

Deutsche Akkreditierungsstelle

Annex to the partial accreditation certificate D-PL-21194-01-02 according to DIN EN ISO/IEC 17025:2018

Valid from: 23.06.2023

Date of issue: 23.06.2023

This certificate annex is part of accreditation certificate D-PL-21194-01-00.

Holder of the partial accreditation certificate:

ELAB Analytik GmbH
Birlenbacher Straße 14, 57078 Siegen

with the location

ELAB Analytik GmbH
Birlenbacher Straße 14, 57078 Siegen

The testing laboratory meets the requirements pursuant to DIN EN ISO/IEC 17025:2018 necessary to carry out the conformity assessment activities set out in this annex. The testing laboratory meets, where applicable, additional legal and normative requirements, including those set out in relevant sectoral schemes, provided that these are expressly confirmed below.

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

Tests in the fields:

Physical, physico-chemical and chemical analysis of water (drinking water, raw water, groundwater, mineral water, waste water, swimming pool and bathing pool water, surface water)

Microbiological analysis of water (raw water, drinking water, bathing water, cooling water and swimming pool and bathing pool water)

Microbiological and selective chemical examination in accordance with German Drinking Water Ordinance

This certificate annex is valid only together with the certificate issued in writing and reflects the status as indicated by the date of issue. The current status of the valid and monitored accreditation can be found in the database of accredited bodies maintained by Deutsche Akkreditierungsstelle (www.dakks.de)

Sampling of water (raw and drinking water, waste water, running waters, swimming pool and bathing pool water, and of water from aquifers and water from barrages and lakes)
Sampling and microbiological analysis of industrial water in accordance with Section 3 (8) 42nd BImSchV;
Specialist module for water

Within the scope of accreditation marked ***, the testing laboratory is permitted to apply the listed standardised or equivalent test methods with different versions without obtaining prior notification and consent from DAkkS.

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

1 Water (drinking water, raw water, groundwater, mineral water, waste water, surface water, bathing water, swimming pool and bathing pool water and cooling water)

1.1 Sampling ***

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 2021-12	Design and performance of the sampling of groundwater
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 1986-07	Sampling from running waters
DIN 38402-A 19 1988-04	Sampling of swimming pool and bathing pool water
DIN EN ISO 5667-3 (A 21) 2019-07	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

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DIN EN ISO 19458 (K 19) 2006-12	Water quality – Sampling for microbiological analysis
UBA Recommendation 18 December 2018	Systemic examination of drinking water installations for Legionella in accordance with the German Drinking Water Regulation – Sampling, examination and indication of the result

1.2 Physical and physico-chemical parameters ***

DIN EN ISO 7887 (C 1) 2012-04	Water quality – Examination and determination of colour
DIN 38404-C 3 2005-07	Determination of absorption in the range of UV radiation, spectral absorption coefficient
DIN 38404-C 4 1976-12	Determination of temperature
DIN 38404-C 5 2009-07	Determination of pH
DIN EN ISO 10523 (C 5) 2012-04	Water quality – Determination of pH
DIN 38404-C 6 1984-05	Determination of the oxidation reduction (redox) potential
DIN EN 27888 (C 8) 1993-11	Water quality; Determination of electrical conductivity
DIN EN ISO 7027-1 (C 21) 2016-11	Water quality – Determination of turbidity – Part 1: Quantitative method

1.3 Anions ***

DIN 38405-D 4 1985-07	Determination of fluoride
DIN EN 26777 (D 10) 1993-04	Water quality; determination of nitrite; spectrometric method
DIN EN ISO 6878 (D 11) 2004-09	Water quality – Determination of phosphorus – Ammonium molybdate spectrometric method

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DIN 38405-D 13 2011-04	Determination of cyanides
DIN 38405-D 13 1981-02	Determination of cyanides
DIN 38405-D 17 1981-03	Determination of borate ions
DIN EN ISO 10304-1 (D 20) 2009-07	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulphate
DIN EN ISO 10304-3 (D 22) 1997-11	Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 3: Determination of chromate, iodide, sulphite, thiocyanate and thiosulphate (Restriction: <i>Here only sulphite</i>)
DIN 38405-D 24 1987-05	Photometric determination of chromium(VI) using 1,5-diphenylcarbonohydrazide
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 27 2017-10	Determination of sulphide by gas extraction
DIN ISO 15923-1 (D 49) 2014-07	Water quality – Determination of selected parameters by discrete analysis systems – Part 1: Ammonium, nitrate, nitrite, chloride, orthophosphate, sulphate and silicate with photometric detection (Restriction: <i>Here only determination of silicate as per Annex H</i>)

1.4 Cations ***

DIN 38406-E 5 1983-10	Determination of ammonia-nitrogen
DIN EN ISO 12846 (E 12) 2012-08	Water quality – Determination of mercury – Method using atomic absorption spectrometry (AAS) with and without enrichment
DIN EN ISO 17294-2 (E 29) 2017-01	Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of selected elements including uranium isotopes

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1.5 Jointly determinable substances ***

DIN 38407-F 3 1998-07	Gas chromatographic determination of polychlorinated biphenyls
DIN EN ISO 10301 (F 4) 1997-08	Water quality – Determination of highly volatile halogenated hydrocarbons – Gas-chromatographic methods
DIN 38407-F 9-1 1991-05	Determination of benzene and some of its derivatives by gas chromatography
DIN 38407-F 39 2011-09	Water quality – Determination of selected polycyclic aromatic hydrocarbons (PAHs) – Method using gas chromatography with mass spectrometric detection (GC-MS)
DIN ISO 28540 (F 40) 2014-05	Water quality – Determination of 16 polycyclic aromatic hydrocarbons (PAH) in water – Method using gas chromatography with mass spectrometric detection (GC-MS)

1.6 Gaseous components ***

DIN EN ISO 7393-2 (G 4-2) 2019-03	Water quality – Determination of free chlorine and total chlorine – Part 2: Colorimetric method using N,N- dialkyl -1,4-phenylenediamine, for routine control purposes
DIN 38408-G 5 1990-06	Determination of chlorine dioxide
DIN EN 25813 (G 21) 1993-01	Water quality – Determination of dissolved oxygen – Iodometric method
DIN EN ISO 5814 (G 22) 2013-02	Water quality – Determination of dissolved oxygen – Electrochemical probe method

1.7 Summary indices of actions and substances ***

DIN 38409-H 1 1987-01	Determination of total dry residue, filtrate dry residue and residue on ignition
DIN 38409-H 2 1987-03	Determination of filterable matter and the residue on ignition

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DIN EN 1484 (H 3) 2019-04	Water analysis – Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC)
DIN EN ISO 8467 (H 5) 1995-05	Water quality – Determination of permanganate index
DIN 38409-H 7 2005-12	Determination of acid and base-neutralising capacities
DIN 38409-H 9-2 1980-07	Determination of the settleable matter by volume in water and waste water
DIN EN 25663 (H 11) 1993-11	Water quality – Determination of Kjeldahl nitrogen – Method after digestion with selenium
DIN EN ISO 9562 (H 14) 2005-02	Water quality – Determination of adsorbable organically bound halogens (AOX)
DIN 38409-H 16 1984-06	Determination of the phenol index
DEV-H 25 Proposal 1989	Determination of organically bound halogens amenable to purging (POX)
DIN EN 12260 (H 34) 2003-12	Water quality – Determination of nitrogen – Determination of bound nitrogen (TNb), following oxidation to nitrogen oxides
DIN 38409-H 41 1980-12	Determination of chemical oxygen demand (COD) in the range over 15 mg/l
DIN EN 1899-1 (H 51) 1998-05	Water quality – Determination of biochemical oxygen demand after n days (BOD _n) – Part 1: Dilution and seeding method with allylthiourea acid addition
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
DIN ISO 11349 (H 56) 2015-12	Water quality – Determination of low-volatility lipophilic substances – Gravimetric method

1.8 Microbiological analysis ***

DIN EN ISO 6222 (K 5) 1999-07	Water quality – Enumeration of culturable micro-organisms – Colony count by inoculation in a nutrient agar culture medium
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DIN EN ISO 9308-2 (K6-1) 2014-06	Water quality – Enumeration of Escherichia coli and coliform bacteria – Part 2: Most probable number method
DIN EN 16266 (K 11) 2008-05	Water quality – Detection and enumeration of Pseudomonas aeruginosa – Membrane filtration method
DIN EN ISO 9308-1 (K 12) 2017-09	Water quality – Enumeration of Escherichia coli and coliform bacteria – Part 1: Membrane filtration method for waters with low bacterial background flora
DIN EN ISO 7899-2 (K 15) 2000-11	Water quality – Detection and enumeration of intestinal enterococci – Part 2: Membrane filtration method
DIN EN ISO 11731 (K 23) 2019-03	Water quality – Enumeration of legionella
ISO 11731 2017-05	Water quality – Enumeration of legionella
DIN EN ISO 14189 (K 24) 2016-11	Water quality – Enumeration of Clostridium perfringens – Method using membrane filtration
ISO 16266-2 2018-07	Water quality – Detection and enumeration of Pseudomonas aeruginosa – Part 2: Most probable number method
TrinkwV Section 15 (1c)	German Drinking Water Ordinance – Determination of the colony count at 20 °C and 36 °C

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

Sampling

Method	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) 2019-07	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

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Method	Title
Recommendation of the Federal Environment Agency 18 December 2018	Assessment of the quality of drinking water with respect to the parameters lead, copper and nickel

ANNEX 1: MICROBIOLOGICAL PARAMETERS

PART I: General requirements for drinking water

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

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

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

ANNEX 2: CHEMICAL PARAMETERS

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

No.	Parameter	Method
1	Acrylamide	Not used
2	Benzene	DIN 38407-F 43 2014-10
3	Boron	DIN EN ISO 17294-2 (E 29) 2017-01
4	Bromate	DIN EN ISO 15061 (D 34) 2001-12
5	Chromium	DIN EN ISO 17294-2 (E 29) 2017-01
6	Cyanide	DIN 38405 (D 13) 2011-04
7	1,2-dichloroethane	DIN EN ISO 10301 (F 4) 1997-08
8	Fluoride	DIN 38405 (D 4) 1985-07
		DIN EN ISO 10304-01 (D 20) 2009-07
9	Nitrate	DIN EN ISO 10304-01 (D 20) 2009-07
10	Plant protection product active ingredients and biocidal product active ingredients	Not used
11	Plant protection product active ingredients and biocidal product active ingredients total	Not used
12	Mercury	DIN EN ISO 12846 (E 12) 2012-08

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No.	Parameter	Method
13	Selenium	DIN EN ISO 17294-2 (E 29) 2017-01
14	Tetrachloroethene and trichloroethylene	DIN EN ISO 10301 (F 4) 1997-08
15	Uranium	DIN EN ISO 17294-2 (E 29) 2017-01

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

No.	Parameter	Method
1	Antimony	DIN EN ISO 17294-2 (E 29) 2017-01
2	Arsenic	DIN EN ISO 17294-2 (E 29) 2017-01
3	Benzo[a]pyrene	DIN ISO 28540 (F 40) 2014-05
4	Lead	DIN EN ISO 17294-2 (E 29) 2017-01
5	Cadmium	DIN EN ISO 17294-2 (E 29) 2017-01

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No.	Parameter	Method
6	Epichlorohydrin	Not used
7	Copper	DIN EN ISO 17294-2 (E 29) 2017-01
8	Nickel	DIN EN ISO 17294-2 (E 29) 2017-01
9	Nitrite	DIN EN ISO 10304-1 (D 20) 2009-07 DIN EN 26777 (D 10) 1993-04
10	Polycyclic aromatic hydrocarbons (PAH)	DIN ISO 28540 (F 40) 2014-05
11	Trihalomethanes (THM)	DIN EN ISO 10301 (F 4) 1997-08
12	Vinyl chloride	DIN EN ISO 10301 (F 4) 1997-08

ANNEX 3: INDICATOR PARAMETERS

Part I: General indicator parameters

No.	Parameter	Method
1	Aluminium	DIN EN ISO 17294-2 (E 29) 2017-01
2	Ammonium	DIN 38406-E 5 1983-10
3	Chloride	DIN EN ISO 10304-1 (D 20) 2009-07
4	Clostridium perfringens (including spores)	DIN EN ISO 14189 (K 24) 2016-11
5	Coliform bacteria	DIN EN ISO 9308-1 (K 12) 2017-09 DIN EN ISO 9308-2 (K 6-1) 2014-06
6	Iron	DIN EN ISO 17294-2 (E 29) 2017-01
7	Colouring (spectral absorption coefficient Hg 436 nm)	DIN EN ISO 7887 (C 1) 2012-04
8	Odour (as TON)	DIN EN 1622 (B 3) 2006-10 (Annex C)
9	Taste	DEV B 1/2 Teil a 1971
10	Colony count at 22 °C	DIN EN ISO 6222 (K 5) 1999-07 TrinkwV Section 15 (1c)
11	Colony count at 36 °C	DIN EN ISO 6222 (K 5) 1999-07 TrinkwV Section 15 (1c)
12	Electrical conductivity	DIN EN 27888 (C 8) 1993-11
13	Manganese	DIN EN ISO 17294-2 (E 29) 2017-01
14	Sodium	DIN EN ISO 17294-2 (E 29) 2017-01
15	Organically bound carbon (TOC)	DIN EN 1484 (H3) 2019-04
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 7027-1 (C 21) 2016-11
19	Hydrogen ion concentration	DIN EN ISO 10523 (C 5) 2012-04
20	Calcite dissolving capacity	DIN 38404-C10 1995-04 (calculation method 3) DIN 38404 (C 10) 2012-12

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

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

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

Parameter	Method
Calcium	DIN EN ISO 17294-2 (E 29) 2017-01
Potassium	DIN EN ISO 17294-2 (E 29) 2017-01
Magnesium	DIN EN ISO 17294-2 (E 29) 2017-01
Acid and base capacity	DIN 38409-H 7 2005-12
Phosphate	DIN EN ISO 6878-4 (D 11) 2004-09 DIN EN ISO 10304-1 (D 20) 2009-07 DIN EN ISO 17294-2 (E 29) 2017-01 (Modification: <i>Here calculated as phosphate</i>)

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

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

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Parameter	Method	Was	Sur	Raw
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 (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 type="checkbox"/>	<input 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

Parameter	Method	Was	Sur	Raw
Absorption at 254 nm (SAC 254)	DIN 38404-C 3: 2005-07		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Absorption at 436 nm (SAC 436)	DIN EN ISO 7887: 2012-04 (C 1), Method B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ammonium nitrogen	DIN EN ISO 11732: 2005-05 (E 23)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 5: 1983-10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 14911: 1999-12 (E 34)		<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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 13395: 1996-12 (D 28)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN ISO 15923-1: 2014-07 (D 49)	<input 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"/>

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Parameter	Method	Was	Sur	Raw
Phosphorus, total (see also section 3)	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 checked="" type="checkbox"/>	<input checked="" 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"/>
	DIN EN ISO 15681-2: 2005-05 (D 46)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN ISO 15923-1: 2014-07 (D 49)		<input type="checkbox"/>	<input type="checkbox"/>
Fluoride (dissolved)	DIN 38405-D 4-1, 1985-07	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 10304-1: 2009-07 (D 20)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Chloride	DIN EN ISO 10304-1: 2009-07 (D 20)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 15682: 2002-01 (D 31)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN ISO 15923-1: 2014-07 (D 49)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 10304-4: 1999-07 (D 25)			<input type="checkbox"/>
	DIN 38405-D 1-1 and D 1-2: 1985-12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38405-D 1-3 and D 1-4: 1985-12		<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 5-1: 1985-01		<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38405 D 5-2:1985-01	<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 13-1: 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"/>

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Parameter	Method	Was	Sur	Raw
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 (dissolved chromate)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 23913: 2009-09 (D 41)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 18412: 2007-02 (D 40)			<input type="checkbox"/>
Sulphide (readily liberated)	DIN 38405-D 27: 1992-07	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Section 3: Elemental analysis

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

Parameter	Method	Was	Sur	Raw
Calcium	DIN EN ISO 11885: 2009-09 (E 22)		<input type="checkbox"/>	<input 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: 2017-01 (E 29)		<input checked="" type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN 1233: 1996-08 (E 10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	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 type="checkbox"/>	<input type="checkbox"/>	<input 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 EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Potassium	DIN 38406-E 13: 1992-07		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2017-01 (E 29)		<input checked="" type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 7: 1991-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	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 type="checkbox"/>
	DIN EN ISO 17294-2: 2017-01 (E 29)			<input checked="" type="checkbox"/>
	DIN 38406-E 33: 2000-06			<input type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)			<input type="checkbox"/>
	DIN EN ISO 14911: 1999-12 (E 34)			<input type="checkbox"/>

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Parameter	Method	Was	Sur	Raw
Sodium	DIN 38406-E 14: 1992-07		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 11885: 2009-09 (E 22)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2017-01 (E 29)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>
Nickel	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 11: 1991-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 15586: 2004-02 (E 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury	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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38406-E 8: 2004-10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Magnesium	DIN EN ISO 11885: 2009-09 (E 22)		<input type="checkbox"/>	<input 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: 2017-01 (E 29)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 14911: 1999-12 (E 34)		<input type="checkbox"/>	<input type="checkbox"/>
Phosphorus, total (see also section 2)	DIN EN ISO 11885: 2009-09 (E 22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17294-2: 2017-01 (E 29)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Section 4/5: Group and sum parameters

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

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

Section 6: Gas chromatographic methods

Parameter	Method	Was	Sur	Raw
Volatile halogenated hydrocarbons (VOC)	DIN EN ISO 10301: 1997-08 (F 4)*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN 38407-F 43: 2014-10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 15680: 2004-04 (F 19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN ISO 17943: 2016-11 (F 41)	<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"/>
	DIN EN ISO 17943: 2016-11 (F 41)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organochlorine insecticides (OCP)	DIN EN ISO 6468: 1997-02 (F 1)*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 37: 2013-11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN 16693: 2015-12 (F 51)	<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"/>

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Parameter	Method	Was	Sur	Raw
	DIN 38407-F 3: 1998-07		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN 38407-F 37: 2013-11		<input type="checkbox"/>	<input type="checkbox"/>
Mono, dichlorobenzenes	DIN EN ISO 15680: 2004-04 (F 19)		<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 43: 2014-10		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN ISO 15680 (F19):2004-04**	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 43: 2014-10**	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN 38407-F 37: 2013-11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIN EN 16693: 2015-12 (F 51)***		<input type="checkbox"/>	<input type="checkbox"/>
Chlorophenols	DIN EN 12673: 1999-05 (F 15)		<input type="checkbox"/>	<input type="checkbox"/>
Organophosphorus and organic nitrogen compounds	DIN EN ISO 10695: 2000-11 (F 6) *		<input type="checkbox"/>	<input type="checkbox"/>
Polycyclic aromatic hydrocarbons (PAHs)**	DIN 38407-F 39: 2011-09	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN ISO 28540: 2014-05 (F 40)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DIN EN 16691: 2015-12 (F 50)		<input type="checkbox"/>	<input type="checkbox"/>
Hydrocarbon index	DIN EN ISO 9377-2: 2001-07 (H 53)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

* Mass spectrometric detection allowed

** Only applicable to trichlorobenzene

*** Only applicable to hexachlorobenzene

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

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

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

Parameter	Method
Legionella	DIN EN ISO 11731 (K 23) 2019-03
	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 E and F taking into account Annexes 1 and 2
Colony count at 22 °C and 36 °C	DIN EN ISO 6222 (K 5) 1999-07

Abbreviations used:

DEV	Deutsches Einheitsverfahren (German standard method)
DIN	Deutsches Institut für Normung (German Institute for Standardization)
EN	European standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
LAWA	Bund/Länder-Arbeitsgemeinschaft Wasser (Federal/Regional Working Group on Water)
TrinkwV	German Drinking Water Ordinance
UBA	Umweltbundesamt (Federal Environment Agency)

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