Deutsche Akkreditierungsstelle

Annex to the Partial Accreditation Certificate D-PL-14498-01-02 according to DIN EN ISO/IEC 17025:2018

Valid from: **17.11.2023**

Date of issue: 17.11.2023

This annex is a part of the accreditation certificate D-PL-14498-01-00.

Holder of partial accreditation certificate:

VKTA - Strahlenschutz, Analytik & Entsorgung Rossendorf e. V.
Bautzner Landstr. 400, 01328 Dresden

with the locations

VKTA - Strahlenschutz, Analytik & Entsorgung Rossendorf e. V.
Labor für Umwelt- und Radionuklidanalytik
Bautzner Landstr. 400, 01328 Dresden

VKTA - Strahlenschutz, Analytik & Entsorgung Rossendorf e. V.
Labor für Umwelt- und Radionuklidanalytik
Am Eiswurmlager 10, 01189 Dresden

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

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

Tests in the fields:

physical, physico-chemical and chemical analysis of water (groundwater, raw water, surface water, process water, waste water);
investigations of radioactive substances and selected chemical analysis in accordance with the German Drinking Water Ordinance, sampling of raw and drinking water;
sampling of water from barrages and lakes, aquifers as well as rivers and streams

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 marking R (Bautzner Landstr. 400, 01328 Dresden) and FK (Am Eiswurmlager 10, 01189 Dresden) behind the testing and sampling procedures indicates the location for which the competence is confirmed.

1 Investigation of water (groundwater, raw water, surface water, process water, waste water)

1.1 Sampling and sample pre-treatment

DIN 38402-A 12 1985-06	Sampling from barrages and lakes	R
DIN 38402-A 13 1985-12	Sampling from aquifers (Restriction: *applies only to sampling from groundwater monitoring wells*)	R
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	R
DIN EN ISO 5667-6 (A 15) 2016-12	Water quality - Sampling - Part 6: Guidance on sampling of rivers and streams	R
DIN EN ISO 5667-3 (A 21) 2013-03	Water quality - Sampling - Part 3: Preservation and handling of water samples	R
DIN 38402-A 30 1998-07	Pretreatment, homogenization and aliquotation of non-homogeneous water samples	R

1.2 Physical and physico-chemical parameters

DIN 38404-C 4 1976-12	Determination of Temperature	R
DIN EN ISO 10523 (C 5) 2012-04	Water quality - Determination of pH	R
DIN 38404-C 6 1984-05	Determination of the oxidation reduction (redox) potential	R
DIN EN 27888 (C 8) 1993-11	Water quality - determination of electrical conductivity	R

1.3 Anions

DIN 38405-D 4 1985-07	Determination of fluoride	R
DIN EN 26777 (D 10) 1993-04	Water quality - determination of nitrite; molecular absorption spectrometric method	R
DIN EN ISO 6878 (D 11) 2004-09	Water quality - Determination of phosphorus - Ammonium molybdate spectrometric method	R
DIN 38405-D 13 2011-04	Determination of cyanides	R
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 sulfate	R
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, sulfite, thiocyanate and thiosulfate (Restriction: a*pplies only to iodide*)	R
DIN 38405-D 24 1987-05	Photometric determination of chromium(VI) using 1,5-diphenylcarbonohydrazide	R
DIN 38405-D 27 2017-10	Determination of sulfide by gas extraction method	R

Metrohm 110/2d 2010-02	Determination of free cyanide by polarography	R
Metrohm 199/3d 2010-02	Determination of sulphfide and sulphfite by polarography	R

1.4 Cations

DIN 38406-E 1 1983-05	Determination of iron	R
DIN 38406-E 5 1983-10	Determination of ammonia-nitrogen	R
DIN 38406-E 16 1990-03	Determination of zinc, cadmium, lead, copper, thallium, nickel, cobalt by voltammetry (Restriction: *only determination of Zn, Cd, Pb and Cu)*	R
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 (Modification: *extended by the elements Si, S, Ti, Fe, Nb, Tc, Ta, Hg and Ra*)	R

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 (Restriction: *only determination of PCBs and chlorobenzenes*)	R
DIN 38407-F 3 1998-07	Determination of polychlorinated biphenyls	R
DIN EN ISO 10301 (F 4) 1997-08	Water quality - Determination of highly volatile halogenated hydrocarbons - Gas-chromatographic methods	R
DIN 38407-F 37 2013-11	Determination of organochlorine pesticides, polychlorinated biphenyls and chlorobenzene in water - Method using gas chromatography and mass spectrometric detection (GC-MS) after liquid-liquid extraction (Restriction: *only determination of PCBs and chlorobenzenes*)	R

DIN 38407-F 39 2011-09	Determination of selected polycyclic aromatic hydrocarbons (PAH) - Method using gas chromatography with mass spectrometric detection (GC-MS)	R
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)	R
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)	R

1.6 Gaseous components

DIN ISO 17289 (G 25) 2014-12	Water quality - Determination of dissolved oxygen - Optical sensor method	R

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	R
DIN 38409-H 2 1987-03	Determination of filterable matter and the residue on ignition	R
DIN EN 1484 (H 3) 2019-04	Water analysis - Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC)	R
DIN EN ISO 14402 (H 37) 1999-12	Water quality - Determination of phenol index by flow analysis (FIA and CFA)	R
DIN 38409-H 41 1980-12	Determination of the Chemical Oxygen Demand (COD) in the Range over 15 mg/l	R
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	R
DIN ISO 11349 (H 56) 2015-12	Water quality - Determination of low-volatility lipophilic substances - Gravimetric method	R

MB - 549 2006-06	Determination of anionic surfactants by measurement of the methylene blue index MBAS using flow analysis (FIA) and spectrometric detection in water	R

1.8 Individual components

DIN 38413-P 1 1982-03	Determination of hydrazine	R

2 Tests in accordance with the German Drinking Water Ordinance – TrinkwV Drinking Water Ordinance (TrinkwV) of June 20, 2023 (BGBl. 2023 I No. 159, p. 2)

Sampling

Method	Title	Loc
DIN ISO 5667-5 2011-02	Water quality - Sampling - Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems	R

ANNEX 1: MICROBIOLOGICAL PARAMETERS

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

Parameter	Method	Loc
Acrylamide	not used	
Benzene	not used	
Boron	not used	
Bromate	not used	
Chromium	not used	
Cyanide	not used	
1,2-dichloroethane	not used	
Fluoride	not used	
Microcystin-LR	not used	
Nitrate	not used	
Pestizid	not used	
Pestizid total	not used	
Total PFAS-20	not used	

Parameter	Method	Loc
Total PFAS-4	not used	
Mercury	not used	
Selenium	not used	
Tetrachloroethene and trichloroethylene	not used	
Uranium	DIN EN ISO 17294-2 2017-01	R

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

Parameter	Method	Loc
Aluminium	not used	
Ammonia	not used	
Calcite dissolving capacity	not used	
Chloride	not used	
Clostridium perfringens (including spores)	not used	
Coliform bacteria	not used	
Iron	not used	
Electrical conductivity	DIN EN 27888 1993-11	R
Colouring	not used	
Odour	DIN EN 1622 2006-10 (annex C)	R
Taste	not used	
Colony count at 22 °C	not used	
Colony count at 36 °C	not used	
Manganese	not used	
Sodium	not used	
Total organic carbon (TOC)	not used	
Oxidisability	not used	
Sulphate	not used	
Turbidity	not used	
Hydrogen ion concentration	DIN EN ISO 10523 2012-04	R

Part II: Specific indicator parameter for systems in the drinking water installation

not used

Part III: Specific indicator parameter for the occurrence of certain microbial hazards

not used

ANNEX 4: Requirements for drinking water with regard to radioactive substances

Parameter	Method	Loc
Radon-222	BMU-Messanleitung H-Rn-222-TWASS-01 1994-12	R
Tritium	DIN EN ISO 9698 2015-12	R, FK
Indicative dose		
1. Screening procedure test value $C_{alpha\text{-}ges}$ ≤ 0,1 Becquerel per liter	MB-415 2019-11 MB-403 2018-06 MB-404 2018-06	R R, FK R
2. Screening procedure test value $C_{alpha\text{-}ges}$ ≤ 0,05 Becquerel per liter	MB-415 2019-11	R
Total alpha activity concentration	MB-415 2019-11	R
Total alpha and total beta activity concentration	MB-415 2019-11	R
3. Single nuclide determination		
Radionuclides of natural origin		
Lead-210	MB-403 2018-06 MB-404 2018-06	R
Polonium-210	MB-404 2018-06	R
Radium-226	MB-403 2018-06	R, FK
Radium-228	MB-403 2018-06	R, FK
Uranium-234	DIN EN ISO 17294-2 (E 29) 2017-01 MB-427 2015-05	R
Uranium-238	DIN EN ISO 17294-2 (E 29) 2017-01	R
Radionuclides of artificial origin		
Americium-241	MB-427 2019-11	R
Cäsium-134	MB-402 2019-11	R, FK
Cäsium-137	MB-402 2019-11	R, FK
Cobalt-60	MB-402 2019-11	R, FK
Iodine-131	MB-402 2019-11	R, FK
Carbon-14	MB-411 2018-06	R
Plutonium-239/Plutonium-240	MB-427 2019-11	R
Strontium-90	MB-416 2015-05	R

PARAMETERS NOT INCLUDED IN ANNEX 1 TO 4 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 40 (2) German Drinking Water Ordinance (TrinkwV).

Abbreviations used:

DIN	Deutsches Institut für Normung e. V. (German Institute for Standardization)
EN	Europäische Norm (European standard)
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
MB	Method Description - Labor für Umwelt- und Radionuklidanalytik des VKTA -Strahlenschutz, Analytik & Entsorgung Rossendorf e. V. - In-house specification
BMU-Messanleitung	Procedures manual for monitoring of radioactive substances in the environment and of externa radiation Publisher: Federal Ministry of the Environment, Nature Conservation and Nuclear Safety, 1995