DAkkS
Deutsche
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Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-17740-01-01 according to DIN EN ISO/IEC 17025:2018

Valid from: 24.05.2022

Date of issue: 24.05.2022

Holder of certificate:

Laborunion Prof. Höll & Co. GmbH

at the locations

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 (drinking water, spa water, spring water, waste water, swimming pool and bathing pool water)
Physical, physico-chemical and microbiological analysis of non-alcoholic beverages and of spring, mineral and bottled water
Selected microbiological analysis of beer and shandies and of sugar and sugar solutions
Sampling of waste water, swimming pool and bathing pool water and of water from mineral springs and spas
Analysis in accordance with the German Drinking Water Ordinance, sampling of raw and drinking water
Sampling and microbiological analysis of industrial water in accordance with Section 3 (8) 42nd BImSchV (Federal Immission Control Ordinance)
Sampling as well as physical, physico-chemical and selected microbiological analysis of liquid carbon dioxide and technical gases

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

Abbreviations used: see last page

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.
https://www.dakks.de/en/accredited-bodies-search.html

With the exception of Sections 1.10, 2.1, 3, 4 Annex 1 and 3 Part 1 (microbiological analysis) as well as Part 2 and Section 5 (microbiological analysis), the testing laboratory is permitted to apply the listed standardised or equivalent test methods with different versions of the standards 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.

Location identifiers:

The identifiers after the sampling methods indicate the location for which competence is confirmed.

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

1 Water (drinking, spring, bottled, mineral and spa waters, waste water, swimming pool and bathing pool 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	AD, BE, RO
DIN 38402-A 11 2009-02	Sampling of waste water (Restriction: *Here on the taking of 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) 2019-07	Water quality – Sampling – Part 3: Preservation and handling of samples (Modification: *Here also application to spa water*)	AD, BE, RO
DIN EN ISO 19458 (K 19) 2006-12	Water quality – Sampling for microbiological analysis (Modification: *Here also application to spa water*)	AD, BE, RO

DIN 19643-1 2012-11	Treatment of water of swimming pools and baths – Part 1: General requirements (Restriction: *Here only item 14.2 and in connection with UBA recommendation of 04.12.2013*)	AD, BE, RO
VDI 2047 Blatt 2 2019-01	Open recooler systems – Securing hygienically sound operation of evaporative cooling systems (VDI Cooling Tower Code of Practice) (Restriction: *Here only implementation of sampling*)	AD, RO

1.2 Sensory analysis

DEV B1/2 1971	Test for odour and flavour	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 (Modification: *Here also application to spa water*)	BE, RO
DIN 38404-C 3 2005-07	Determination of absorption in the range of UV radiation, spectral absorption coefficient (Modification: *Here also application to spa water*)	BE, RO
DIN 38404-C 4 1976-12	Determination of temperature (Modification: *Here also application to spa water*)	AD, BE, RO
DIN EN ISO 10523 (C 5) 2012-04	Water quality – Determination of pH (Modification: *Here also application to spa water*)	AD, BE, RO
DIN 38404-C 6 1984-05	Determination of the oxidation reduction (redox) potential (Modification: *Here also application to spa water*)	BE, RO
DIN EN 27888 (C 8) 1993-11	Water quality; Determination of electrical conductivity (Modification: *Here also application to spa water*)	AD, BE, RO
DEV C 9 1971	Determination of density (Modification: *Here also application to spa water*)	BE, RO
DIN 38404-C 10 2012-12	Calculation of the calcite saturation of water	AD

DIN EN ISO 7027-1 (C 21) 2016-11	Water quality – Determination of turbidity – Part 1: Quantitative method (Modification: *Here also application to spa water*)	BE, RO
ISO 13164-4 2015-06	Water quality – Radon-222 – Part 4: Test method using two-phase liquid scintillation counting (Modification: *Here also application to spa water*)	BE

1.4 Anions

DIN 38405-D 1-1 1985-12	Determination of chloride ions (Modification: *Determination by Mohr titration, also application to spa water*)	BE
DIN 38405-D 4-1 1985-07	Determination of fluoride (Modification: *By ion-selective electrode, also application to spa water*))	BE
DIN EN 26777 (D 10) 1993-04	Water quality; determination of nitrite ion; spectrometric method (Modification: *Here also application to spa water*)	BE, RO
DIN EN ISO 6878 (D 11) 2004-09	Water quality – Determination of phosphorus – Ammonium molybdate photometric method (Modification: *Here also application to spa water*)	BE, RO
DIN 38405-D 13 2011-04	Determination of cyanides (Modification: *Here also application to spa water*)	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 sulphate (Modification: *Here also application to spa water*)	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, sulphite, thiocyanate and thiosulphate (Modification: *Here also application to spa water*)	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	BE

DIN 38405-D 27 2017-10	Determination of sulphide by gas extraction (Modification: *Here also application to spa water*)	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. 2020-03	Titrimetric determination of hydrogen sulphide in spa waters	BE, RO

1.5 Cations

DIN 38406-E 5 1983-10	Determination of ammonia-nitrogen (Modification: *Here also application to spa water*)	BE, RO
DIN EN ISO 11885 (E 22) 2009-09	Water quality – Determination of selected elements by inductively coupled plasma atomic emission spectroscopy (ICP-OES) (Modification: *Here also application to spa water*)	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 (Modification: *Here also application to spa water*)	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 62 elements (Modification: *Here also application to spa water*)	BE
DIN EN ISO 17852 (E 35) 2008-04	Water quality – Determination of mercury – Method using atomic fluorescence spectrometry (Modification: *Here also application to spa water*)	BE
HV-LU 01: Cs-AES 2017-07	Determination of caesium by atomic emission spectrometry in water	BE
HV-LU 02: Rb-AES 2017-07	Determination of rubidium by atomic emission spectrometry in water	BE
HV-LU 04: Li-AAS 2017-07	Determination of lithium by atomic absorption spectrometry (AAS)	BE

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1.6 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 (Modification: *Here also application to spa water*)	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 method (Modification: *Here also application to spa water*)	AD
DIN EN 12673 (F 15) 1999-05	Water quality – Gas chromatographic determination of some selected chlorophenols in water (Modification: *Also determination of alkyl and phenyl phenols*)	AD
DIN EN ISO 17993 (F 18) 2004-03	Water quality – Determination of 15 polycyclic aromatic hydrocarbons (PAHs) in water by HPLC with fluorescence detection after liquid-liquid extraction (Modification: *Here also application to spa water*)	AD
DIN 38407-F 35 2010-10	Determination of selected phenoxyalkyl carbonic acids and further acid plant treatment agents – Method using liquid chromatography and mass spectrometric detection (LC-MS/MS) (Modification: *Here also application to spa water*)	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 (Modification: *Here also application to spa water*)	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	Determination of selected easily volatile organic compounds in water – Method using gas chromatography and mass spectrometry by static headspace technique (HS-GC-MS) (Modification: *Here also application to spa water*)	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: Phenols-MS 2020-09	Determination of phenols in water by solid phase microextraction and gas chromatography with mass spectrometric detection	AD
HV-LU 17: Aldehydes 2020-02	Determination of aldehydes in water by HPLC with UV detection	AD

1.7 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 (Modification: *Here also application to spa water*)	AD, BE, RO
DIN ISO 17289 (G 25) 2014-12	Water quality – Determination of dissolved oxygen – Optical sensor method (Modification: *Here also application to spa water*)	BE
HV-LU 19: CO_2-WLD 2019-05	Determination of carbon dioxide in water by thermal conductivity detector	BE

1.8 Summary indices of actions and substances

DIN EN 1484 (H 3) 2019-04	Water analysis – Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC) (Modification: *Here also application to spa water*)	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 (Modification: *Here also application to spa water*)	AD, BE, RO
DIN 38409-H 7 2005-12	Determination of acid and base-neutralising capacities (Modification: *Here also application to spa water*)	BE, RO
DEV H 12 1971	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 (Modification: *Here also application to spa water*)	BE
DIN ISO 15705 (H 45) 2003-01	Water quality – Determination of the chemical oxygen demand index (ST-COD) – small-scale sealed tube method	AD
DIN EN 1899-1 (H 51) 1998-05	Water quality – Determination of biochemical oxygen demand after n days (BODn) – Part 1: Dilution and seeding method with allylthiourea acid addition	BE
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	AD
HV-LU 12: 180-260 2018-03	Residue on evaporation of spa and mineral water at 180 °C and 260 °C (dry residue at 180 °C and 260 °C – gravimetric)	BE, RO

1.9 Individual components

DIN 38413-P 6 2007-02	Determination of acrylamide – Method using high performance liquid chromatography with mass spectrometric detection (HPLC-MS/MS)	AD
DIN EN 14207 (P 9) 2003-09	Water quality – Determination of epichlorohydrin	AD

1.10 Microbiological analysis

DIN EN ISO 6222 (K 5) 1999-07	Water quality – Enumeration of culturable microorganisms – Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C)	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 – Membrane filtration method	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 14189 (K 24) 2016-11	Water quality – Enumeration of Clostridium perfringens – Method using membrane filtration	AD, RO
ISO 11731 2017-05	Water quality – Detection and enumeration of Legionella (Modification: *Here also application to spa water, swimming pool and bathing pool water*)	AD, RO
TrinkwV Section 15 (1c) 2018-01	Enumeration of culturable microorganisms – Colony count by inoculation in a nutrient agar culture medium (colony count at 22 °C and 36 °C)	AD, RO
Min/TafelWV, Annex 2 Last amended 05 July 2017	Ordinance on natural mineral water, spring water and table water (Mineral and Table Water Ordinance) – Microbiological testing methods – Section 1.1 Escherichia coli, membrane filtration b) Section 1.2 Coliforms, membrane filtration b)	AD, RO

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	Section 2 a) Faecal streptococci, liquid enrichment Section 3 b) Pseudomonas aeruginosa, membrane filtration Section 4 b) Sulphite-reducing spore-forming anaerobes, liquid enrichment Section 5.2 Colony count, agar culture medium (Modification: *Here also application to spa water*)	
Ph. Eur. 8.0/2.6.13 2014	Testing of non-sterile products: Detection of specified microorganisms Staphylococcus aureus (Modification: *Here also application to drinking water*)	AD
UBA Recommendation 2018-12	Systemic analysis of drinking water installations for legionella in accordance with the German Drinking Water Ordinance – Sampling, examination and indication of the result	AD, RO

2 Analysis of non-alcoholic beverages

2.1 Microbiological analysis

HV-LU 21: MB-AfG 2018-09	Detection and determination of Escherichia coli, coliform bacteria, yeasts, bacteria and moulds as well as total bacterial count in soft drinks	AD, RO

2.2 Physico-chemical analysis

ASU L 00.00-9 1984-11	Analysis of foodstuffs; determination of preservatives in low-fat foodstuffs	AD
ASU L 00.00-28 2001-07	Analysis of foodstuffs – Determination of acesulfame-K, aspartame and saccharin sodium in foodstuffs – HPLC method (Modification: *Also determination of caffeine*)	AD
ASU L 31.00-3 1997-09	Analysis of foodstuffs – Determination of the titratable acidity of fruit and vegetable juices (Modification: *Determination in non-alcoholic beverages*)	BE
ASU L 31.00-16 1997-09	Analysis of foodstuffs – Determination of content of soluble solid matter in fruit and vegetable juices – Refractometric method (for Brix determination) (Modification: *Determination in non-alcoholic beverages*)	BE

HV-LU 20: Brix AfG 2017-01	Determination of content of soluble solid matter in sweet drinks – Method for Brix and density determination by oscillating U-tube	BE
HV-LU 29: Vitamin C 2020-02	Determination of vitamin C in foodstuffs by HPLC	AD
HV-LU 38: Taurine 2020-02	Determination of taurine by HPLC	AD
HV-LU 39: Inositol 2019-06	Determination of inositol by ion chromatography	BE
HV-LU 40: Glucuronolactone 2019-06	Determination of glucuronolactone by ion chromatography	BE
HV-LU 54: Sodium cyclamate 2019-06	Determination of sodium cyclamate by ion chromatography	BE
HV-LU 56 2020-06	Determination of quinine in foodstuffs by HPLC	AD
HV-LU 90: L-carnitine 2017-04	Determination of L-carnitine in foodstuffs by LC-MS after direct injection	AD
HV-LU 123 2020-06	Determination of selected sweeteners in foodstuffs by LC-MS after direct injection	AD
HV-LU 130: Sugar 2020-04	Determination of various types of sugar and total sugar content by ion chromatography	BE
HV-LU 134: Citric acid 2019-06	Determination of citric acid and citrate by ion chromatography	BE
HV-LU 142: B vitamins 2020-07	Determination of B vitamins in foodstuffs by HPLC-DAD	AD
HV-LU 143: Dyestuffs 2020-07	Determination of dyestuffs in foodstuffs by HPLC-DAD	AD

3 Selected microbiological analysis of sugar and sugar solutions and of beer and shandies

ICUMSA GS2/3-41 2011-07	Detection of mesophilic bacteria in crystalline sugar and sugar solutions	AD

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ICUMSA GS2/3-47 1998	Detection of yeasts and moulds in crystalline sugar and sugar solutions	AD
Handbuch Erfrischungsgetränke Südzucker 2012-12	Detection of Escherichia coli and coliforms in crystalline sugar and sugar solutions	AD
HV-LU 132: MB Bier 2017-05	Microbiological analysis of beer and shandies	RO

4 Test methods in accordance with the German Drinking Water Regulation – TrinkwV – Sampling

Method	Title	Loc
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 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) 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	AD, BE, RO
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	AD, BE, RO

ANNEX 1: MICROBIOLOGICAL PARAMETERS

PART I: General requirements for drinking water

No.	Parameter	Method	Loc
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 intended for transfer in sealed containers

No.	Parameter	Method	Loc
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 PARAMETERS

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

No.	Parameter	Method	Loc
1	Acrylamide	DIN 38413-P 6 2007-02	AD
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	Chromium	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	BE, RO
10	Plant protection product active ingredients and biocidal product active ingredients	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	Plant protection product active ingredients and biocidal product active ingredients 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 trichloroethylene	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 may increase in the distribution network, including the drinking water installation

No.	Parameter	Method	Loc
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	Epichlorohydrin	DIN EN 14207 (P 9) 2003-09	AD
7	Copper	DIN EN ISO 11885 (E 22) 2009-09 DIN EN ISO 17294-2 (E 29) 2017-01	BE

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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	Loc
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	Colouring (spectral absorption coefficient Hg 436 nm)	DIN EN ISO 7887 (C 1-B) 2012-04	BE, RO
8	Odour	DIN EN 1622 (B 3) 2006-10 (Annex C)	AD, BE, RO
9	Taste	DIN EN 1622 (B 3) 2006-10 (Annex C)	AD, BE, RO
10	Colony count at 22 °C	DIN EN ISO 6222 (K 5) 1999-07 TrinkwV Section 15 (1c)	AD, RO
11	Colony count at 36 °C	DIN EN ISO 6222 (K 5) 1999-07 TrinkwV Section 15 (1c)	AD, RO
12	Electrical 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	Organically bound carbon (TOC)	DIN EN 1484 (H 3) 2019-04	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

No.	Parameter	Method	Loc
20	Calcite dissolving capacity	DIN 38404-C 10 2012-12	AD

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

Parameter	Method	Loc
Legionella spec.	ISO 11731 2017-05 UBA recommendation 18 December 2018	AD, RO

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

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

(* In accordance with the German Drinking Water Ordinance (TrinkwV) Annex 3a Part III)

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

Additional periodic testing

Parameter	Method	Loc
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

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

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

Sampling

Method	Title	Loc
DIN EN ISO 19458 (K 19) 2006-12	Water quality – Sampling for microbiological analysis	AD, RO
	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

Method	Title	Loc
Legionella	DIN EN ISO 11731 (K 23) 2019-03	AD, RO
	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	

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

ISBT Procedure 2.0 2019-10	Determination of the purity of carbon dioxide	AD
ISBT Procedure 3.0 2019-10	Determination of the water content of carbon dioxide	AD
ISBT Procedure 4.0N 2015-03	Determination of the water content of nitrogen	AD
ISBT Procedure 6.0 2019-10	Determination of ammonia in carbon dioxide	AD
ISBT Procedure 7.0 2019-10	Determination of nitrogen oxides in carbon dioxide	AD
ISBT Procedure 7.1 2019-10	Determination of nitrogen dioxide in carbon dioxide	AD
ISBT Procedure 7.2 2019-10	Determination of nitrogen monoxide in carbon dioxide	AD
ISBT Procedure 7.0N 2015-03	Evaluation of the smell of nitrogen	AD
ISBT Procedure 15.0 2019-10	Evaluation of the appearance and smell of solid carbon dioxide (snow sample)	AD
ISBT Procedure 16.0 2019-10	Evaluation of the appearance, smell and taste of carbon dioxide in water	AD
ISBT Procedure 17.0 2019-10	Determination of hydrogen cyanide in carbon dioxide	AD
ISBT Procedure 19.0 2019-10	Determination of phosphine in carbon dioxide	AD
HV-LU 24 2020-02	Determination of volatile hydrocarbons and permanent gases in carbon dioxide and other technical gases by gas chromatography with helium ionisation detection and flame ionisation detection	AD

HV-LU 45 2020-01	Gravimetric determination of non-volatile residues and particles in carbon dioxide and other technical gases	AD
HV-LU 47 2019-06	Determination of aldehydes in carbon dioxide by HPLC with UV detection after solid phase extraction	AD
HV-LU 49 2020-02	Determination of volatile inorganic sulphur compounds and methyl mercaptan in carbon dioxide and other technical gases by gas chromatography with sulphur chemiluminescence detection	AD
HV-LU 51 2018-09	Determination of 15 polycyclic aromatic hydrocarbons (PAHs) in carbon dioxide and other technical gases by HPLC with fluorescence or UV detection after liquid-liquid extraction	AD
HV-LU 57 2019-07	Determination of volatile halogenated hydrocarbons in carbon dioxide and other technical gases by gas chromatography with electron capture detection (GC/ECD)	AD
HV-LU 58 2018-01	Determination of volatile halogenated hydrocarbons, benzene and some derivatives in carbon dioxide by headspace gas chromatography with mass spectrometric detection	AD
HV-LU 59 2018-07	Determination of organic solvents in carbon dioxide by headspace gas chromatography with flame ionisation detection	AD
HV-LU 63 2018-07	Bestimmung von Ethylenoxid in Kohlendioxid und anderen technischen Gasen mittels Gaschromatographie mit Flammenionisationsdetektion (GC/FID)	AD
HV-LU 65 2019-06	Bestimmung von Sulfiden und Mercaptanen in Kohlendioxid und anderen technischen Gasen mittels Gaschromatographie mit Schwefel-Chemilumineszenzdetektion	AD
HV-LU 70 2016-01	Bestimmung von mikrobiologischen Parametern in Kohlendioxid	AD
HV-LU 115 2019-06	Bestimmung der nichtflüchtigen organischen Rückstände in Kohlendioxid mittels Gaschromatographie mit massenspektrometrischer Detektion	AD
HV-LU 135 2019-12	Probenahme von flüssigem und gasförmigem Kohlendioxid	AD

HV-LU 136 2019-06	Bestimmung von Phenolen in flüssigem Kohlendioxid mittels HPLC und UV-Detektion	AD

Abbreviations used:

ASU	Official Collection of Methods of Analysis on the basis of Section 64 Lebensmittel- und Futtermittelgesetzbuch (German Food and Feed Act)
DEV	Deutsches Einheitsverfahren (German standard method)
DIN	Deutsches Institut für Normung e. V. (German Institute for Standardization)
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
Ph. Eur.	European Pharmacopoeia
UBA	Umweltbundesamt (Federal Environment Agency)
VDI	Verein deutscher Ingenieure (Association of German Engineers)