Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-14115-02-08 according to DIN EN ISO/IEC 17025:2018

Valid from: **22.09.2022**

Date of issue: 22.09.2023

Holder of certificate:

SGS INSTITUT FRESENIUS GmbH

at the locations

Oberkonnersreuther Straße 3, 95448 Bayreuth
Geretsrieder Straße 10a, 81379 München, Germany

Tests in the fields:

Selected chemical analysis in accordance with the German Drinking Water Ordinance;
sampling of raw and drinking water ;
Sampling of waste, groundwater, surface water and waste water as well as swimming pool and bathing pool water;
Sampling of indoor air;
Determination of fibrous particles in indoor spaces, solids and dusts;
Sampling for microbiological analysis of industrial water in accordance with Section 3 (8) 42nd BImSchV;
Specialist modules for water, soil, contaminated sites and waste

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

The certificate together with the annex reflects the status as indicated by the date of issue.
The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at https://www.dakks.de/en/content/accredited-bodies-dakks.

Within sections 1 to 4, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates.

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

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

BY = Bayreuth
M = Munich

Table of contents

1 Tests in accordance with the German Drinking Water Ordinance – TrinkwV – Bayreuth and Munich

Sampling

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

ANNEX 1: MICROBIOLOGICAL PARAMETERS

PART I: General requirements for drinking water

Not used

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

Not used

ANNEX 2: CHEMICAL PARAMETERS

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

Not used

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

Not used

ANNEX 3: INDICATOR PARAMETERS

Part I: General indicator parameters

No.	Parameter	Method
1	Aluminium	Not used
2	Ammonium	Not used
3	Chloride	Not used
4	Clostridium perfringens (including spores)	Not used
5	Coliform bacteria	Not used
6	Iron	Not used
7	Colouring (spectral absorption coefficient Hg 436 nm)	Not used
8	Odour (as TON)	DIN EN 1622 (B 3) 2006-10
9	Taste	DIN EN 1622 (B 3) 2006-10
10	Colony count at 22 °C	Not used
11	Colony count at 36 °C	Not used
12	Electrical conductivity	DIN EN 27888 (C 8) 1993-11
13	Manganese	Not used
14	Sodium	Not used
15	Organically bound carbon (TOC)	Not used
16	Oxidisability	Not used
17	Sulphate	Not used
18	Turbidity	DIN EN ISO 7027 (C 2) 2000-04

No.	Parameter	Method
19	Hydrogen ion concentration	DIN EN ISO 10523 (C 5) 2012-04
20	Calcite dissolving capacity	Not used

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

Not used

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

Not used

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

Additional periodic testing

Not used

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

2 Sampling and on-site parameters of swimming pool and bathing pool water

DIN EN ISO 5667-3 (A 21) 2013-03	Water quality – Sampling – Part 3: Preservation and handling of water samples	BY, M
DEV B 1/2 Part a 1971	Test for odour and flavour	BY, M
DIN EN 25814 (G 22) 1992-11	Water quality – Determination of dissolved oxygen – Electrochemical probe method	BY, M
DIN EN ISO 19458 (K 19) 2006-12	Water quality – Sampling for microbiological analysis	BY, M
DIN EN ISO 19643-1 2012-11	Treatment of swimming pool and bathing pool water – Part 1: General requirements (Here: *For sampling*)	BY, M
DIN ISO 17289 2014-12	Water quality – Determination of dissolved oxygen – Optical sensor method	BY, M
In-house methods SOP M 1662 2014-10	Determination of free and bound chlorine, chlorine dioxide, free bromine and ozone	BY, M

UBA Recommendation of 4.12.2013	Recommendation of the German Federal Environment Agency on sampling of drinking water and bathing pool water and sample transport	BY, M

3 Sampling for microbiological analysis of industrial water in accordance with Section 3 (8) 42nd BImSchV at the Bayreuth and Munich locations

Sampling

Method	Title
DIN EN ISO 19458 (K 19) 2006-12	Water quality – Sampling for microbiological analysis
	Recommendation of the Federal Environmental Agency for the sampling and detection of Legionella in evaporative cooling plants, cooling towers and wet separators dated 06.03.2020, Sections C and D

Microbiological analyses

Not used

4 Selected sampling of waste

DIN EN 14899 2006-04	Characterization of waste – Sampling of waste materials – Framework for the preparation and application of a sampling plan	BY
LAGA Guideline PN 98 2002-01	Guidelines on procedures for physical, chemical and biological examination in connection with the recycling/disposal of waste – Basic rules for the taking of samples from solid and semi-solid waste and deposited materials	BY
DIN EN ISO 5667-13 2011-08	Water quality – Sampling – Part 13: Guidance on sampling of sludges	BY
DIN 19698-1 2014-05	Characterisation of solids – Sampling of solid and semi-solid materials – Part 1: Guidance for the segmental sampling of stockpiles of unknown composite	BY

5 List of test methods for the specialist module for WASTE 2018-05

Revised: LAGA, May 2018

Test area 1: Sewage sludge

	Sections / Parameters	**Basis /** Methods		**Locations**
		AbfKlärV		
1.1	**Sampling and sample preparation**	**Section 32 (3) and (4) AbfKlärV**		
a)	**Sampling**	**DIN EN ISO 5667-13 (08.11) and DIN 19698-1 (05.14)**	☒	BY
b)	**Sample preparation**	**DIN 19747 (07.09)**	☐	
1.2	**Heavy metals and chromium(VI)** [1]	**Section 5 (1) (1) AbfKlärV**		
	Heavy metals			
	Aqua regia digestion	**DIN EN 16174 (11.12)**	☐	
		DIN EN 16174 Method A (11.12)	☐	
		DIN EN 13346 Method A (04.01)	☐	
	Arsenic, lead, cadmium, chromium, copper, nickel, zinc, iron (from aqua regia digestion)	**DIN EN ISO 11885 (09.09)**	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
		DIN EN 16170 (01.17)	☐	
		DIN EN 16171 (01.17)	☐	
		CEN/TS 16172; DIN SPEC 91258 (04.13)	☐	
		DIN ISO 22036 (06.09)	☐	

[1] By way of derogation from Part III No. 1, proof of competence for section 1.2 may also be provided without chromium(VI).

	Sections / Parameters	**Basis /** Methods		**Locations**
	Thallium (from aqua regia digestion)	**DIN EN ISO 11885 (09.09)**	☐	
		DIN ISO 11047 (05.03)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
		DIN 38406-26 (07.97)	☐	
		DIN EN 16170 (01.17)	☐	
		DIN EN 16171 (01.17)	☐	
		CEN/TS 16172; DIN SPEC 91258 (04.13)	☐	
		DIN ISO 22036 (06.09)	☐	
	Mercury (from aqua regia digestion)	**DIN EN ISO 17852 (04.08)**	☐	
		DIN EN 16175-1 (12.16)	☐	
		DIN EN 16175-2 (12.16)	☐	
		DIN EN 16171 (01.17)	☐	
		DIN EN ISO 12846 (08.12)	☐	
	Chromium (VI) (from alkaline hot extract)[2]	**DIN EN 16318 (07.16)**	☐	
		DIN EN 15192 (02.07)	☐	
		DIN 10304-3 (11.97)[3]	☐	
		DIN EN ISO 17294-2 (01.17)[5]	☐	
1.3	**Adsorbed organic bound halogens**	**Section 5 (1) (2) AbfKlärV**		
	AOX (from dry residue)	**DIN 38414-18 (11.89)**	☐	
		DIN EN 16166 (11.12)	☐	
1.4	**Physical parameters, nutrients**	**Section 5 (1) (3) - (9) AbfKlärV**		
	Dry residue	**DIN EN 15934 (11.12)**	☐	
		DIN EN 12880 (02.01)	☐	
	Organic substance as loss on ignition (from dry residue)	**DIN EN 15935 (11.12)**	☐	
		DIN EN 12879 (02.01)	☐	

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

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

	Sections / Parameters	**Basis /** Methods		**Locations**
	pH value	**DIN EN 15933 (11.12)**	☐	
		DIN 38414-5 (07.09)	☐	
	Alkaline agents as CaO	**VDLUFA Methodenbuch Volume II.2, Method 4.5.1**	☐	
	Ammonium nitrogen (NH_4-N)	**DIN 38406-5 (10.83)**	☐	
	Total nitrogen (N_{total})	**DIN EN 13342 (01.01)**	☐	
		DIN EN 16169 (11.12)	☐	
		DIN ISO 11261 (05.97)	☐	
	Aqua regia digestion	**DIN EN 16174 (11.12)**	☐	
		DIN EN 13346 Method A (04.01)	☐	
	Phosphorus (P) (from aqua regia digestion) (conversion: phosphorus (P) = 2,291 for phosphorus pentoxide (P_2O_5))	**DIN EN ISO 11885 (09.09)**	☐	
		DIN EN ISO 6878 (09.04)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
		DIN EN 16171 (01.17)	☐	
		DIN EN 16170 (01.17)	☐	
	Persistent organic pollutants	**Section 5 (2) (1) - (4) AbfKlärV**		
1.5	**Polychlorinated biphenyls (PCB)**	**DIN 38414-20 (01.96)**	☐	
		DIN EN 16167 (11.12)	☐	
1.6	**Polychlorinated dibenzodioxins and furans (PCDD/PCDF) and dioxin-like polychlorinated biphenyls (DL-PCB)**	**DIN CEN/TS 16190; DIN SPEC 91267 (05.12)**	☐	
		DIN 38414-24 (10.00)	☐	
1.7	**Benzo(a)pyrene (BaP)**	**DIN EN 15527 (09.08)**	☐	
		DIN 38414-23 (02.02)	☐	
		DIN CEN/TS 16181; DIN SPEC 91243 (12.13)	☐	
1.8	**Polyfluorinated compounds (PFC) with the individual substances perfluorooctanoic acid and perfluorooctanesulphonic acid (PFOA/PFOS)**	**DIN 38414-14 (08.11)**	☐	

Test area 2: Base

Not used

Test area 3: Biowaste

Not used

Test area 4: Waste oil, insulating liquid

Not used

Test area 5: Landfill waste

With the first ordinance amending DepV, the German Landfill Ordinance, of 17 October 2011 (Federal Law Gazette I p. 900), the possibility of official approval set out Annex 4 No. 1 DepV was withdrawn. This means that testing in accordance with Annex 4 DepV can be carried out by independent testing bodies accredited in accordance with DIN EN ISO/IEC 17025 without additional approval by the federal states. Application of the specialist module for waste for test area 5 is therefore limited to its rules covering the determination and regular control of specialist competence.

	Sections/ Parameter	**Basis/** Method		**Locations**
		Section 6 (2), Section 8 (1), (3) and (5) DepV		
5.1	**Sampling**	**LAGA PN 98 (12.01)**	☒	BY
5.2	**Determination of total content in solid**			
	Sample preparation	**DIN 19747 (07.09)**	☐	
	Digestion method (aqua regia)	**DIN EN 13657 (01.03)**	☐	
	Loss on ignition	**DIN EN 15169 (05.07)**	☐	
	TOC (total organic carbon)	**DIN EN 13137 (12.01)**	☐	
	BTEX (benzene and derivatives)	**DIN 38407-F9 (05.91) Handbuch Altlasten HLUG, Volume 7, Methods of analysis, Part 4 (2000)**	☐	
		DIN EN ISO 22155 (07.16)	☐	
	PCB (polychlorinated biphenyls)	**DIN EN 15308 (05.08)**	☐	

	Sections/ Parameter	**Basis/** Method		**Locations**
	Petroleum hydrocarbons	**DIN EN 14039 (01.05) in conjunction with LAGA KW/04 (12.09)**	☐	
	PAH (polycyclic aromatic hydrocarbons)	**DIN ISO 18287 (05.06)**	☐	
	Density	**DIN 18125- 2 (03.11)**	☐	
	Gross calorific value	**DIN EN 15170 (05.09)**	☐	
	Cadmium, chromium, copper, nickel, lead and zinc	**DIN ISO 11047 (05.03)**	☐	
		DIN EN ISO 11885 (09.09)	☐	
		DIN ISO 22036 (06.09)	☐	
	Mercury	**DIN EN 12846 (08.12)* a method incorrectly specified in legislation; DIN EN ISO 12846 (08.12) correct**	☐	
		DIN EN ISO 17852 (04.08)	☐	
	Extractable lipophilic substances	**LAGA KW/04 (12.09)**	☐	
5.3	**Determination of contents in eluate**			
	Eluate preparation with liquid/solid ratio 10/1	**DIN EN 12457- 4 (01.03)**	☐	
	Eluate preparation each with constant pH 4 and 11 / acid neutralisation capacity	**LAGA Guideline EW 98 (2002)**	☐	
	Up-flow percolation test	**DIN CEN/TS 14405 (09.04)**	☐	
		DIN 19528 (01.09)	☐	
	pH value of eluate	**DIN 38404- 5 (07.09)**	☐	
	DOC	**DIN EN 1484 (08.97)**	☐	
	DOC at a pH between 7.5 and 8	**LAGA Guideline EW 98 p (2002)**	☐	
	Phenols	**DIN 38409- 16 (06.84)**	☐	
		DIN EN ISO 14402 (12.99)	☐	
		DIN 38407- 27 (10.12)	☐	

	Sections/ Parameter	**Basis/** Method		**Locations**
	Arsenic	**DIN EN ISO 11969 (11.96)**	☐	
		DIN EN ISO 11885 (09.09)	☐	
		DIN ISO 22036 (06.09)	☐	
		DIN EN ISO 15586 (02.04)	☐	
		DIN EN ISO 17294- 2 (02.05)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
	Lead, cadmium, copper, nickel, zinc, chromium	**DIN EN ISO 15586 (02.04)**	☐	
		DIN EN ISO 17294- 2 (02.05)	☐	
		DIN EN ISO 11885 (09.09)	☐	
		DIN ISO 22036 (06.09)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
	Mercury	**DIN EN ISO 12846 (08.12)**	☐	
		DIN EN ISO 17852 (04.08)	☐	
	Barium, molybdenum, selenium	**DIN ISO 22036 (06.09)**	☐	
		DIN EN ISO 11885 (09.09)	☐	
		DIN EN ISO 17294- 2 (02.05)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
	Antimony	**DIN ISO 22036 (06.09)**	☐	
		DIN EN ISO 11885 (09.09)	☐	
		DIN EN ISO 15586 (02.04)	☐	
		DIN 38405- 32 (05.00)	☐	
		DIN EN ISO 17294- 2 (02.05)	☐	
		DIN EN ISO 17294-2 (01.17)	☐	
	Total dissolved solids	**DIN EN 15216 (01.08)**	☐	
		DIN 38409- 1 (01.87)	☐	
		DIN 38409- 2 (03.87)	☐	
	Conductivity of eluate	**DIN EN 27888 (11.93)**	☐	
	Determination of dry residue	**DIN EN 14346 (03.07)**	☐	

	Sections/ Parameter	Basis/ Method		Locations
	Chloride	**DIN EN ISO 10304- 1 (07.09)**	☐	
		DIN 38405- 1 (12.85)	☐	
		DIN EN ISO 15682 (01.02)	☐	
	Sulphate	**DIN EN ISO 10304- 1 (07.09)**	☐	
		DIN 38405- 5 (01.85)	☐	
	Cyanide, readily liberated	**DIN 38405- 13 (04.11)**	☐	
		In waste containing sulphide: **DIN ISO 17380 (05.06)**	☐	
		DIN EN ISO 14403- 1 (10.12)	☐	
	Fluoride	**DIN 38405- 4 (07.85)**	☐	
		DIN EN ISO 10304- 1 (07.09)	☐	
5.4	**Biodegradability of the dry residue of the original substance**	**Annex 4 No. 3.3 DepV**		
	Breathability over 4 days (AT_4)	**Annex 4 No. 3.3.1 DepV**	☐	
	Gas formation over 21 days (GB_{21})	**Annex 4 No. 3.3.2 DepV**	☐	

Test area 6: Wood waste

Not used

6 Test method list for SPECIALIST MODULE FOR SOIL AND CONTAMINATED SITES

Revised: LABO dated 16.08.2012

Test area 1: Solids

Section 1.1: Sampling and on-site examination

Test parameters	Methods/notes	Method		Location[1]
Sampling plans		In accordance with the requirements of BBodSchV	☒	BY
		DIN ISO 10381-1: 2011	☐	

Test parameters	Methods/notes	Method		Location[1]
		DIN ISO 10381-5: 2011	☐	
Sampling for the analysis of suspected contaminated sites and contaminated sites	Digestion methods in the field: Hand drilling, sampling on excavations, small percussion bore holes 50 - 80 mm, samples in undisturbed bedding	DIN ISO 10381-2: 2003	☐	
		DIN EN ISO 22475-1: 2007	☐	
	Stockpile sampling	LAGA PN 98: 2001	☐	
Sampling after soil digestion for analysis of suspected contaminated sites and contaminated sites for volatile pollutants	The extraction agent must be placed in the sample vessels before the sample is taken so that overlaying takes place in the field; for information on sampling, see http://www.hlug.de/start/altlasten.html under contaminated site analysis	"Determination of BTEX/LHKW in solids from brownfields", Handbuch Altlasten Volume 7, Part 4, HLUG 2000	☐	
Sampling for investigation of natural, near-natural and cultivated sites		DIN ISO 10381-4: 2004	☐	
		VDLUFA-Methodenandbuch, Volume 1, A1	☐	
Sampling of sediments		DIN 38414-11: 1987	☒	BY
Sampling of suspended solids **- optional -**		DIN 38402-24: 2007	☐	
Sample description		Arbeitshilfe für die Bodenansprache im vor- und nachsorgenden Bodenschutz, excerpt from KA5, 2009 Bodenkundliche Kartieranleitung 5th Edition (KA5): 2005	☒	BY
	Series of standards on geotechnical investigation and testing	DIN EN ISO 14688-1: 2011	☒	BY
		DIN EN ISO 14689-1: 2011	☒	BY
		DIN EN ISO 22475-1: 2007	☒	BY

Test parameters	Methods/notes	Method		Location[1]
Determination of soil texture	Feel test in the field Note: Cannot always be used on contaminated surfaces with regard to work safety.	Arbeitshilfe für die Bodenansprache im vor- und nachsorgenden Bodenschutz, excerpt from KA5, 2009 Bodenkundliche Kartieranleitung 5th Edition (KA5): 2005	☒	BY
		DIN 19682-2: 2007	☒	BY
Sample storage, sample pretreatment in the field, sample transport		DIN 19747: 2009	☒	BY
		DIN ISO 10381-1: 2003	☒	BY
		DIN ISO 10831-2: 2003	☒	BY
		DIN ISO 18512: 2009	☒	BY
	Overlay of soil with solvent in the field for analysis for volatile pollutants	DIN ISO 22155: 2006	☒	BY

Section 1.2: Laboratory – Analysis of inorganic parameters

Not used

Section 1.3: Laboratory – Analysis of organic parameters

Not used

Section 1.4: Laboratory – PCDD, PCDF and dioxin-like PCB analysis *

Not used

Test area 2: Eluates and percolates, aqueous media

Section 2.1: Sampling and on-site examination

Sampling				
Test parameters	**Methods/notes**	**Method**		**Location[1]**
Sampling programmes and sampling techniques		DIN EN ISO 5667-1: 2007	☒	BY
Sampling of groundwater	The AQA information sheet P 8/2, 1996 provides further essential information on the organisation and implementation of sampling	ISO 5667-11: 2009	☒	BY
		DIN 38402-13: 1983 (Note: Replaced by DIN ISO 5667-11)	☒	BY
		DVGW Work Sheet S W 112: 2011	☒	BY
Sampling of leachate using suction cups **- optional -**	The LAWA Guideline "Leachate, guideline for observation and evaluation", revised 3.4.2003 (yellow paper) provides further essential information on the organisation and implementation of sampling	DWA-M 905: 2012	☐	
		DVWK-M 217: 1990 (Note: Will be updated)	☐	
Sampling of surface water (running waters)	The AQA information sheet P 8/3, 1998 provides further essential information on the organisation and implementation of sampling	DIN 38402-15: 2010	☒	BY
Sampling of surface water (barrages and lakes)		DIN 38402-12: 1985	☒	BY

On-site testing				
Test parameters	**Methods/notes**	**Method**		**Location[1]**
Water quality, determination of colour		DIN EN ISO 7887: 2012	☒	BY
Water quality, determination of turbidity		DIN EN ISO 7027: 2000	☒	BY
Odour		DEV B 1/2 1971	☒	BY
Temperature		DIN 38404-4: 1976	☒	BY
pH value		DIN EN ISO 10523: 2012	☒	BY
Oxygen content		DIN EN 25814: 1992	☒	BY

On-site testing				
Test parameters	**Methods/notes**	**Method**		**Location[1]**
Electrical conductivity		DIN EN 27888: 1993	☒	BY
Determination of the oxidation reduction (redox) potential	For leachate/groundwater samples, sample extraction and measuring arrangement (flow cell under exclusion of air) are decisive factors for the reliability of the result.	DIN 38 404 Teil 6: 1984	☒	BY
Sample storage, sample pretreatment, sample transport	Note: The specifications in the respective individual standards take precedence, i.e. DIN EN ISO 5667-3 is of secondary importance	DIN EN ISO 5667-3: 2004	☒	BY

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

Not used

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

Not used

Test area 3 – Soil gas, landfill gas

Section 3.1: Sampling and on-site examination

Not used

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

Not used

7 Determination of fibrous particles in indoor spaces, solids and dusts

VDI 3877 Blatt 1 2011-09	Measurement of indoor pollution: Measurement of fibrous dust settled on surfaces – Sampling and analysis (REM/EDXA)	M
DGUV 213-546 2014-02	Method for the separate determination of respirable asbestos fibres and other inorganic fibres – Scanning electron microscope method	M
VDI 3492 2013-06	Indoor air measurement – Ambient air measurement – Measurement of inorganic fibrous particles – Scanning electron microscopy method	M

VDI 3866 Blatt 5 2017-06	Determination of asbestos in technical products – Scanning electron microscopy method in conjunction with VDI 3866 Blatt 1 2000-12 Measurement of fibrous particles – Determination of asbestos in technical products – Principle – Sampling and sample preparation	M

8 List of test methods for the specialist module for WATER at the Bayreuth location

Revised: LAWA 18/10/2018

Section 1: Sampling and general parameters

Parameter	Method	Was	Sur	Raw
Sampling of waste water	**DIN 38402-A 11: 2009-02**	☒		
Sampling from running waters	DIN EN ISO 5667-6: 2016-12 (A 15		☒	
Sampling from aquifers	DIN 38402-A 13: 1985-12			☒
Sampling from barrages and lakes	DIN 38402-A 12: 1985-06		☒	
Homogenisation of samples	**DIN 38402-A 30: 1998-07**	☒	☒	
Temperature	DIN 38404-C 4: 1976-12	☒	☒	☒
pH value	**DIN EN ISO 10523: 2012-04 (C 5)**	☒	☒	☒
Conductivity (25 °C)	DIN EN 27888: 1993-11 (C 8)	☒	☒	☒
Odour	DIN EN 1622: 2006-10 (B 3) Annex C	☒	☒	☒
Colouring	DIN EN ISO 7887: 2012-04 (C 1), Method A	☒	☒	☒
Turbidity	DIN EN ISO 7027: 2000-04 (C 2)	☒	☒	☒
Oxygen	DIN EN ISO 5814: 2013-03 (G 22)		☒	☒
	DIN ISO 17289: 2014-12 (G 25)		☒	☒
	DIN EN 25813: 1993-01 (G 21)		☐	☐
Redox potential	**DIN 38404-C 6: 1984-05**	☒		☒

Section 2: Photometry, ion chromatography, titrimetry

Not used

Section 3: Elemental analysis

Not used

Section 4/5: Group and sum parameters

Not used

Section 6: Gas chromatographic methods

Not used

Section 7: HPLC methods

Not used

Section 8: Microbiological methods

Not used

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

Not used

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

Not used

Abbreviations used

DEV	Deutsche Einheitsverfahren der Wasseruntersuchung (German standard methods of water analysis)
DIN	Deutsches Institut für Normung e. V. (German Institute for Standardization)
DVWK	Deutscher Verband für Wasserwirtschaft und Kulturbau e. V. (German Association for Water Management and Land Improvement)
EN	European standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
LAGA	Bund-/Länderarbeitsgemeinschaft Abfall (Regional Working Group on Waste)
LAWA	Bund-/Länderarbeitsgemeinschaft Wasser (Federal/Regional Working Group on Water)
VDI	Verein deutscher Ingenieure (Association of German Engineers)

[1] For multiple locations, please indicate the location abbreviation here