

# Deutsche Akkreditierungsstelle GmbH

## Annex to the Accreditation Certificate D-PL-14115-02-13 according to DIN EN ISO/IEC 17025:2018

Valid from: **22.09.2023**

Date of issue: 22.09.2023

Holder of certificate:

**SGS INSTITUT FRESENIUS GmbH**  
**Am TÜV 1, 66280 Sulzbach, Germany**

Tests in the fields:

**Selected physical, physico-chemical and chemical analysis of water (groundwater, drinking water, surface water, swimming pool and bathing pool water, and waste water during sampling);**  
**Sampling of waste water, raw water and drinking water, water from barrages and lakes, swimming pool and bathing pool water, water from aquifers and running waters;**  
**Sampling of waste and materials for recycling as well as mineral oil;**  
**Sampling of indoor air;**  
**Sampling for microbiological analysis of industrial water in accordance with Section 3 (8) 42nd BImSchV;**  
**Specialist modules for water 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>.*

Abbreviations used: see last page

**Page 1 of 12**

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

**Annex to the accreditation certificate D-PL-14115-02-13**

**1 Analysis of water (groundwater, drinking water, surface water, swimming pool and bathing pool water and waste water)**

**1.1 Sampling**

ISO 5667-11 2009-04	Water quality – Sampling – Part 11: Guidance on sampling of groundwaters
DIN EN ISO 5667-1 (A 4) 2007-04	Water quality – Sampling – Part 1: Guidance on the design of sampling programmes and sampling techniques
DIN 38402-A 11 2009-02	Sampling of waste water
DIN 38402-A 12 1985-06	Sampling from barrages and lakes
DIN 38402-A 13 1985-12	Sampling from aquifers
DIN ISO 5667-5 (A 14) 2011-02	Water quality – Sampling – Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems
DIN 38402-A 15 2010-04	Sampling from running waters
DIN EN ISO 5667-3 (A 21) 2013-03	Water quality – Sampling – Part 3: Preservation and handling of water samples
DIN 38402-A 30 1998-07	Pretreatment, homogenisation and aliquotation of non-homogeneous water samples
DIN EN ISO 19458 (K 19) 2006-12	Water quality – Sampling for microbiological analysis <i>(Here sections 4.4.3 and 4.4.4.1; for sampling of swimming pool and bathing pool water)</i>
DIN 19643-1 2012-11	Treatment of swimming pool and bathing pool water – Part 1: General requirements <i>(Here section 14.2)</i>
UBA Recommendation 04.12.2013	Hygiene requirements for baths and their monitoring

Valid from: 22.09.2023  
Date of issue: 22.09.2023

**Annex to the accreditation certificate D-PL-14115-02-13**

DVGW W 112 2011-10	Sampling of water for the development, extraction and monitoring of groundwater
DVGW W 551 2004-04	Drinking water heating and piping systems; Technical measures to reduce the growth of Legionella; Renovation and operation; 2.4 Sampling of Legionella
DVGW W 112 2011-10	Principles of groundwater sampling from groundwater monitoring wells
DWA-A 909 2011-12	Principles of groundwater sampling from groundwater monitoring wells

**1.2 Flavour and aroma**

DEV B 1/2 1971-01	Test for odour and flavour
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**1.3 Physical and physico-chemical parameters**

DIN EN ISO 7887 (C 1) 2012-04	Water quality – Examination and determination of colour (Method A)
DIN EN ISO 7027 (C 2) 2000-04	Water quality – Determination of turbidity
DIN 38404-C 4 1976-12	Determination of temperature
DIN EN ISO 10523 (C 5) 2012-04	Water quality – Determination of pH
DIN 38404-C 6 1984-05	Determination of the oxidation reduction (redox) potential
DIN EN 27888 (C 8) 1993-11	Water quality – Determination of electrical conductivity

**Annex to the accreditation certificate D-PL-14115-02-13**

**1.4 Gaseous components**

DIN 38408-G 23 1987-11	Determination of oxygen saturation index
DIN EN 25814 (G 22) 1992-11	Water quality – Determination of dissolved oxygen – Electrochemical probe method
DIN ISO 17289 (G25) 2014-12	Water quality – Determination of dissolved oxygen – Optical sensor method

**1.5 Selected quick tests with finished reagents**

LCK 310 1990-06	Determination of chlorine and chlorine dioxide with Dr. Lange test Measuring range for chlorine: 0.05-2.00 mg/l Measuring range for chlorine dioxide: 0.09-3.80 mg/l
LCW 053 1990-06	Determination of sulphide with Dr. Lange test Measuring range, 0.1-2.0 mg/l

**2 Tests in accordance with the German Drinking Water Ordinance – TrinkwV**

**Sampling**

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

**ANNEX 1: MICROBIOLOGICAL PARAMETERS**

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

Not used

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

Not used

Valid from: 22.09.2023

Date of issue: 22.09.2023

Annex to the accreditation certificate D-PL-14115-02-13

**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 (Annex C)
9	Taste	DIN EN 1622 (B 3) 2006-10 (Annex C)
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	Not used
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**

Parameter	Method
Legionella spec.	ISO 11731 2017-05 UBA recommendation 18 December 2018

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

Not used

Valid from: 22.09.2023

Date of issue: 22.09.2023

**Annex to the accreditation certificate D-PL-14115-02-13**

**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.

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

**Sampling**

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

**Microbiological analyses**

Not used

**4 Sampling of selected waste**

AltöIV Annex 2 2002-04	Sampling of mineral oils
LAGA Guideline PN 2/78 1983-12	Guidelines on procedures for physical and chemical examination in connection with the disposal of waste – Sampling and preparation of solid, sludgy and liquid waste
LAGA PN 98 2001-12	Guidelines on procedures for chemical, physical and biological examination in connection with the recovery and disposal of waste
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
DIN 19698-2 2016-02	Characterisation of solids – Sampling of solid and semi-solid materials – Part 2: Guidance for taking samples of stockpiles for integral characterisation

Valid from: 22.09.2023

Date of issue: 22.09.2023

**Annex to the accreditation certificate D-PL-14115-02-13**

In-house method SOP M      Sampling of wood materials  
2129 2010-09

**5      Sampling of indoor air**

For the sampling part of the indoor air tests listed below, the requirements of the sampling strategy DIN EN ISO 16000-1 (general requirements), -2 (formaldehyde): -5 (VOC), -7 (asbestos fibres), -12 (PCB, PCDD/PCDF), -19 (moulds) in their respective versions are fulfilled.

DIN EN ISO 16000-1 2006-06	Indoor air – Part 1: General aspects of sampling strategy
DIN EN ISO 16000-2 2006-06	Indoor air – Part 2: Sampling strategy for formaldehyde
DIN ISO 16000-3 2013-01	Indoor air – Part 3: Measurement of formaldehyde and other carbonyl compounds – Active sampling method
DIN EN ISO 16000-5 2007-05	Indoor air – Part 5: Sampling strategy for volatile organic compounds (VOCs)
DIN ISO 16000-6 2012-11	Indoor air – Part 6: Determination of volatile organic compounds in indoor air test chamber air by active sampling on Tenax TA® sorbent, thermal desorption and gas chromatography with MS-FID
DIN EN ISO 16000-7 2007-11	Indoor air – Part 7: Sampling strategy for determination of airborne asbestos fibre concentrations
DIN EN ISO 16000-12 2008-08	Indoor air – Part 12: Sampling strategy for polychlorinated biphenyls (PCBs), polychlorinated dibenzo-p-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs) and polycyclic aromatic hydrocarbons (PAHs)
DIN ISO 16000-13 2010-03	Indoor air – Part 13: Determination of total (gas and particle-phase) polychlorinated dioxin-like biphenyls (PCBs) and polychlorinated dibenzo-p-dioxins/dibenzofurans (PCDDs/PCDFs) – Collection on sorbent-backed filters <i>(Additionally: Application also for PAH)</i>
DIN ISO 16000-16 2009-12	Indoor air – Part 16: Detection and enumeration of moulds – Sampling by filtration
DIN ISO 16000-18 2012-01	Indoor air – Part 18: Detection and enumeration of moulds – Sampling by impaction

Valid from: 22.09.2023  
Date of issue: 22.09.2023

**Annex to the accreditation certificate D-PL-14115-02-13**

DIN EN ISO 16000-19 2014-12	Indoor air – Part 19: Sampling strategy for moulds
VDI 2100 Blatt 2 2010-11	Determination of indoor air pollutants – Gas chromatographic determination of organic compounds – Active sampling by enrichment on activated carbon – Solvent extraction
VDI 2100 Blatt 3 2011-10	Determination of indoor air pollutants – Gas chromatographic determination of organic compounds – Active sampling by enrichment on sorbents – Thermal desorption
VDI 3492 2013-06	Indoor air measurement – Ambient air measurement – Measurement of inorganic fibrous particles – Scanning electron microscopy method
VDI 3877 Blatt 1 2011-09	Indoor air pollution – Measurement of fibrous dust settled on surfaces – Sampling and analysis (REM/EDXA)
VDI 4301 Blatt 2 2000-06	Indoor air pollution measurement – Measurement of pentachlorophenol (PCP) and $\gamma$ -hexachlorocyclohexane (lindane) – GC/MS-method

**6 Test method list for SPECIALIST MODULE FOR WATER**

Revised: LAWA of 18.10.2018

Explanatory notes:

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

Sur: Relevant for surface water

Raw: Relevant for raw and groundwater

**Section 1: Sampling and general parameters**

Parameter	Method	Was	Sur	Raw
Sampling of waste water	<b>DIN 38402-A 11: 2009-02</b>	<input checked="" type="checkbox"/>		
Sampling from running waters	DIN EN ISO 5667-6: 2016-12 (A 15)		<input checked="" type="checkbox"/>	
Sampling from aquifers	DIN 38402-A 13: 1985-12			<input checked="" type="checkbox"/>
Sampling from barrages and lakes	DIN 38402-A 12: 1985-06		<input checked="" type="checkbox"/>	
Homogenisation of samples	<b>DIN 38402-A 30: 1998-07</b>	<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"/>

Valid from: 22.09.2023

Date of issue: 22.09.2023



Annex to the accreditation certificate D-PL-14115-02-13

Parameter	Method	Was	Sur	Raw
pH value	DIN EN ISO 10523: 2012-04 (C 5)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Conductivity (25 °C)	DIN EN 27888: 1993-11 (C 8)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Odour	DIN EN 1622: 2006-10 (B 3) Annex C	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Colouring	DIN EN ISO 7887: 2012-04 (C 1), Method A	<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 ISO 5814: 2013-03 (G 22)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN ISO 17289: 2014-12 (G 25)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN 25813: 1993-01 (G 21)		<input type="checkbox"/>	<input type="checkbox"/>
Redox potential	DIN 38404-C 6: 1984-05	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

**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)**

Not used

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

Not used

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

Not used

Valid from: 22.09.2023

Date of issue: 22.09.2023

**Annex to the accreditation certificate D-PL-14115-02-13**

**7 List of test methods for the SPECIALIST MODULE FOR WASTE 2018-05**  
Revised: LAGA, May 2018

**Test area 1: Sewage sludge**

Not used

**Test area 2: Base**

Not used

**Test area 3: Biowaste**

Not used

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

	Sections/ Parameter	Basis/ Method	
		<b>Section 5 (3) AltöIV</b>	
<b>4.1</b>	<b>Sampling</b>	<b>Annex 2, No. 1</b>	<input checked="" type="checkbox"/>
		<b>DIN 51750- 1 (08.83)</b>	<input type="checkbox"/>
		DIN 51750- 1 (12.90)	<input type="checkbox"/>
		<b>DIN 51750- 2 (03.84)</b>	<input type="checkbox"/>
		DIN 51750- 2 (12.90)	<input type="checkbox"/>

**4.2 PCB, halogen (only in accordance with AltöIV)**

Not used

**Annex to the accreditation certificate D-PL-14115-02-13**

**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	
		<b>Section 6 (2), Section 8 (1), (3) and (5) DepV</b>	
<b>5.1</b>	<b>Sampling</b>	<b>LAGA PN 98 (12.01)</b>	<input checked="" type="checkbox"/>

**5.2 Determination of total content in solid**

Not used

**5.3 Determination of contents in eluate**

Not used

**5.4 Biodegradability of the dry residue of the original substance**

Not used

**Test area 6: Wood waste**

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

Valid from: 22.09.2023

Date of issue: 22.09.2023

**Annex to the accreditation certificate D-PL-14115-02-13**

**6.2 Heavy metals**

Not used

**6.3 Halogens**

Not used

**6.4 Organic parameters**

Not used

**Abbreviations used:**

AbfklärV	German Sewage Sludge Ordinance
AltöIV	German Waste Oil Ordinance
AQS	Analytische Qualitätssicherung Baden Württemberg (Analytical Quality Assurance Baden Württemberg)
BioAbfV	German Biowaste Ordinance
DepV	German Landfill Ordinance
DEV	Deutsche Einheitsverfahren zur Wasser-, Abwasser- und Schlammuntersuchung (German standard methods for analysis of water, waste water and sludge)
DIN	Deutsches Institut für Normung (German Institute for Standardization)
DVGW	Deutscher Verein des Gas- und Wasserfaches (German Association of the Gas and Water Industry)
DVWK	Deutscher Verband für Wasserwirtschaft und Kulturbau (DVWK) (German Association for Water Management and Land Improvement):
EN	European Standard
IEC	International Electrotechnical Commission
ISO	International Organisation for Standardisation
LAGA	Bund/Länder-Arbeitsgemeinschaft Abfall (Federal/Regional Working Group on Waste)
LAWA	Bund/Länder-Arbeitsgemeinschaft Wasser (Federal/Regional Working Group on Water)
VDI	Verein Deutscher Ingenieure (Association of German Engineers)

Valid from: 22.09.2023

Date of issue: 22.09.2023

Page 12 of 12