV H 25 22nd delivery 1989	Determination of purgeable organically bound halogens (POX)
Contaminated sites manual HLUG, Volume 3, Part 5 2001	Assessment of mineral oil gas chromatograms
Contaminated sites manual HLUG, Volume 7, Part 1 1998	Determining PAHs in solids taken from contaminated sites
Contaminated sites manual HLUG, Volume 7, Part 4 1998-03	Determination of highly volatile halogenated and aromatic hydrocarbons (HVC, BTX); gas chromatographic methods, overcoating using methanol, GC/MS detection
LAGA regulation KW/04 2004-11	Determination of content of hydrocarbons in waste (deviation for soils: <i>extraction in ultrasonic bath</i>)
Memorandum no. 1 by LUA-NRW 1994-04	Determination of polycyclic aromatic hydrocarbons (PAH) in soil samples

5 Analysis of waste and its eluates

5.1 Sampling

DIN EN ISO 5667-13 (S 1) 1998-02	Sampling - Instructions for taking samples from sludges obtained from water treatment and water purification plants (<i>withdrawn standard</i>)
DIN EN 12176 (S 5) 1998-06	Characterisation of sludge - Determination of pH

AbfKlärv, Annex 1, 1.1-1.3, 2.1 1992-04	Sampling - sample preparation and analysis of sewage sludge and soil
LAGA regulation PN 1/75 1975	Regulation on procedures for physical and chemical analyses in connection with waste disposal - taking of water samples (<i>withdrawn regulation</i>)
LAGA regulation PN 2/78 1983-12	Regulation on procedures for physical and chemical analyses in connection with waste disposal - taking and preparation of samples from solid, sludgy and liquid waste
LAGA regulation PN 2/78 K 1983-12 and PN 98 2002	Regulation on procedures for physical and chemical analyses in connection with waste disposal - basic rules for taking samples from waste material and disposed substances

5.2 Preparation and pretreatment of samples

DIN ISO 11464 2006-12	Soil quality - Pretreatment of samples for physicochemical analyses (<i>withdrawn standard</i>)
DIN ISO 11466 1997-06	Soil quality - extraction of soluble trace elements in aqua regia (<i>application for waste</i>)
DIN ISO 14507 2004-07	Soil quality - sample pretreatment for determining of organic contaminations in soils (<i>withdrawn standard</i>)
DIN EN 12457-1 2003-01	Characterisation of waste - Leaching; Compliance test for leaching of granular waste and sludges - Part 1: One stage batch test at a liquid to solid ratio of 2 l/kg with particle size below 4 mm (without or with particle size reduction)
DIN EN 12457-2 2003-01	Characterisation of waste - Leaching; Compliance test for leaching of granular waste and sludges - Part 2: One stage batch test at a liquid to solid ratio of 10 l/kg with particle size below 4 mm (without or with particle size reduction)

DIN EN 15002 2006-05	Characterisation of waste - Preparation of test portions from the laboratory sample (<i>withdrawn standard</i>)
DIN EN 16174 2012-12	Sludge, treated biowaste and soil – Digestion of aqua regia soluble fractions of elements
DIN 1744-3 2002-11	Tests for chemical properties of aggregates - Part 3: Preparation of eluates by leaching of aggregates
DIN 19527 2010-05	Elution of solid materials - Batch test for the analysis of the elution behaviour of organic substances at a liquid to solid ratio of 2 l/kg
DIN 19529 2009-01	Leaching of solid materials - Batch test for the analysis of the leaching behaviour of inorganic and organic substances at a liquid to solid ratio of 2 l/kg
DIN 19734 1999-01	Soil quality - Determination of chromium (VI) in phosphate-buffered solutions (<i>withdrawn standard</i>)
DIN 19747 2009-07	Investigation of solids - Pre-treatment, preparation and processing of samples for chemical, biological and physical investigations
DIN 38414-S 4 1984-10	Determination of leachability by water
AltholzV (Waste Wood Ordinance), Annex IV No. 1.2 in connection with DIN 51701-03 1998-08	Preparation of laboratory samples, division of samples
AbfKlärv (Sewage Sludge Directive), Annex 1, 2.1 1992-04	Sampling, sample preparation and analysis of sewage sludge and soil
TP Min-StB, Part 7.1.2 1999	Technical test regulation for minerals in road construction - trough method

5.3 Physical and physicochemical procedures

DIN ISO 11265 1997-06	Soil quality - Determination of the specific electrical conductivity
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DIN ISO 11465 1996-12	Soil quality - Determination of dry residue and water content by mass - gravimetric method <i>(withdrawn standard)</i>
DIN EN 1484 (H3) 1997-08	Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC)
DIN EN 12176 (S 5) 1998-06	Characterisation of sludge - Determination of pH <i>(withdrawn standard)</i>
DIN EN 12879 (S 3a) 2001-02	Characterisation of sludges - Determination of loss on ignition of dry matter
DIN EN 12880 (S 2a) 2001-02	Characterisation of sludges - Determination of dry residue and water content
DIN EN 13137 2001-12	Characterisation of waste - Determination of total organic carbon (TOC) in waste, sludges and sediments
DIN EN 14346 2007-03	Characterisation of waste - Calculation of dry matter by determination of dry residue or water content
DIN EN 15169 2007-05	Characterisation of waste - Determination of loss on ignition in waste
DIN EN 15170 2009-05	Characterisation of sludges - Determination of calorific value
DIN EN 15216 2008-01	Characterisation of waste - Determination of total dissolved solids (TDS) in water and eluates
DIN 19539 2016-12	Investigation of solids – Temperature-dependent differentiation of total carbon (TOC ₄₀₀ , ROC, TIC ₉₀₀)
DIN 38409-H 1-2 2001-02	Residue on evaporation and substances removable by filtration <i>(Deviation for waste: Determination after eluate preparation at 105°C with subsequent weighing until a consistent mass is obtained)</i>

5.4 Determination of inorganic parameters

ISO 11262 2012-04	Soil quality - Determination of total cyanide
DIN ISO 17380 2006-05	Soil quality - Determination of total cyanide and easily liberatable cyanide - Continuous flow analysis method
DIN EN ISO 10304-1 (D 20) 2009-07	Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulphate (deviation for waste: <i>elution with water</i>)
DIN EN 1483 (E 12) 2007-07	Water quality – Determination of mercury (<i>withdrawn standard</i>) (Deviation for waste: <i>Determination in aqua regia extraction solution, compensation of matrix interferences</i>)
DIN EN 14582 2007-06	Characterisation of waste - Halogen and sulphur content - Oxygen combustion in closed systems and determination methods
DIN 38405-D 24 1987-05	Photometric determination of chromium(VI) using 1,5-diphenylcarbonohydrazide

5.5 Determination of organic parameters

DIN ISO 13877 2000-01	Soil quality - Determination of polycyclic aromatic hydrocarbons - Method using high-performance liquid chromatography (HPLC)
DIN EN ISO 11890-2 2007-02	Paints and varnishes – Determination of volatile organic compound (VOC) content Part 2: Gas-chromatographic method (<i>application for soil</i>)
DIN EN ISO 14402 (H 37) 1999-12	Water quality - Determination of phenol index by flow analysis (FIA and CFA) (Deviation for soils: <i>extraction using CuSO₄ + H₃PO₄, preservation using H₂SO₄ 1:4</i>)
DIN EN ISO 16703 2011-09	Soil quality - Determination of content of hydrocarbon in the range C ₁₀ to C ₄₀ by gas chromatography

DIN 38409-H 16-3 1984-06	Determination of the phenol index (Deviation for soils: <i>Suspending the samples using de-ionised water, pH = 0.5; steam distillation, UV/VIS photometry</i>)
DIN 38414-S 17 1989-11	Determination of purgeable and extractable organically bound halogens (EOX) <i>(withdrawn standard)</i>
DIN 38414-S 18 1989-11	Determination of adsorbed organically bound halogens (AOX)
DEV H 25 22nd delivery 1989	Determination of purgeable organically bound halogens (POX)
AltholzV A IV No. 1.4.4. 2002-08	Determination of pentachlorophenol (PCP) <i>(also applicable here to gamma-HCH and hexachlorobenzene)</i>
Contaminated sites manual HLUG, Volume 3, Part 5 2001	Assessment of mineral oil gas chromatograms
Contaminated sites manual HLUG, Volume 7, Part 3 2001	Determining mineral oil hydrocarbons by means of capillary gas chromatography in solids from contaminated areas
Contaminated sites manual HLUG, Volume 7, Part 4 2001	Determination of highly volatile and aromatic hydrocarbons (HVC, BTX); gas chromatographic methods, overcoating using methanol, GC/MS detection
Memorandum no. 1 by LUA-NRW 1994-04	Determination of polycyclic aromatic hydrocarbons (PAH) in soil samples

6 Analysis of liquid and solid fuels

6.1 Liquid fuels

6.1.1 Sample pre-treatment

DIN EN 13346
2001-04 Characterization of sludges - Determination of trace elements and phosphorus - Aqua regia extraction methods
(Deviation: *Aqua regia extraction is performed from the petroleum products that have been reduced to ashes at 550°C as per DIN EN ISO 6245*)

6.1.2 Physical and physicochemical procedures

DIN EN ISO 2592 2002-09	Petroleum products - Determination of flash and fire points - Cleveland open cup method
DIN EN ISO 2719 2003-09	Petroleum and fuels - Determination of flash point; Pensky-Martens closed cup method
DIN EN 12766-1 2001-11	Petroleum products and used oils - Determination of PCBs and related products - Part 1: Separation and determination of selected PCB congeners by gas chromatography (GC) using an electron capture detector (ECD)
DIN EN 12766-2 2001-12	Petroleum products and used oils - Determination of PCBs and related products - Part 2: Calculation of polychlorinated biphenyl (PCB) content
DIN EN 12766-3 and corrigendum 2007-06	Petroleum products and used oils - Determination of PCBs and related products - Part 3: Determination and quantification of polychlorinated terphenyls (PCT) content by gas chromatography (GC) using an electron capture detector (ECD)
DIN 51900-1 2000-04	Testing of solid and liquid fuels - Determination of gross calorific value using the bomb calorimeter and calculation of net calorific value - Basic principles, apparatus, methods
DIN 51900-2 2003-05	Testing of solid and liquid fuels - Determination of gross calorific value using the bomb calorimeter and calculation of net calorific value - Method using isoperibol calorimeter

6.1.3 Inorganic parameters

DIN EN ISO 8754 2003-12	Petroleum products - Determination of sulphur content - Energy-dispersive X-ray fluorescence spectrometry
DIN EN 14582 2016-12	Characterisation of waste - Halogen and sulphur content - Oxygen combustion in closed systems and determination methods
DIN 51577-4 1994-02	Testing of mineral oil hydrocarbons and similar products; determination of chlorine and bromine content; analysis by energy dispersive X-ray spectrometry with low cost instruments <i>(here: determination of chlorine)</i>

6.1.4 Jointly determinable parameters

DIN 51777-1 1983-03	Testing of mineral oil hydrocarbons and solvents; determination of water content according to Karl Fischer; direct method
DIN EN ISO 12937 2002-03	Petroleum products - Determination of water - Coulometric Karl Fischer titration method

6.2 Analysis of solid fuels, secondary fuels, and biofuels

6.2.1 Solid fuels

DIN 51718 2002-06	Testing of solid fuels - Determination of the water content and the moisture of analysis sample
DIN 51719 1997-07	Testing of solid fuels - Solid mineral fuels - Determination of ash content
DIN 51720 2001-03	Testing of solid fuels - Determination of volatile matter content
DIN 51723 2002-06	Testing of solid fuels - Determination of fluorine content
DIN 51724-3 2012-07	Testing of solid fuels - Determination of sulphur content - Part 3: Instrumental methods

DIN 51727 2011-11	Testing of solid fuels - Determination of chlorine content
DIN 51729-11 1998-11	Testing of solid fuels - Determination of chemical composition of fuel ash - Part 11: Determination by inductively coupled plasma emission spectrometry (ICP-OES)
DIN 51732 2014-07	Testing of solid mineral fuels - Determination of total carbon, hydrogen and nitrogen - Instrumental methods
DIN 51900-1 2000-04	Testing of solid and liquid fuels - Determination of gross calorific value using the bomb calorimeter and calculation of net calorific value - Basic principles, apparatus, methods
DIN 51900-2 2003-05	Testing of solid and liquid fuels - Determination of gross calorific value using the bomb calorimeter and calculation of net calorific value - Method using isoperibol calorimeter
ASTM D 4239 2008	Standard test methods for sulphur in the analysis sample of coal and coke using high temperature tube furnace combustion methods (sample preparation: <i>instead of carbon/coke, analysis of petroleum products after mixing with inert quartz/sea sand</i>) (<i>withdrawn standard</i>)
ASTM D 5373 2008	Standard test methods for instrumental determination of carbon, hydrogen and nitrogen in laboratory samples of coal (sample preparation deviation: <i>instead of carbon/coke, analysis of petroleum products after mixing with inert quartz/sea sand</i>)

6.2.2 Secondary fuels

DIN 19539 2016-12	Temperature-dependent differentiation of total carbon (TOC ₄₀₀ , ROC, TIC ₉₀₀)
DIN EN 15400 2011-05	Solid recovered fuels - Determination of calorific value
DIN EN 15403 2011-05	Solid recovered fuels - Determination of ash content

DIN EN 15407 2011-05	Solid recovered fuels - Methods for the determination of carbon (C), hydrogen (H) and nitrogen (N) content
DIN EN 15408 2011-05	Solid recovered fuels - Methods for the determination of sulphur (S), chlorine (Cl), fluorine (F) and bromine (Br) content
DIN CEN/TS 15412 2010-09	Solid recovered fuels - Method for determination of the content of metallic aluminium
DIN EN 15413 2011-11	Solid recovered fuels - Methods for the preparation of the test sample from the laboratory sample
DIN CEN/TS 15414-2 2010-10	Solid recovered fuels - Determination of the water content using the oven dry method - Part 2: Determination of the total water content using a simplified method
DIN EN 15414-3 2011-05	Solid recovered fuels - Determination of the water content using the oven dry method - Part 3: Moisture in general analysis samples
DIN EN 15440 2011-05	Solid recovered fuels - Methods for the determination of biomass content
DIN EN 15443 2011-05	Solid recovered fuels - Methods for the preparation of laboratory samples

6.2.3 Biofuels

DIN EN ISO 14780 2017-08	Solid biofuels - Sample preparation
DIN EN ISO 16948 2015-09	Solid biofuels - Method for determination of the overall content of total carbon, hydrogen and nitrogen - Instrumental methods
DIN EN ISO 16993 2016-11	Solid biofuels - Conversion of analytical results from one basis to another
DIN EN ISO 16994 2016-12	Solid biofuels - Determination of total content of sulfur and chlorine

DIN EN ISO 17827-1 2016-10	Solid biofuels - Determination of particle size distribution for uncompressed fuels - Part 1: Oscillating screen method using sieves with apertures of 3.15 mm and above
DIN EN ISO 17827-2 2016-10	Solid biofuels - Determination of particle size distribution for uncompressed fuels - Part 2: Vibrating screen method using sieves with aperture of 3.15 mm and below
DIN EN ISO 17828 2016-05	Solid biofuels - Determination of bulk density
DIN EN ISO 18122 2016-03	Solid biofuels - Determination of ash content
DIN EN ISO 18125 2017-08	Solid biofuels - Determination of calorific value
DIN EN ISO 18134-2 2017-05	Solid biofuels - Determination of moisture content - Oven dry method - Part 2: Total moisture - Simplified method
DIN EN 18134-3 2015-12	Solid biofuels - Determination of moisture content - Oven dry method - Part 3: Moisture in general analysis sample

7 Chemical products

7.1 Selected analyses of plastics

VDA 275 1994-07	Moulded parts for vehicle interiors; Determination of formaldehyde release; Measuring methods according to the modified flask method
AWV-01 2018-02	Determination of acetaldehyde and total carbon emission in PET granulates by means of the HS-GCFID technique

7.2 Selected analyses of spreading grits for winter service

DIN EN 16811-1 Annex C.1 2016-10	Winter service equipment and products - De-icing agents - Part 1: Sodium chloride - Requirements and test methods (potentiometer method)
DIN EN 16811-1 Annex C.2 2016-10	Winter service equipment and products - De-icing agents - Part 1: Sodium chloride - Requirements and test methods; determination of aluminium, arsenic, cadmium, calcium, chromium, cobalt, copper, lead, magnesium, nickel and zinc by ICP-OES
DIN EN 16811-1 Annex C.3 2016-10	Winter service equipment and products - De-icing agents - Part 1: Sodium chloride - Requirements and test methods; determination of total mercury (cold vapour atomic absorption spectrometry)
DIN EN 16811-1 Annex C.4 2016-10	Winter service equipment and products - De-icing agents - Part 1: Sodium chloride - Requirements and test methods; determination of anti-caking agent
ISO 2480 1972-15	Sodium chloride for industrial use - Determination of sulphate content - Gravimetric method
ISO 2483 1973-01	Sodium chloride for industrial use - Determination of the loss of mass at 110°C
DIN 66165-2 1987-04	Particle size analysis - Sieving analysis; Procedure
ISO 2591-1 1988-01	Part 1: Methods using test sieves of woven wire cloth and perforated metal plate

8 List of test methods for the specialist module LAWA water, dated: 13/11/2015

Subsection 1: Sampling and general parameters

Parameter	Procedure	Waste	Surface	Ground
Sampling of waste water	DIN 38402-A 11: 2009-02	<input checked="" type="checkbox"/>		
Sampling of water from running waters	DIN 38402-A 15: 1986-07		<input checked="" type="checkbox"/>	
	DIN 38402-A 15: 2010-04		<input checked="" type="checkbox"/>	
Sampling of water from aquifers	DIN 38402-A 13: 1985-12			<input checked="" type="checkbox"/>
Sampling of water from stagnant bodies of water	DIN 38402-A 12: 1985-06		<input checked="" type="checkbox"/>	

Parameter	Procedure	Waste	Surface	Ground
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"/>
Colour	DIN EN ISO 7887: 1994-12 (C 1) Para. 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 voltage	DIN 38404-C 6: 1984-05			<input checked="" type="checkbox"/>

Subsection 2: Photometry, ion chromatography, titration

Parameter	Procedure	Waste	Surface	Ground
UV absorption at 254 nm (SAK 254)	DIN 38404-C 3: 2005-07		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
UV absorption at 436 nm (SAK 436)	DIN EN ISO 7887: 2012-09 (C 1)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrite nitrogen	DIN EN 26777: 1993-04 (D 10)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 10304-1: 2009-07 (D 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input 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"/>
	DIN ISO 15923-1: 2014-07 (D 49)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total phosphorous	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 type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 6878: 2004-09 (D 11)		<input checked="" type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>

Parameter	Procedure	Waste	Surface	Ground
Fluoride (solution)	DIN 38405-D 4, Section 1985-07	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 10304-1: 2009-07 (D 20)	<input type="checkbox"/>	<input type="checkbox"/>	<input 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"/>
	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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 14403-1: 2012-10 (D 2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14403-2: 2012-10 (D 3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38405-D 7: 2002-04		<input type="checkbox"/>	<input type="checkbox"/>
Cyanide (total)	DIN 38405-D 13-2: 1981-02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 14403-1: 2012-10 (D 2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14403-2: 2012-10 (D 3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38405-D 7: 2002-04		<input type="checkbox"/>	<input type="checkbox"/>
Chromium VI	DIN 38405-D 24: 1987-05	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 10304-3: 1997-11 (D 22), Section 6 (chromate solution)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 23913: 2009-09 (D 41)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 18412: 2007-02 (D 40)			<input type="checkbox"/>
Sulphide (readily liberated)	DIN 38405-D 27: 1992-07	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Subsection 3: Element analysis

Parameter	Procedure	Waste	Surface	Ground
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 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"/>
Arsenic	DIN EN ISO 11969: 1996-11 (D 18)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)	<input checked="" type="checkbox"/>		
	DIN EN ISO 17294-2: 2005-02 (E 29)	<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 38405-D 35: 2004-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Parameter	Procedure	Waste	Surface	Ground
Lead	DIN EN ISO 11885: 2009-09 (E 22)	<input checked="" 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 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"/>
Cadmium	DIN EN ISO 11885: 2009-09 (E 22)	<input checked="" 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 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"/>
Calcium	DIN EN ISO 11885: 2009-09 (E 22)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN 38406-E 3: 2002-03		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 7980: 2000-07 (E 3a)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>
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 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"/>
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 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"/>
Manganese	DIN EN ISO 11885: 2009-09 (E 22)			<input checked="" type="checkbox"/>
	DIN EN ISO 17294-2: 2005-02 (E 29)			<input 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"/>

Parameter	Procedure	Waste	Surface	Ground
Sodium	DIN 38406-E 14: 1992-07	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	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"/>
	DIN EN ISO 14911: 1999-12 (E 34)	<input type="checkbox"/>	<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 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"/>
Mercury	DIN EN 1483: 2007-07 (E 12)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17852: 2008-04 (E 35)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 12846: 2012-08 (E 12)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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 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"/>
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 checked="" 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 the original sample as phosphorus)	DIN EN ISO 11885: 2009-09 (E 22)	<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"/>

Subsection 4/5: Group and sum parameters

Parameter	Procedure	Waste	Surface	Ground
Biological oxygen demand (BOD ₅)	DIN EN 1899-1: 1998-05 (H 51)	<input checked="" type="checkbox"/>		
	DIN EN 1899-2: 1998-05 (H 52)		<input type="checkbox"/>	
Chemical oxygen demand (COD)	DIN 38409-H 41: 1980-12	<input checked="" type="checkbox"/>		
	DIN 38409-H 44: 1992-05		<input checked="" type="checkbox"/>	
	DIN ISO 15705: 2003-01 (H 45)		<input checked="" type="checkbox"/>	
Phenol index	DIN 38409-H 16-2: 1984-06	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38409-H 16-1: 1984-06		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 14402: 1999-12 (H 37)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Procedure in accordance with Section 4			

Parameter	Procedure	Waste	Surface	Ground
Substances removable by filtration	DIN EN 872: 2005-04 (H 33)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	DIN 38409-H 2-3: 1987-03		<input checked="" type="checkbox"/>	
Acidity and alkalinity	DIN 38409-H 7: 2005-12		<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"/>	
Dissolved organic carbon (DOC)	DIN EN 1484: 1997-08 (H 3)			<input checked="" type="checkbox"/>
Total bound nitrogen (TN _b)	DIN EN 12260: 2003-12 (H 34)	<input type="checkbox"/>	<input type="checkbox"/>	
	DIN EN ISO 11905-1: 1998-08 (H 36)	<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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Subsection 6: Gas-chromatographic method

Parameter	Procedure	Waste	Surface	Ground
Highly volatile halogenated hydrocarbons (HVC)	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 type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 15680: 2004-04 (F 19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organochlorine insecticide (OCI)	DIN 38407-F 2: 1993-02*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 6468: 1997-02 (F 1)*	<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"/>
Polychlorinated biphenyls (PCB)	DIN EN ISO 6468: 1997-02 (F 1)*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 2: 1993-02*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 3: 1998-07	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mono- / dichlorobenzene	DIN EN ISO 15680: 2004-04 (F 19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 43: 2014-10		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tri- to hexachlorobenzene	DIN EN ISO 6468: 1997-02 (F 1)*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 2: 1993-02*	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Organic phosphorous and organic nitrogen compounds	DIN EN ISO 10695: 2000-11 (F 6) *		<input type="checkbox"/>	<input type="checkbox"/>
Polycyclic aromatic hydrocarbons (PAH)**	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"/>

Parameter	Procedure	Waste	Surface	Ground
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 is permitted

** subsection 6 is also considered fulfilled if PAH are analysed using a method according to subsection 7

Subsection 7: HPLC method

Parameter	Procedure	Waste	Surface	Ground
Polycyclic aromatic hydrocarbons (PAH)**	DIN EN ISO 17993: 2004-03 (F 18)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Crop protection agents and pesticides (CPAP) (The procedures must be applied according to substance-specific requirements.)	DIN EN ISO 11369: 1997-11 (F 12) *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 35: 2010-10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 36: 2014-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* Mass-spectrometric detection is permitted

** subsection 7 is also considered fulfilled if PAH are analysed using a method according to subsection 6

Subsection 8: Microbiological methods

not documented

Subsection 9.1: Biological methods, biotests (Part 1)

not documented

Subsection 9.2: Biological methods, biotests (Part 2)

not documented

9 List of test methods for the specialist module SOIL AND LAB CONTAMINATED SITES, dated: 20/10/2000

Analysis field 1: Solids, inorganic parameters

not documented

Analysis field 2: Solids, organic parameters

not documented

Analysis field 3: Solids, dioxines and furanes

not documented

Analysis field 4: Ground, percolating, surface water

Analysis parameters	Method	
Sampling		
Sampling of ground water	DIN EN ISO 25667, Part 2	<input checked="" type="checkbox"/>
	DIN 38402-13; 1985	<input checked="" type="checkbox"/>
	German Federal States Work Committee for water (LAWA): Ground Water Regulation, Part 3; 03.93	<input checked="" type="checkbox"/>
	AQS memorandum P 8/2; 01.96	
	German Association for Water Management and Land Development (DVWK): DVWK rules 128/92 DVWK memorandum 245/1997	<input checked="" type="checkbox"/>
Sampling of percolating water	Currently no standardised method available	<input checked="" type="checkbox"/>
Sampling of surface water (running waters)	DIN 38402-15; 07.86	<input checked="" type="checkbox"/>
	AQS memorandum P 8/3; 05.98	<input checked="" type="checkbox"/>
Sampling of surface water (standing waters)	DIN 38402-12; 06.85	<input checked="" type="checkbox"/>
On site		
Temperature	DIN 38404-4; 12.76	<input checked="" type="checkbox"/>
pH value	DIN 38404-5; 01.84	<input checked="" type="checkbox"/>
Oxygen content	DIN EN 25814; 11.92	<input checked="" type="checkbox"/>
Electrical conductivity	DIN EN 27888; 11.93	<input checked="" type="checkbox"/>
Laboratory		
Leaching method 1 (soil saturation extract)	According to specifications of the BBodSchV (Annex 1, 3.1.2)	<input type="checkbox"/>
Leaching method 2 (modified S4 method)	DIN 38414-4; 10.84 taking into account the instructions by BBodSchV (Annex 1, 3.1.2)	<input checked="" type="checkbox"/>
Leaching method 3 (column or lysimeter test)	Currently no standardised method available; options for performance of column or lysimeter tests according to state-of-the-art analysis methods must be verified	<input type="checkbox"/>
Antimony (Sb)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
	Hydride - AAS E DIN 38405-32; 11.96	<input type="checkbox"/>
Arsenic (As)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
	Hydride- AAS DIN EN ISO 11969; 11.96	<input type="checkbox"/>

Analysis parameters	Method	
Lead (Pb)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
	AAS E DIN 38406-6; 06.97	<input type="checkbox"/>
Cadmium (Cd)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
	AAS DIN EN ISO 5961; 05.95	<input type="checkbox"/>
Chromium (Cr), total	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
	AAS DIN EN 1233; 08.96	<input type="checkbox"/>
Chromium (Cr VI)	Spectrophotometry DIN 38405-24; 05.87	<input checked="" type="checkbox"/>
	Ion chromatography DIN EN ISO 10304-3; 11.97	<input type="checkbox"/>
Cobalt (Co)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	AAS DIN 38406-24; 03.93	<input type="checkbox"/>
Copper (Cu)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
	AAS DIN 38406-7; 09.91	<input type="checkbox"/>
Molybdenum (Mo)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
Nickel (Ni)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
	AAS DIN 38406-11; 09.91	<input type="checkbox"/>
Mercury (Hg)	AAS - Cold vapour technique DIN EN 1483; 08.97	<input checked="" type="checkbox"/>
Selenium (Se)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
	AAS DIN 38405-23; 10.94	<input type="checkbox"/>
Zinc (Zn)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
	AAS DIN 38406-8; 10.80	<input type="checkbox"/>
Tin (Sn)	ICP - AES on the basis of DIN EN ISO 11885; 04.98	<input checked="" type="checkbox"/>
	ICP - MS DIN 38406-29; 05.99	<input type="checkbox"/>
Cyanide, total	Spectrophotometry DIN 38405-13; 02.81	<input checked="" type="checkbox"/>
	E DIN EN ISO 14403; 05.98	<input checked="" type="checkbox"/>
Cyanide (CN-), readily liberated	Spectrophotometry DIN 38405-13; 02.81	<input checked="" type="checkbox"/>
Fluoride (F-)	Fluoride-sensitive electrode DIN 38405-4; 07.85	<input checked="" type="checkbox"/>
	Ion chromatography DIN EN ISO 10304-1; 04.95	<input type="checkbox"/>

Analysis parameters	Method	
BTEX	GC - FID DIN 38407-9; 05.91 (consider ground-mass load)	<input checked="" type="checkbox"/>
Highly volatile halogenated hydrocarbons (HVC)	GC - ECD DIN EN ISO 10301; 08.97	<input type="checkbox"/>
Aldrin	GC - ECD, GC - MS possible DIN 38407-2; 02.93	<input type="checkbox"/>
DDT	GC - ECD, GC - MS possible DIN 38407-2; 02.93	<input type="checkbox"/>
Phenols	GC - ECD ISO DIS 8165-2; 01.97	<input type="checkbox"/>
Chlorophenols	GC - ECD, GC - MS DIN EN 12673; 02.97	<input checked="" type="checkbox"/>
Chlorobenzene	GC - ECD, GC - MS possible DIN 38407-2; 02.93	<input checked="" type="checkbox"/>
Polychlorinated biphenyls (PCB): 6 PCB congeners (No. 28, 52, 101, 138, 163, 180 acc. to Ballschmiter)	GC - ECD, GC - MS DIN 38407-2; 02.93 E DIN 38407-3; 10.95	<input checked="" type="checkbox"/> <input type="checkbox"/>
16 PAH (EPA)	HPLC - F DIN 38407-18; 05.99	<input checked="" type="checkbox"/>
Naphthalene	GC - FID, GC - MS DIN 38407-9; 05.91	<input checked="" type="checkbox"/>
Petroleum hydrocarbons	Extraction with petroleum ether; gas chromatographic determination according to ISO/TR 11064; 06.94	<input checked="" type="checkbox"/>

Analysis field 5: Soil air, landfill gas

not documented

Analysis field 6: Dry and moist deposition

not documented

Analysis field 7: Forest soil analyses

not documented

Analysis field 8: Analyses for assessment of terrestrial eco-toxicity of hazardous substances

not documented

**10 List of test methods for the specialist module SOIL AND LAB
CONTAMINATED SITES, dated: 16/08/2012**

Analysis field 1: Solids

not documented

Analysis field 2: Eluates and percolates, aqueous media

Subsection 2.1 Sampling and on-site analyses

Sampling			
Analysis parameters	Methods/information	Procedure	
Planning and techniques for sampling		DIN EN ISO 5667-1: 2007	<input checked="" type="checkbox"/>
Sampling of ground water	AQS memorandum P 8/2: 1996	ISO 5667-11: 2009 DIN 38402-13: 1985 DVGW work sheet W 112: 2011	<input checked="" type="checkbox"/>
Sampling of percolating water		Currently no standardised method available If applicable, E-DWA-M 905: 2008	<input checked="" type="checkbox"/>
Sampling of surface water (running waters)	AQS memorandum P 8/3: 1998	DIN 38402-15: 2010	<input checked="" type="checkbox"/>
Sampling of surface water (standing waters)		DIN 38402-12: 1985	<input checked="" type="checkbox"/>

On-site Analyses			
Analysis parameters	Methods/information	Procedure	
Colour		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 voltage		DIN 38404-6: 1984	<input checked="" type="checkbox"/>
Storage, pretreatment, and transport of samples		DIN EN ISO 5667-3: 2004	<input checked="" type="checkbox"/>

Subsection 2.2 Laboratory – Analysis of eluates/percolates for inorganic parameters

Eluates/percolates			
Analysis parameters	Methods/information	Procedure	
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 type="checkbox"/>
Soil quality - Absorption availability of organic and inorganic pollutants from contaminated soil material - optional		DIN 19738: 2004	<input type="checkbox"/>

Analysis - inorganic parameters			
Analysis parameters	Methods/information	Procedure	
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 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 type="checkbox"/>
	AAS	DIN EN 1483: 2007	<input checked="" type="checkbox"/>
Mercury (Hg)	Cold-vapour AAS or cold-vapour AFS	DIN ISO 16772: 2005	<input checked="" type="checkbox"/>

Analysis - inorganic parameters			
Analysis parameters	Methods/information	Procedure	
Cyanide (CN-), total Cyanide, readily liberated	Spectral photometry	DIN EN ISO 14403: 2002	<input checked="" type="checkbox"/>
		DIN 38405-13: 2011	<input 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 type="checkbox"/>
Uranium (U) - optional	ICP-MS	DIN EN ISO 17294-2: 2005	<input 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 checked="" type="checkbox"/>
	ICP-MS	DIN EN ISO 17294-2: 2005	<input type="checkbox"/>
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 type="checkbox"/>
	ET-AAS or hydride-AAS	DIN ISO 20280: 2010	<input type="checkbox"/>
Chromium (Cr VI)	Spectral photometry	DIN 38405-24: 1987	<input checked="" type="checkbox"/>
	Ion chromatography	DIN EN ISO 10304-3: 1997	<input type="checkbox"/>

Subsection 2.3 Laboratory – Analysis of eluates/percolates for organic parameters

Eluates/percolates			
Analysis parameters	Methods/information	Procedure	
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"/>

Eluates/percolates			
Analysis parameters	Methods/information	Procedure	
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 type="checkbox"/>
Soil quality - Absorption availability of organic and inorganic pollutants from contaminated soil material - optional		DIN 19738: 2004	<input type="checkbox"/>

Analysis - organic parameters			
Analysis parameters	Methods/information	Procedure	
Aromatics (BTEX)	Purge + trap/desorption, GC-MS	DIN EN ISO 15680: 2004	<input type="checkbox"/>
	Liquid extraction or headspace, GC	DIN 38407-9: 1991	<input checked="" type="checkbox"/>
	Headspace-SPME, GC-MS	DIN 38407-41: 2011	<input type="checkbox"/>
Highly volatile halogenated hydrocarbons (HVC)	Purge + trap/desorption, GC-MS	DIN EN ISO 15680: 2004	<input type="checkbox"/>
	Liquid extraction or headspace, GC	DIN EN ISO 10301: 1997	<input checked="" type="checkbox"/>
	Headspace-SPME, GC-MS	DIN 38407-41: 2011	<input type="checkbox"/>
Aldrin	GC-ECD, GC-MS	DIN EN ISO 6468: 1997	<input type="checkbox"/>
		DIN 38407-2: 1993	<input type="checkbox"/>
Dichlorodiphenyltrichloroethane (DDT)	GC-ECD, GC-MS	DIN EN ISO 6468: 1997	<input type="checkbox"/>
		DIN 38407-2: 1993	<input type="checkbox"/>
Chlorophenols	GC-ECD, GC-MS	DIN EN 12673: 1999	<input checked="" type="checkbox"/>
Chlorobzenes (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
Chlorobzenes (Cl1-Cl3)	Liquid extraction or headspace, GC-ECD; MS, if required	DIN EN ISO 10301: 1997	<input checked="" type="checkbox"/>
Polychlorinated biphenyls (PCB)	GC-ECD, GC-MS The summation method (PCB6 /PCB7) must be specified	DIN 38407-2: 1993	<input checked="" type="checkbox"/>
		DIN 38407-3: 1998	<input checked="" type="checkbox"/>

Analysis - organic parameters			
Analysis parameters	Methods/information	Procedure	
16 PAH (EPA)	HPLC-F	DIN EN ISO 17993: 2004	<input checked="" type="checkbox"/>
	GC-MS	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"/>
Mineral oil hydrocarbons (MOH, C ₁₀ -C ₄₀)	GC-FID	DIN EN ISO 9377-2: 2001	<input checked="" type="checkbox"/>
Compounds typical for explosives (HPLC) - optional	HPLC / UV detection	DIN EN ISO 22478: 2006	<input type="checkbox"/>
Compounds typical for explosives (GC) - optional	Determination of selected nitro-aromatic compounds by means of 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 type="checkbox"/>

Analysis field 3 - Soil air, landfill gas

Subsection 3.1 Sampling and on-site analyses

not documented

Full competence is confirmed with reference to the requirements applicable to the sampling of water, soil and soil air on German federal property in accordance with the technical guideline "Work aids for soil and groundwater protection" (BfR AH BoGwS), Annex 2.5.

11 List of test methods for the specialist module LAWA water, dated: August 2012

Analysis field 1: Sewage sludge

	Subsections / Parameter	Basis / Procedure	
		AbfKlärV (Sewage Sludge Directive)	
1.1	Sampling	Annex 1 of AbfKlärV (Sewage Sludge Directive)	<input checked="" type="checkbox"/>
1.2	Heavy metals	Section 3, Para. 5, AbfKlärV (Sewage Sludge Directive)	
	Aqua regia digestion	DIN 38414-7 (01.83)	<input type="checkbox"/>
		DIN EN 13346 (04.01)	<input type="checkbox"/>
		DIN EN 13657 (01.03)	<input type="checkbox"/>

	Subsections / Parameter	Basis / Procedure	
	Lead (from aqua regia digestion)	DIN 38406-6 (05.81) DIN 38406-22 (03.88) DIN 38406-E 6 (07.98) DIN ISO 11047 (05.03) DIN EN ISO 11885 (E 22) (09.09) DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Cadmium (from aqua regia digestion)	DIN 38406-19 (07.80) DIN 38406-22 (03.88) DIN ISO 11047 (05.03) DIN EN ISO 11885 (E 22) (09.09) DIN EN ISO 17294-2 (E 29) (02.05) DIN EN ISO 5961 (E 19) (05.95)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Chromium (from aqua regia digestion)	DIN 38406-10 (06.85) DIN 38406-22 (03.88) DIN EN 1233 (E 10) (08.96) DIN ISO 11047 (05.03) DIN EN ISO 11885 (E 22) (09.09) DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Copper (from aqua regia digestion)	DIN 38406-22 (03.88) DIN 38406-E 7 (09.91) DIN ISO 11047 (05.03) DIN EN ISO 11885 (E 22) (09.09) DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Nickel (from aqua regia digestion)	DIN 38406-22 (03.88) DIN 38406-E 11 (09.91) DIN ISO 11047 (05.03) DIN EN ISO 11885 (E 22) (09.09) DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Mercury (from aqua regia digestion)	DIN 38406-12 (07.80) DIN EN 1483 (E 12) (07.07) DIN EN ISO 17852 (E 35) (04.08)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Zinc (from aqua regia digestion)	DIN 38406-8 (10.80) DIN 38406-22 (03.88) DIN 38406-E 8 (10.04) DIN ISO 11047 (05.03) DIN EN ISO 11885 (E 22) (09.09) DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.3	Adsorbed organically bound halogens		
	AOX (from dry residue)	DIN 38414-S 18 (11.89)	<input type="checkbox"/>

	Subsections / Parameter	Basis / Procedure	
1.4	Physical parameters, nutrients	Section 3, Para. 5, AbfKlärV (Sewage Sludge Directive)	<input type="checkbox"/>
	Dry residue	DIN 38414-S 2 (11.85)	<input type="checkbox"/>
		DIN EN 12880 (S 2a) (02.01)	<input type="checkbox"/>
	Organic substances as loss on ignition (from dry residue)	DIN 38414-S 3 (11.85)	<input type="checkbox"/>
		DIN EN 12879 (S 3a) (02.01)	<input type="checkbox"/>
	pH value	DIN 38414-5 (09.81)	<input type="checkbox"/>
		DIN 38414-5 (07.09)	<input type="checkbox"/>
		DIN EN 12176 (S 5) (06.98)	<input type="checkbox"/>
	Aqua regia digestion	DIN 38414-7 (01.83)	<input type="checkbox"/>
		DIN EN 13346 (04.01)	<input type="checkbox"/>
		DIN EN 13657 (01.03)	<input type="checkbox"/>
	Alkaline substances as CaO	Annex 1 of AbfKlärV (Sewage Sludge Directive)	<input type="checkbox"/>
		Calculation according to % CaO = $(50-x-2y)_1 \cdot 1.402$	<input type="checkbox"/>
	Ammonium nitrogen (NH ₄ -N)	DIN 38406-E 5 (10.83)	<input type="checkbox"/>
	Total nitrogen (N _{tot})	DIN 19684-4 (02.77)	<input type="checkbox"/>
		Distillation procedure	<input type="checkbox"/>
		DIN ISO 11261 (05.97)	<input type="checkbox"/>
		DIN EN 13342 (01.01)	<input type="checkbox"/>
	Phosphorus (P ₂ O ₅) (from aqua regia digestion)	DIN 38414-S 12 (11.86)	<input type="checkbox"/>
		DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN EN ISO 6878 (D 11) (09.04)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Potassium (K ₂ O) (from aqua regia digestion)	DEV E13 (5th deliv. 68)	<input type="checkbox"/>
		DIN 38406- 22 (03.88)	<input type="checkbox"/>
		DIN 38406-E 13 (07.92)	<input type="checkbox"/>
		DIN ISO 9964-3 (E 27) (08.96)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Magnesium (MgO) (from aqua regia digestion)	DIN 38406-3 (09.82)	<input type="checkbox"/>
		DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN 38406-E 3 (03.02)	<input type="checkbox"/>
		DIN EN ISO 7980 (E 3a) (07.00)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>

¹ Correction of AbfKlärV (Sewage Sludge Directive) , Annex 1, Para. 1.3.2, Number VI; this source states an incorrect formula for calculation.

	Subsections / Parameter	Basis / Procedure	
	Persistent organic hazardous substances	Section 3, Para. 6, AbfKlärV (Sewage Sludge Directive)	
1.5	Polychlorinated biphenyls (PCB)	Annex 1, No. 1.3.3.1 AbfKlärV (Sewage Sludge Directive) DIN 38414-S 20 (01.96)	<input type="checkbox"/> <input checked="" type="checkbox"/>
1.6	Polychlorinated dibenzodioxines / -furanes (PCDD/PCDF)	Annex 1, No. 1.3.3.2 AbfKlärV (Sewage Sludge Directive) DIN 38414-S 24 (10.00)	<input type="checkbox"/> <input checked="" type="checkbox"/>

Analysis field 2: Soil

	Subsections / Parameter	Basis / Procedure	
		AbfKlärV (Sewage Sludge Directive) and BioAbfV (Biowaste Ordinance)	
2.1	Sampling and sample preparation	Section 3, Para. 2, AbfKlärV (Sewage Sludge Directive) and Section 9, BioAbfV (Biowaste Ordinance)	
	Sampling	Annex 1, No. 2.1 AbfKlärV (Sewage Sludge Directive)	<input checked="" type="checkbox"/>
	Sample preparation	Annex 1, No. 2.1 AbfKlärV (Sewage Sludge Directive)	<input checked="" type="checkbox"/>
2.2	Heavy metals, pH value and soil type	Section 3, Para. 2, AbfKlärV (Sewage Sludge Directive) Section 9, Para. 2, BioAbfV (Biowaste Ordinance)	
	Aqua regia digestion	DIN 38414-7 (01.83) DIN ISO 11466 (06.97) DIN EN 13346 (04.01) DIN EN 13657 (01.03)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Lead (from aqua regia digestion)	DIN 38406-22 (03.88) DIN 38406-E 6 (07.98) DIN ISO 11047 (05.03) DIN EN ISO 11885 (E 22) (09.09) DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Cadmium (from aqua regia digestion)	DIN 38406-22 (03.88) DIN EN ISO 5961 (E 19) (05.95) DIN ISO 11047 (05.03) DIN EN ISO 11885 (E 22) (09.09) DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		DIN 38406-22 (03.88)	<input type="checkbox"/>

	Chromium (from aqua regia digestion)	DIN EN 1233 (E 10) (08.96)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Copper (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN 38406-E 7 (09.91)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>

Only valid in conjunction with the German original version

	Subsections / Parameter	Basis / Procedure	
2.2	Nickel (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN 38406-E 11 (09.91)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
2.2	Mercury (from aqua regia digestion)	DIN 38406-12 (07.80)	<input type="checkbox"/>
		DIN EN 1483 (E 12) (07.07)	<input type="checkbox"/>
		DIN EN ISO 17852 (E 35) (04.08)	<input type="checkbox"/>
2.2	Zinc (from aqua regia digestion)	DIN 38406-22 (03.88)	<input type="checkbox"/>
		DIN 38406-8 (10.80)	<input type="checkbox"/>
		DIN 38406-E 8 (10.04)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
2.2	Soil type	DIN 18123 (04.83)	<input type="checkbox"/>
		DIN 18123 (04.11)	<input type="checkbox"/>
		VDLUFA Methods manual I D	<input type="checkbox"/>
		2.1	<input type="checkbox"/>
2.2	pH value	DIN 19684- 1 (02.77)	<input type="checkbox"/>
		DIN ISO 10390 (12.05)	<input type="checkbox"/>
		VDLUFA Methods manual I A	<input type="checkbox"/>
		5.1.1	<input type="checkbox"/>
2.3	Physical parameters, nutrients	Section 3, Para. 4, AbfKlärV (Sewage Sludge Directive) Section 9, Para. 2, BioAbfV (Biowaste Ordinance)	<input type="checkbox"/>
	P _{CAL/DL}	VDLUFA Methods manual A 6.2.1.1. or A 6.2.1.2	<input type="checkbox"/>
	K _{CAL/DL}	VDLUFA Methods manual A 6.2.1.1. or A 6.2.1.2	<input type="checkbox"/>
	Mg _{CaCl₂}	VDLUFA Methods manual A 6.2.4.1	<input type="checkbox"/>
	pH value	DIN 19684-1 (02.77)	<input type="checkbox"/>
		DIN ISO 10390 (12.05)	<input type="checkbox"/>
		VDLUFA Methods manual I A 5.1.1	<input type="checkbox"/>
	Clay content / soil type	DIN 18123 (04.83)	<input type="checkbox"/>
		DIN 18123 (04.11)	<input type="checkbox"/>
		VDLUFA Methods manual I D 2.1	<input type="checkbox"/>

Analysis field 3: Biological waste

not documented

Only valid in conjunction with the German original version

Analysis field 4: Used oil, insulation liquids

	Subsections / Parameter	Basis / Procedure	
		Section 5, AltöLV	<input type="checkbox"/>
4.1	Sampling	Section 5, Para. 2, AltöLV	<input type="checkbox"/>
		DIN 51750-1 (03.83)	<input type="checkbox"/>
		DIN 51750-1 (12.90)	<input checked="" type="checkbox"/>
		DIN 51750-2 (03.84)	<input type="checkbox"/>
		DIN 51750-2 (12.90)	<input type="checkbox"/>
4.2	PCB and halogen (only according to AltöLV)	Section 5, Para. 2, AltöLV	<input type="checkbox"/>
	PCB	DIN EN 12766-1 (11.00) in connection with DIN EN 12766-2 (12.01), method B	<input checked="" type="checkbox"/>
	Total halogen (only according to AltöLV)	Annex 2, No. 3 AltöLV	<input checked="" type="checkbox"/>

Analysis field 5: Waste for deposition

	Subsections / Parameter	Basis / Procedure	
		Section 8, Para. 1, 3 and 5, DepV	
5.1	Sampling, sample preparation	Annex 4 No. 2 and No. 3.1.1 DepV	<input checked="" type="checkbox"/>
5.2	Sample treatment, general parameters	Annex 4, No. 3, DepV	<input checked="" type="checkbox"/>
	Digestion method (aqua regia)	DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>
	Preparation of eluates / percolates	Annex 4 No. 3.2.1 and 3.2.2 DepV	<input checked="" type="checkbox"/>
	pH value of the eluate	DIN 38404-5 (07.09)	<input checked="" type="checkbox"/>
	Conductivity of the eluate	DIN EN 27888 (C 8) (11.93)	<input checked="" type="checkbox"/>
	Total content of dissolved solids	DIN EN 15216 (01.08)	<input checked="" type="checkbox"/>
		DIN 38409-H 1 (01.87)	<input checked="" type="checkbox"/>
		DIN 38409-H 2 (03.87)	<input checked="" type="checkbox"/>
	Loss on ignition	DIN EN 15169 (05.07)	<input checked="" type="checkbox"/>
	Cyanide, readily liberated (from eluate)	DIN 38405-14 (12.88)	<input type="checkbox"/>
		DIN 38405-D 13 (04.11)	<input type="checkbox"/>
		With sulphide-containing waste: DIN ISO 17380 (05.06)	<input checked="" type="checkbox"/>
		DIN EN ISO 14403 (D 6) (07.02)	<input checked="" type="checkbox"/>
		DIN 38405-D 4 (07.85)	<input checked="" type="checkbox"/>
	Fluoride (from eluate)	DIN EN ISO 10304-1 (D 20) (07.09)	<input type="checkbox"/>
		DIN EN ISO 10304-1 (D 20) (07.09)	<input checked="" type="checkbox"/>
	Chloride (from eluate)	DIN 38405-D 1 (12.85)	<input type="checkbox"/>
		DIN EN ISO 15682 (D 31) (01.02)	<input type="checkbox"/>
		DIN EN ISO 10304-1 (D 20) (07.09)	<input checked="" type="checkbox"/>

	Subsections / Parameter	Basis / Procedure	
	Sulphate (from eluate)	DIN EN ISO 10304-1 (D 20) (07.09)	<input checked="" type="checkbox"/>
		DIN 38405-D 5 (01.85)	<input type="checkbox"/>
	Density	DIN 18125-2 (08.99)	<input type="checkbox"/>
		DIN 18125-2 (03.11)	<input checked="" type="checkbox"/>
	Calorific value	DIN EN 15170 (05.09)	<input checked="" type="checkbox"/>
		Annex 4, No. 3, DepV	
5.3 Elements	Cadmium, chromium, copper, nickel, lead and zinc	DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
	Mercury	DIN EN 1483 (E 12) (07.07)	<input checked="" type="checkbox"/>
		DIN EN 12338 (E 31) (10.98)	<input type="checkbox"/>
		DIN EN ISO 17852 (E 35) (04.08)	<input type="checkbox"/>
	Arsenic (from eluate)	DIN EN ISO 11969 (D 18) (11.96)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Lead (from eluate)	DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
	Cadmium (from eluate)	DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Copper (from eluate)	DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
	Nickel (from eluate)	DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
	Mercury (from eluate)	DIN EN 1483 (E 12) (07.07)	<input checked="" type="checkbox"/>
		DIN EN ISO 17852 (E 35) (04.08)	<input type="checkbox"/>
	Zinc (from eluate)	DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>

	Subsections / Parameter	Basis / Procedure	
	Barium (from eluate)	DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Chromium, total (from eluate)	DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Molybdenum (from eluate)	DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Antimony (from eluate)	DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 15586 (E 4) (02.04)	<input type="checkbox"/>
		DIN 38405-E 32 (05.00)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Selenium (from eluate)	DIN ISO 22036 (06.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
5.4	Group and sum parameters	Annex 4, No. 3, DepV	
	Total organic carbon (TOC)	DIN EN 13137 (12.01)	<input checked="" type="checkbox"/>
	Dissolved organic carbon (DOC)	DIN EN 1484 (H 3) (08.97)	<input checked="" type="checkbox"/>
	Extractable lipophilic substances in the original substance	LAGA KW/04 (12.09)	<input checked="" type="checkbox"/>
	Phenols (from eluate)	DIN 38409-H 16 (06.84)	<input checked="" type="checkbox"/>
		DIN EN ISO 14402 (H 37) (12.99)	<input checked="" type="checkbox"/>
	Mineral oil hydrocarbons	DIN EN 14039 (01.05) in connection with LAGA KW/04 (12.09)	<input checked="" type="checkbox"/>
5.5	Individual organic substances	Annex 4, No. 3, DepV	
	Polycyclic aromatic hydrocarbons (PAH)	DIN ISO 18287 (05.06)	<input checked="" type="checkbox"/>
	Benzene and derivatives (BTEX)	DIN 38407-F 9 (05.91)	<input checked="" type="checkbox"/>
		Contaminated sites manual HLUG, Volume 7, Part 4 (08.00)	<input checked="" type="checkbox"/>
	Polychlorinated biphenyls (PCB)	DIN EN 15308 (05.08)	<input checked="" type="checkbox"/>
5.6	Biological degradability	Annex 4, No. 3, DepV	
	Respiratory activity over 4 days (AT ₄)	Annex 4 No. 3.3.1 DepV	<input type="checkbox"/>
	Gas generation rate in the fermentation test over 21 days (GB ₂₁)	Annex 4 No. 3.3.2 DepV	<input type="checkbox"/>

Analysis field 6: Used wood

	Subsections / Parameter	Basis / Procedure	
		Section 6, Para. 6, AltholzV	
6.1	Sampling, sample treatment	Annex IV No. 1.1-1.3, 1.4.1 AltholzV	
	Sampling	Annex IV No. 1.1 AltholzV	<input checked="" type="checkbox"/>
	Preparation of laboratory samples	Annex IV, No. 1.2, AltholzV in connection with DIN 51701-3 (08.85)	<input checked="" type="checkbox"/>
	Sample preparation	Annex IV No. 1.3	<input checked="" type="checkbox"/>
	Moisture content	DIN 52183 (11.77)	<input checked="" type="checkbox"/>
6.2	Metals	Annex IV No. 1.4.3 AltholzV	
	Aqua regia digestion	E DIN EN 13657 (10.99)	<input type="checkbox"/>
		DIN EN 13657 (01.03)	<input checked="" type="checkbox"/>
	Arsenic (from aqua regia digestion)	DIN EN ISO 11969 (D 18) (11.96)	<input type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Lead (from aqua regia digestion)	DIN 38406-E 6 (07.98)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN ISO 11047 (05.98)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Cadmium (from aqua regia digestion)	DIN EN ISO 5961 (E 19) (05.95)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN ISO 11047 (06.95)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Chromium (from aqua regia digestion)	DIN EN 1233 (E 10) (08.96)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN ISO 11047 (06.95)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>
	Copper (from aqua regia digestion)	DIN 38406-E 7 (09.91)	<input type="checkbox"/>
		DIN EN ISO 11885 (04.98)	<input type="checkbox"/>
		DIN ISO 11047 (06.95)	<input type="checkbox"/>
		DIN EN ISO 11885 (E 22) (09.09)	<input checked="" type="checkbox"/>
		DIN ISO 11047 (05.03)	<input type="checkbox"/>
		DIN EN ISO 17294-2 (E 29) (02.05)	<input type="checkbox"/>

	Subsections / Parameter	Basis / Procedure	
	Mercury (from aqua regia digestion)	DIN EN 1483 (E 12) (08.97)	<input type="checkbox"/>
		DIN EN 12338 (E 31) (10.98)	<input type="checkbox"/>
		DIN EN ISO 17852 (E 35) (04.08)	<input type="checkbox"/>
		DIN EN 1483 (E 12) (07.07)	<input checked="" type="checkbox"/>
6.3	Halogen	Annex IV No. 1.4.2 AltholzV	<input checked="" type="checkbox"/>
	Fluorine	DIN 51727 (06.01) with DIN EN ISO 10304-1 (04.95)	<input checked="" type="checkbox"/>
		DIN 51727 (11.11) with DIN EN ISO 10304-1 (D 20) (07.09)	<input type="checkbox"/>
		DIN 51727 (06.01) with DIN EN ISO 10304-1 (04.95)	<input checked="" type="checkbox"/>
		DIN 51727 (11.11) with DIN EN ISO 10304-1 (D 20) (07.09)	<input type="checkbox"/>
6.4	Organic parameters	Annex IV No. 1.4.4. and 1.4.5 AltholzV	<input checked="" type="checkbox"/>
	Pentachlorophenol (PCP)	Annex IV No. 1.4.4 AltholzV	<input checked="" type="checkbox"/>
	Polychlorinated biphenyls (PCB)	Annex IV No. 1.4.5 AltholzV in connection with DIN 38414-S 20 (01.96)	<input checked="" type="checkbox"/>

Only valid in conjunction with the AltholzV version

Abbreviations used:

AbfKlärV (Sewage Sludge Directive)	Klärschlamm-Verordnung (German Sewage Sludge Directive)
AltholzV	Altholzverordnung (German Waste Wood Ordinance)
ASTM	American Society for Testing Materials
AWV-01	In-house method 01 of AWV Dr. Busse GmbH
BAM	Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing)
DepV	Deponieverordnung (German Landfill Ordinance)
DEV	Deutsche Einheitsverfahren (German Standard Methods)
DIN	Deutsches Institut für Normung (German Institute for Standardisation)
DVWK	Deutscher Verband für Wasserwirtschaft und Kulturbau (German Association for Water Management and Land Development)
EN	Europäische Norm (European standard)
EPA	Environmental Protection Agency, USA
HLUG	Hessisches Landesamt für Umwelt und Geologie (Hessian State Office for Environment and Geology)
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
LAGA	Länderarbeitsgemeinschaft Abfall (German Federal States Work Committee for Waste)
LAWA	Länderarbeitsgemeinschaft Wasser (German Federal States Work Committee for Water)
OFD H	Oberfinanzdirektion Hannover (Regional Finance Office, Hanover)
TA	Technische Anleitung (Technical Instructions)
TP Min-StB	Technical testing regulations for aggregates used in road construction
VDA	Verband der Automobilindustrie (German Association of the Automotive Industry)
VDI	Verband Deutscher Ingenieure (German Association of Engineers)
VDLUFA	Verband Deutscher Landwirtschaftlicher Untersuchungs- und Forschungsanstalten (Association of German Agricultural Investigation and Research Institutions)