DAkkS
Deutsche
Akkreditierungsstelle

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-17740-01-00 according to DIN EN ISO/IEC 17025:2005

Period of validity: 23.05.2019 to 15.05.2022 Date of issue: 23.05.2019

Holder of certificate:

Laborunion Prof. Höll & Co. GmbH

For their sites:

Elsteraue 4, 08626 Adorf
Hans-Sachs-Straße 16, 31552 Rodenberg
Am Kuhberg 2, 08645 Bad Elster

Tests in the fields:

physical, physico-chemical, chemical and microbiological analysis of water, medicinal water, spring water, wastewater, water of swimming pools and baths as well as sludges;
physical, physico-chemical, chemical and microbiological analysis of soft drinks as well as mineral and table water;
selected microbiological analysis of beer and beer mixes as well as sugar and treacle;
sampling of wastewater, water of swimming pools and baths as well as mineral and spring water;
analysis according to Drinking Water Ordinance, sampling of raw and drinking water;
sampling and microbiological analysis of process water according to §3 (8) 42. BImSchV (Federal Immission Control Ordinance);
sampling as well as physical, physico-chemical and selected microbiological analysis of liquid carbon dioxide and technical gases

Abbreviations used: see last page

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.

Identification of sites:

Following identifications of sites besides testing methods represent confirmed expertise.

AD	=	Elsteraue 4, 08626 Adorf
RO	=	Hans-Sachs-Straße 16, 31552 Rodenberg
BE	=	Am Kuhberg 2, 08645 Bad Elster

1 Water, spring, table, mineral and medicinal water, wastewater, water of swimming pools and baths and sludges

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	AD, BE, RO
DIN 38402-A 11 2009-02	Sampling of waste water (deviation: *only sampling of random samples*)	AD, BE
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	AD, BE, RO
DIN 38402-A 18 1991-05	Sampling of water from mineral springs and spas	AD, BE, RO
DIN EN ISO 5667-3 (A 21) 2013-03	Water quality - Sampling - Part 3: Preservation and handling of water samples (deviation: *application for medicinal water too*)	AD, BE, RO
DIN EN ISO 19458 (K 19) 2006-12	Water quality - Sampling for microbiological analysis (deviation: *application for medicinal water too*)	AD, BE, RO
DIN 19643-1 2012-11	Treatment of water of swimming pools and baths - Part 1: General requirements (Deviation: *only point 14.2 and with recommendation of UBA from 04.12.2013*)	AD, BE, RO
ASU L 59.00-0 2010-10	Inspection of foodstuffs - general information for sampling and micro-biological analysis of natural mineral, spring and table water	AD, RO

VDI 2047 Blatt 2 2015-01	Open recooler systems - Securing hygienically sound operation of evaporative cooling systems (VDI Cooling Tower Code of Practice) (deviation: *only sampling*)	AD, RO

1.2 Sensoric analysis

DEV B1/2 1971	Testing of odour and taste	AD, BE, RO
DIN EN 1622 (B 3) 2006-10	Water quality - Determination of the threshold odour number (TON) and threshold flavour number (TFN)	AD, BE

1.3 Physical and physico-chemical analysis

DIN EN ISO 7887 (C 1) 2012-04	Water quality - Examination and determination of colour (deviation: *application for medicinal water too*)	BE, RO
DIN 38404-C 3 2005-07	Determination of absorption in the range of the ultraviolet radiation, Spectral absorptions coefficient (deviation: *application for medicinal water too*)	BE, RO
DIN 38404-C 4 1976-12	Determination of temperature (deviation: *application for medicinal water too*)	AD, BE, RO
DIN EN ISO 10523 (C 5) 2012-04	Water quality - Determination of pH (deviation: *application for medicinal water too*)	AD, BE, RO
DIN 38404-C 6 1984-05	Determination of redox potential (deviation: *application for medicinal water too*)	BE, RO
DIN EN 27888 (C 8) 1993-11	Determination of the electrical conductivity (deviation: *application for medicinal water too*)	AD, BE, RO
DEV C 9	Determination of density (deviation: *application for medicinal water too*)	BE, RO
DIN 38404-C 10 2012-12	Calculation of the calcit saturation of water	AD
DIN EN ISO 7027-1 (C 21) 2016-11	Water quality - Determination of turbidity - Part 1: Quantitative methods (deviation: *application for medicinal water too*)	BE, RO

1.4 Anions

DIN 38405-D 1-1 1985-12	Determination of chloride ions (deviation: *titrimetric determination according to Mohr, application for medicinal water too*)	BE
DIN 38405-D 4-1 1985-07	Determination of fluoride (deviation: *using ion-selective electrode, application for medicinal water too*)	BE
DEV D 8 1971	Calculation of dissolved carbon dioxide, carbonate and hydrocarbonate ion (deviation: *application for medicinal water too*)	BE, RO
DIN 38405-D 9 2011-09	Spectrometric determination of nitrate (deviation: *application for medicinal water too*)	BE, RO
DIN EN 26777 (D 10) 1993-04	Water quality; determination of nitrite; molecular absorption spectrometric method (deviation: *application for medicinal water too*)	BE, RO
DIN EN ISO 6878 (D 11) 2004-09	Water quality - Determination of phosphorus - Ammonium molybdate spectrometric method (deviation: *application for medicinal water too*)	BE, RO
DIN 38405-D 13 2011-04	Determination of cyanides (deviation: *application for medicinal water too*)	BE
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 (deviation: *application for medicinal water too*)	BE
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 (deviation: *application for medicinal water too*)	BE
DIN 38405-D 24 1987-05	Photometric determination of chromium(VI) using 1,5-diphenylcarbonohydrazide	BE
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	BE

DIN 38405-D 27 2017-10	Determination of sulfide by gas extraction method (deviation: *application for medicinal water too*)	BE
DIN EN ISO 15061 (D 34) 2001-12	Water quality - Determination of dissolved bromate - Method by liquid chromatography of ions	BE
DIN EN ISO 18412 (D 40) 2007-02	Water quality - Determination of chromium(VI) - Photometric method for weakly contaminated water	BE
DIN EN ISO 11206 (D 48) 2013-05	Water quality - Determination of dissolved bromate - Method using ion chromatography (IC) and post column reaction (PCR)	AD
HV-LU 13: H_2S-titrim. 2017-09	Titrimetric determination of hydrogen sulphide in medicinal water	BE, RO

1.5 Cations

DIN 38406-E 5 1983-10	Determination of ammonia-nitrogen (deviation: *application for medicinal water too*)	BE, RO
DIN EN ISO 11885 (E 22) 2009-09	Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) (deviation: *application for medicinal water too*)	BE
DIN ISO 9964-3 (E 27) 1996-08	Water quality - Determination of sodium and potassium - Part 3: Determination of sodium and potassium by flame emission spectrometry (deviation: *application for medicinal water too*)	BE
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 (deviation: *application for medicinal water too*)	BE
DIN EN ISO 17852 (E 35) 2008-04	Water quality - Determination of mercury - Method using atomic fluorescence spectrometry (deviation: *application for medicinal water too*)	BE
HV-LU 01: Cs-AES 2017-07	Determination of caesium using atomic emission spectroscopy in water	BE
HV-LU 02: Rb-AES 2017-07	Determination of rubidium using atomic emission spectroscopy in water	BE
HV-LU 04: Li-AAS 2017-07	Determination of lithium using atomic absorption spectroscopy (AAS)	BE

1.6 Determination by gas chromatographic and HPLC methods

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 (deviation: *application for medicinal water too*)	AD
DIN EN ISO 10301 (F 4) 1997-08	Water quality - Determination of highly volatile halogenated hydrocarbons - Gas-chromatographic methods	AD
DIN EN ISO 10695 (F 6) 2000-11	Water quality - Determination of selected organic nitrogen and phosphorus compounds - Gas chromatographic methods (deviation: *application for medicinal water too*)	AD
DIN EN ISO 17993 (F 18) 2004-03	Water quality - Determination of 15 polycyclic aromatic hydrocarbons (PAH) in water by HPLC with fluorescence detection after liquid-liquid extraction (deviation: *application for medicinal water too*)	AD
DIN 38407-F 35 2010-10	Determination of selected phenoxyalkyl carbonic acids and further acid plant treatment agents - Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS) (deviation: *application for medicinal water too*)	AD
DIN 38407-F 36 2014-09	Determination of selected active substances of plant protection products and other organic substances in water - Method using high performance liquid chromatography and mass spectrometric detection (HPLC-MS/MS or -HRMS) after direct injection (deviation: *application for medicinal water too*)	AD
DIN EN ISO 17943 (F 41) 2016-10	Water quality - Determination of volatile organic compounds in water - Method using headspace solid-phase micro-extraction (HS-SPME) followed by gas chromatography-mass spectrometry (GC-MS)	AD
DIN 38407-F 43 2014-10	Water quality - Determination of volatile organic compounds in water - Method using headspace solid-phase micro-extraction (HS-SPME) followed by gas chromatography-mass spectrometry (GC-MS) (deviation: *application for medicinal water too*)	AD
DIN ISO 16308 (F 45) 2017-09	Water quality - Determination of glyphosate and AMPA - Method using high performance liquid chromatography (HPLC) with tandem mass spectrometric detection	AD

HV-LU 15: Phenole-MS 2009-04	Determination of phenols in water after solid-liquid extraction using gas chromatography and mass spectrometry	AD
HV-LU 17: Aldehyde 2016-06	Determination of aldehydes in water using HPLC with UV-detection	AD

1.7 Gaseous components

DEV G 1 1971	Determination of the total dissolved carbon dioxide (deviation: *application for medicinal water too*)	BE, RO
DIN EN ISO 7393-2 (G 4-2) 2000-04	Water quality - Determination of free chlorine and total chlorine - Part 2: Colorimetric method using N,N-dialkyl-1,4-phenylenediamine, for routine control purposes (deviation: *application for medicinal water too*)	AD, BE, RO
DIN EN ISO 5814 (G 22) 2013-02	Water quality - Determination of dissolved oxygen - Electrochemical probe method (deviation: *application for medicinal water too*)	BE
ISO 13164-4 2015-06	Water quality - Radon-222 - Part 4: Test method using two-phase liquid scintillation counting (deviation: *application for medicinal water too*)	BE
HV-LU 19: CO_2-WLD 2018-08	Determination of carbon dioxide in water using thermal conductivity detector	BE

1.8 Parameters characterising effects and substances

DIN EN 1484 (H 3) 1997-08	Water analysis - Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC) (deviation: *application for medicinal water too*)	BE
DIN EN ISO 8467 (H 5) 1995-05	Water quality - Determination of permanganate index	BE, RO
DIN 38409-H 6 1986-01	Water hardness (deviation: *application for medicinal water too*)	AD, BE, RO
DIN 38409-H 7 2005-12	Determination of acid and base-neutralizing capacities (deviation: *application for medicinal water too*)	BE, RO
DEV H 12	Calculation of total nitrogen	AD, BE, RO

DIN EN ISO 9562 (H 14) 2005-02	Water quality - Determination of adsorbable organically bound halogens (AOX)	BE
DIN EN 903 (H 24) 1994-01	Water quality; determination of anionic surfactants by measurement of the methylene blue index MBAS (deviation: *application for medicinal water too*)	BE
DIN ISO 15705 (H 45) 2003-01	Water quality - Determination of the chemical oxygen demand index	AD
DIN EN 1899-1 (H 51) 1998-05	Water quality - Determination of biochemical oxygen demand after n days (BSBn) - Part 1: Dilution and seeding method with allylthiourea acid addition	BE
HV-LU 12: 180-260 2018-03	Total dissolved solids of medicinal and mineral water at 180 °C and 260 °C (total dissolved solids at 180 °C and 260 °C - gravimetric)	BE, RO

1.9 Sludge and sediments

DIN 38414-S 4 1984-10	Determination of extractability with water	AD
DIN EN 13346 (S 7) 2001-04	Characterization of sludges - Determination of trace elements and phosphorus - Aqua regia extraction methods	BE

2 Microbiological analysis of water, medicinal water, mineral, spring and table water, water of swimming pools and baths as well as soft drinks

ASU L 59.00-5 1988-05	Inspection of foodstuffs; Enumeration of colony count in natural mineral, spring and table water, reference procedure (deviation: *application for medicinal water too*)	AD, RO
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	AD, RO
DIN EN ISO 9308-2 (K 6-1) 2014-06	Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 2: Most probable number method	AD, RO
DIN EN ISO 16266 (K 11) 2008-05	Water quality - Detection and enumeration of Pseudomonas aeruginosa - Method by membrane filtration	AD, RO
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	AD, RO

DIN EN ISO 7899-2 (K 15) 2000-11	Water quality - Detection and enumeration of intestinal enterococci - Part 2: Membrane filtration method	AD, RO
DIN EN ISO 11731-2 (K 22) 2008-06	Water quality - Detection and enumeration of Legionella - Part 2: Direct membrane filtration method for waters with low bacterial counts (*withdrawn standard*) (deviation: *application for medicinal water too*)	AD, RO
DIN EN ISO 14189 (K 24) 2016-11	Water quality - Enumeration of Clostridium perfringens - Method using membrane filtration	AD, RO
ISO 11731 2017-05	Water quality - Enumeration of Legionella (deviation: *application for medicinal , drinking and water of baths*)	AD, RO
TrinkwV § 15 Absatz (1c) 2018-01	Quantitative enumeration of culturable micro-organisms, enumeration of colonies by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C)	AD, RO
MTVO annex 2 2014-10	Ordinance on in natural mineral, spring and table water, annex 2: mikrobiological analysis Pkt. 1.1 b) Escherichia coli, membrane filtration technology Pkt. 1.2 b) coliform bacteria, membrane filtration technology Pkt. 2 a) faecal streptococci, liquid enrichment Pkt. 3 b) Pseudomonas aeruginosa, membrane filtration technology Pkt. 4 b) Sulfite-reducing spore-forming anaerobes, liquid enrichment (deviation: *application for medicinal water too*)	AD, RO
Ph. Eur. 6.5/2.6.13 2009-01	Non-sterile product testing: detection of specified micro-organisms Staphylococcus aureus (deviation: *application for drinking water too*)	AD
HV-LU 21: MB-AfG 2016-02	Detection and determination of Escherichia coli, coliform bacteria, yeasts, bacteria and molds as well as the total colony count in soft drinks	AD, RO

3 Physical and physico-chemical analysis of soft drinks

ASU L 00.00-9 1984-11	Inspection of foodstuffs; determination of the preservative agents' content in low-fat foodstuffs	AD

ASU L 00.00-28 2001-07	Inspection of foodstuffs - Determination of acesulfame-K, aspartame and saccharin - High performance liquid chromatographic method (deviation: *Determination of caffeine too*)	AD
ASU L 31.00-3 1997-09	Inspection of foodstuffs - Fruit and vegetable juices - Determination of titrable acidity (deviation: *determination of titrable acidity in similar products too*)	BE
ASU L 31.00-16 1997-09	Inspection of foodstuffs - Fruit and vegetable juices - Estimation of soluble solids content - Refractometric method (deviation: *determination in similar products too*)	BE
r-biopharm VitaFast® Vitamin B3 2016-10	Determination of vitamin B3 (Niacin) in food using micro-biological microplate	BE
r-biopharm VitaFast® Vitamin B5 2016-10	Determination of vitamin B5 (Pantothenic acid) in food using microbiological microplate	BE
r-biopharm VitaFast® Vitamin B6 2016-10	Determination of vitamin B6 (Pyridoxine) in food using microbiological microplate	BE
r-biopharm VitaFast® Vitamin B12 2016-10	Determination of vitamin B12 (Cobalamin) in food using microbiological microplate	BE
HV-LU 20: Brix AfG 2017-01	Determination of soluble dry matter in sweet drinks - Method for determination of Brix and density using oscillating U-tube densitymeter	BE
HV-LU 29: Vitamin C 2016-08	Determination of vitamin C in food using HPLC	AD
HV-LU 38: Taurin 2015-01	Determination of Taurine using HPLC	AD
HV-LU 39: Inosit 2014-09	Determination of Inositol using ion chromatography	BE
HV-LU 40: Glucuronolacton 2014-06	Determination of Glucuronolactone using ion chromatography	BE

HV-LU 54: Natriumcyclamat 2013-09	Determination of Sodium cyclamate using ion chromatography	BE
HV-LU 56 2017-03	Determination of Quinine in food using HPLC	AD
HV-LU 90: L-Carnitin 2017-04	Determination of L-Carnitine in food using LC-MS after direct injection	AD
HV-LU 123 2017-03	Determination of selected sweeteners in food using LC-MS after direct injection	AD
HV-LU 130: Zucker 2015-08	Determination of several sugars and of total amount of sugar using ion chromatography	BE
HV-LU 134: Citronensäure 2015-11	Determination of citric acid and citrate using ion chromatography	BE
HV-LU 142: B-Vitamine 2017-03	Determination of several B vitamines in food using LC-MS (TOF)	AD
HV-LU 143: Farbstoffe 2017-03	Determination of dyes in food using LC-MS (TOF)	AD

4 Selected microbiological analysis of sugar and treacle as well as beer and beer mixes

ICUMSA GS2/3-41 2011-07	Detection of mesophilic micro-organism in crystalline sugar and treacle	AD
ICUMSA GS2/3-47 1998	Detection of yeasts and molds in in crystalline sugar and treacle	AD
Südzucker 2012	Detection of Escherichia coli and coliform bacteria in crystalline sugar and treacle	AD
HV-LU 132: MB Bier 2017-05	Microbiological analysis of beer and beer mixes	RO

5 Testing according to Drinking Water Ordinance - TrinkwV -

Sampling

Method	Title	Site
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	AD, BE, RO
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	AD, BE, RO

ANNEX 1: MICROBIOLOGICAL PARAMETER

Part I: General requirements for drinking water

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

Part II: Requirements for drinking water in closed bins

No.	Parameter	Method	Site
1	Escherichia coli (E. coli)	DIN EN ISO 9308-1 (K 12) 2017-09 DIN EN ISO 9308-2 (K 6-1) 2014-06	AD, RO
2	Enterococci	DIN EN ISO 7899-2 (K 15) 2000-11	AD, RO
3	Pseudomonas aeruginosa	DIN EN ISO 16266 (K 11) 2008-05	AD, RO

ANNEX 2: CHEMICAL PARAMETER

Part I: Chemical parameters, whose concentration in the distribution network, including the drinking water installation, usually no longer increases

No.	Parameter	Method	Site
1	Acrylamide	not detected	
2	Benzene	DIN 38407-F 43 2014-10	AD
3	Boron	DIN EN ISO 11885 (E 22) 2009-09	BE
4	Bromate	DIN EN ISO 11206 (D 48) 2013-05	AD
5	Chrome	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-01	BE
6	Cyanide	DIN 38405-D 13 2011-04	BE
7	1,2-Dichloroethane	DIN 38407-F 43 2014-10	AD
8	Fluoride	DIN 38402-D 4 1985-07 DIN EN ISO 10304-1 (D 20) 2009-07	BE
9	Nitrate	DIN EN ISO 10304-1 (D 20) 2009-07 DIN 38405-D 9 2011-09	BE, RO

No.	Parameter	Method	Site
10	Pesticide agents and biocidal product agents	DIN EN ISO 10695 (F 6) 2000-11 DIN EN ISO 6468 (F 1) 1997-02 DIN 38407-F 35 2010-10 DIN 38406-F 36 2014-09 DIN ISO 16308 (F 45) 2017-09	AD
11	Pesticide agents and biocidal product agents total	DIN EN ISO 10695 (F 6) 2000-11 DIN EN ISO 6468 (F 1) 1997-02 DIN 38407-F 35 2010-10 DIN 38406-F 36 2014-09 DIN ISO 16308 (F 45) 2017-09	AD
12	Mercury	DIN EN ISO 17852 (E 35) 2008-04	BE
13	Selenium	DIN EN ISO 17294-2 (E 29) 2017-01	BE
14	Tetrachloroethene and Trichloroethene	DIN 38407-F 43 2014-10	AD
15	Uranium	DIN EN ISO 17294-2 (E 29) 2017-01	BE

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

No.	Parameter	Method	Site
1	Antimony	DIN EN ISO 17294-2 (E 29) 2017-01	BE
2	Arsenic	DIN EN ISO 17294-2 (E 29) 2017-01	BE
3	Benzo-(a)-pyrene	DIN EN ISO 17993 (F 18) 2004-03	AD
4	Lead	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-01	BE
5	Cadmium	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-01	BE
6	Epichlorhydrin	not detected	
7	Copper	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-01	BE
8	Nickel	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-01	BE
9	Nitrite	DIN EN 26777 (D 10) 1993-04	BE, RO
10	Polycyclic aromatic hydrocarbons	DIN EN ISO 17993 (F 18) 2004-03	AD
11	Trihalomethanes	DIN 38407-F 43 2014-10	AD
12	Vinyl chloride	DIN 38407-F 43 2014-10	AD

ANNEX 3: INDICATOR PARAMETERS

Part I: General indicator parameters

No.	Parameter	Method	Site
1	Aluminium	DIN EN ISO 11885 (E 22) 2009-09	BE
2	Ammonium	DIN 38406 (E 5) 1983-10	BE, RO
3	Chloride	DIN EN ISO 10304-1 (D 20) 2009-07 DIN 38405-1 (D 1) 1985-12	BE
4	Clostridium perfringens ((including spores)	DIN EN ISO 14189 (K 24) 2016-11	AD, RO
5	Coliform Bacteria	DIN EN ISO 9308-1 (K 12) 2017-09 DIN EN ISO 9308-2 (K 6-1) 2014-06	AD, RO
6	Iron	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-01	BE
7	Colour (spectral absorption coefficient Hg 436 nm)	DIN EN ISO 7887 (C 1-B) 2012-04	BE, RO
8	Odour	DEV B 1/2 Teil 1 a 1971	AD, BE, RO
		DIN EN 1622 (B 3) 2006-10	AD, BE
9	Taste	DEV B 1/2 Teil 2 1971	AD, BE, RO
10	Colony count at 22 °C	DIN EN ISO 6222 (K 5) 1999-07 TrinkwV §15 Absatz (1c)	AD, RO
11	Colony count at 36 °C	DIN EN ISO 6222 (K 5) 1999-07 TrinkwV §15 Absatz (1c)	AD, RO
12	Electric conductivity	DIN EN 27888 (C 8) 1993-11	AD, BE, RO
13	Manganese	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-01	BE
14	Sodium	DIN EN ISO 11885 (E 22) 2009-09 DIN ISO 9964-3 (E 27) 1996-08	BE
15	Totally organically bound carbon (TOC)	DIN EN 1484 (H 3) 1997-08	BE
16	Oxidisability	DIN EN ISO 8467 (H 5) 1995-05	BE, RO
17	Sulphate	DIN EN ISO 10304-1 (D 20) 2009-07	BE
18	Turbidity	DIN EN ISO 7027-1 (C 21) 2016-11	BE, RO
19	Hydrogen ion concentration	DIN EN ISO 10523 (C 5) 2012-04	AD, BE, RO
20	Calcit saturation	DIN 38404-C 10 2012-12	AD

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

Parameter	Method	Site
Legionella spec.	ISO 11731 2017-05 Introduction of UBA 18. Dezember 2018	AD, RO

ANNEX 3a: Requirements for drinking water in relation to radioactive substances

Parameter	Method	Site
Radon-222	ISO 13164-4 2015-06	BE
Tritium	not detected	
Indicative dose (Screening-Method)		
Total alpha activity concentration (aa*)	not detected	
Total alpha and Total beta activity concentration (bb*)	not detected not detected	
Indicative dose (determination of single nuclide, cc*)		
U-238	not detected	
U-234	not detected	
Ra-226	not detected	
Ra-228	not detected	
Pb-210	not detected	
Po-210	not detected	
C-14	not detected	
Sr-90	not detected	
Pu-239/Pu-240	not detected	
Am-241	not detected	
Co-60	not detected	
Cs-134	not detected	
Cs-137	not detected	
I-131	not detected	

(*according to TrinkwV annex 3a part III)

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

Additional periodic testing

Parameter	Method	Site
Calcium	DIN EN ISO 11885 (E 22) 2009-09	BE
Potassium	DIN EN ISO 11885 (E 22) 2009-09 DIN ISO 19964-3 (E 27) 1996-08	BE
Magnesium	DIN EN ISO 11885 (E 22) 2009-09	BE
Acid capacity	DIN 38409-H 7 2005-12	BE, RO

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

6 Analysis of process water according to Federal Immission Control Ordinance - 42. BImSchV §3 (8) from 12 July 2017

Sampling

Method	Title	Site
DIN EN ISO 19458 (K 19) 2006-12	Water quality - Sampling for microbiological analysis	AD, RO
	Recommendation of the German Environment Agency for the sampling and detection of Legionella in evaporative cooling plants, cooling towers and wet scrubbers from 02.06.2017, Sections C and D	

Microbiological analysis

Method	Title	Site
Legionella	ISO 11731 2017-05	AD, RO
	Recommendation of the German Environment Agency for the sampling and detection of Legionella in evaporative cooling plants, cooling towers and wet scrubbers from 02.06.2017, Sections E and F taking into account annex 1 and 2	
Colony count at 22 °C and 36 °C	DIN EN ISO 6222 (K 5) 1999-07	

7 Sampling as well as physical, physico-chemical and selected microbiological analysis of liquid carbon dioxide and technical gases

ISBT Procedure 2.0 2000-10	Determination of purity of carbon dioxide	AD
ISBT Procedure 3.0 2000-10	Determination of water content of carbon dioxide	AD
ISBT Procedure 6.0 2000-10	Determination of ammonia in carbon dioxide	AD
ISBT Procedure 7.0 2000-10	Determination of nitrogen monoxide in carbon dioxide	AD
ISBT Procedure 7.1 2000-10	Determination of nitrogen dioxide in carbon dioxide	AD
ISBT Procedure 9.0 2000-10	Determination of phosphine in carbon dioxide	AD

ISBT Procedure 15.0 2000-10	Evaluation of appearance and odour of solid carbon dioxide (snow sample)	AD
ISBT Procedure 16.0 2000-10	Evaluation of appearance, odour and taste of carbon dioxide in water	AD
ISBT Procedure SM-1.0 2000-10	Determination of hydrogen cyanide in carbon dioxide	AD
HV-LU 24 2015-11	Determination of volatile hydrocarbons and permanent gases in carbon dioxide using gas chromatography with Helium ionisation detection und flame ionisation detection	AD
HV-LU 45 2015-01	Determination of nonvolatile residues and particles in carbon dioxide using Gravimetry	AD
HV-LU 47 2016-06	Determination of aldehydes in carbon dioxide using HPLC with UV-Detection after solid phase extraction	AD
HV-LU 49 2015-11	Determination of volatile inorganic sulfur compounds and methyl mercaptan in carbon dioxide using gas chromatography with sulfur chemiluminescence detection	AD
HV-LU 58 2018-01	Determination of volatile halogenated hydrocarbons, benzene and selected derivates in carbon dioxide using headspace gas chromatography with mass spectrometry	AD
HV-LU 59 2018-07	Determination of organic solvents in carbon dioxide using headspace gas chromatography with flame ionisation detection	AD
HV-LU 70 2016-01	Determination of microbiological parameters in carbon dioxide	AD
HV-LU 115 2015-01	Determination of nonvolatile organic residues in carbon dioxide using gas chromatography with mass spectrometry	AD
HV-LU 135 2016-09	Sampling of liquid carbon dioxide and technical gases	AD

DAkkS Deutsche Akkreditierungsstelle

abbreviations used:

ASU	Official collection of methods according to § 64 of the Food and Feed Code
DEV	German standard methods
DIN	German Institute for Standardization
DVGW	German Technical and Scientific Association for Gas and Water
EN	European Standard
HV-LU xxx:	In house method of Laborunion Prof. Höll & Co. GmbH
ICUMSA	International Commission for Uniform Methods of Sugar Analysis
IEC	International Electrotechnical Commission
ISBT	International Society of Beverage Technologists
ISO	International Organization for Standardization
MTVO	Ordinance on in natural mineral, spring and table water
Ph. Eur.	European Pharmacopoeia
UBA	German Environment Agency
VDI	Association of German Engineers