



EA MLA Signatory  
Český institut pro akreditaci, o.p.s.  
Olšanská 54/3, 130 00 Praha 3

issues

according to section 16 of Act No. 22/1997 Coll., on technical requirements for products, as amended

# CERTIFICATE OF ACCREDITATION

No. 701/2021

**Technická univerzita v Liberci**  
with registered office Studentská 1402/2, 460 01 Liberec 1, Company Registration No. 46747885

to the Testing Laboratory No. 1611  
Chemical Decontamination Methods Laboratory

Scope of accreditation:

Chemical analyses of water, extracts, soils, waste, sludge, sediments, vegetable materials, chemicals, metals, aerosols; microbiological and biological analyses of water; checks of sterilizer efficiency; testing of products for contact with water and food. Sampling of water to the extent as specified in the appendix to this Certificate.

This Certificate of Accreditation is a proof of Accreditation issued on the basis of assessment of fulfillment of the accreditation criteria in accordance with

ČSN EN ISO/IEC 17025:2018

In its activities performed within the scope and for the period of validity of this Certificate, the Body is entitled to refer to this Certificate, provided that the accreditation is not suspended and the Body meets the specified accreditation requirements in accordance with the relevant regulations applicable to the activity of an accredited Conformity Assessment Body.

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 588/2020 of 30. 9. 2020, or any administrative acts building upon it.

The Certificate of Accreditation is valid until: **29. 5. 2024**

Prague: 31. 12. 2021



Lukáš Burda  
Director of the Department  
of Testing and Calibration Laboratories  
Czech Accreditation Institute  
Public Service Company

**The Appendix is an integral part of  
Certificate of Accreditation No. 701/2021 of 31/12/2021**

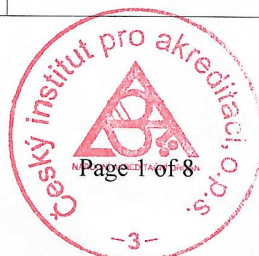
**Accredited entity according to ČSN EN ISO/IEC 17025:2018:**

**Technická univerzita v Liberci**  
Chemical Decontamination Methods Laboratory  
Bendlova 1409/7, 460 01 Liberec 1

*The laboratory has a flexible scope of accreditation permitted as detailed in the Annex.  
Updated list of activities provided within the required flexible scope of accreditation is  
available at the laboratory from the Laboratory Quality Manager.  
The laboratory provides expert opinions and interprets test results.*

Tests:

Ordinal number <sup>1</sup>	Test procedure/method name	Test procedure/method identification <sup>2</sup>	Tested object
1	Detection and enumeration of coliform bacteria and <i>Escherichia coli</i> by membrane filtration method	SOP M 6 (ČSN EN ISO 9308-1:2001, ČSN EN ISO 9308-1:2015)	Drinking, bathing, hot, ground, mineral water
2	Enumeration of culturable microorganisms by direct inoculation in a nutrient agar culture medium	ČSN EN ISO 6222	Drinking, raw, bathing, surface, hot, ground, mineral water
3	Detection and enumeration of <i>Pseudomonas aeruginosa</i> by membrane filtration method	ČSN EN ISO 16266	Drinking, raw, bathing, surface, hot, ground, bottled water
4	Enumeration of coagulase-positive staphylococci ( <i>Staphylococcus aureus</i> and other species) by membrane filtration method	SOP M 3 (ČSN EN ISO 6888-1)	Drinking, raw, bathing, surface, hot water
5	Detection and enumeration of <i>Legionella spp.</i> by membrane filtration method	ČSN ISO 11731	Hot, bathing water
6	Detection and enumeration of <i>Clostridium perfringens</i> (including spores) by membrane filtration method	SOP M 1 (MoH Regulation No. 252/2004 Coll.)	Drinking, raw, bathing, surface, ground water





**The Appendix is an integral part of  
Certificate of Accreditation No. 701/2021 of 31/12/2021**

**Accredited entity according to ČSN EN ISO/IEC 17025:2018:**

**Technická univerzita v Liberci**  
Chemical Decontamination Methods Laboratory  
Bendlova 1409/7, 460 01 Liberec 1

Ordinal number <sup>1</sup>	Test procedure/method name	Test procedure/method identification <sup>2</sup>	Tested object
7	Detection and enumeration of intestinal enterococci by membrane filtration method	ČSN EN ISO 7899-2	Drinking, raw, bathing, hot, surface, ground, mineral water
8	Detection and enumeration of thermotolerant coliform bacteria and <i>Escherichia coli</i> by membrane filtration method	ČSN 75 7835	Raw, surface, ground, bathing water
9	Examination of biological indicators by cultivation	SOP M (AHM No. 1/2014 NIPH Prague)	Sterilizers
10	Detection and enumeration of coliform bacteria in non-disinfected water by membrane filtration method	ČSN 75 7837	Raw, surface, ground water
11	Biological analysis - determination of microscopic image	ČSN 75 7712	Drinking, bottled, ground, surface, raw, mineral water
12	Determination of abioseston by microscopic method	ČSN 75 7713	Drinking, raw, ground, surface water
13	Detection and enumeration of the spores of sulphite-reducing anaerobes ( <i>Clostridia</i> )	ČSN EN 26461-2	Drinking, ground, surface, raw, mineral water
14	Determination and analyses of aerophytic green algae by optical microscopy	SOP M 7 (technical literature <sup>8</sup> )	External plasters of buildings
15	Determination of <i>Clostridium perfringens</i> by membrane filter method	ČSN EN ISO 14189	Drinking, raw, bathing, ground, surface water
16 - 48	Reserved		

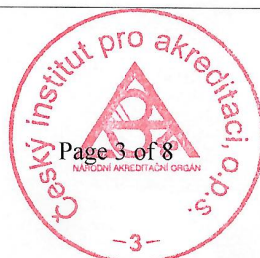


**The Appendix is an integral part of  
Certificate of Accreditation No. 701/2021 of 31/12/2021**

**Accredited entity according to ČSN EN ISO/IEC 17025:2018:**

**Technická univerzita v Liberci**  
Chemical Decontamination Methods Laboratory  
Bendlova 1409/7, 460 01 Liberec 1

Ordinal number <sup>1</sup>	Test procedure/method name	Test procedure/method identification <sup>2</sup>	Tested object
49	Determination of Biochemical Oxygen Demand (BOD <sub>n</sub> ) by oxygen sensor measurement	SOP CH 54 (ČSN EN 1899-1, ČSN EN 1899-2)	Waste, surface, raw water
50	Respirometric Biochemical Oxygen Demand (BOD <sub>n</sub> ) determination	SOP CH 53 (WTW documents <sup>9</sup> )	Waste, surface, raw water
51	Determination of chemical oxygen demand (COD) by spectrophotometry with Hach set	SOP CH 1 - a (ČSN ISO 6060, Hach set manual)	Surface, ground, waste water
52	Determination of nitrate and nitrate nitrogen by spectrophotometry with Hach set	SOP CH 1 - e (ČSN 75 7455, Hach set manual)	Drinking, bathing, ground, surface, waste water
53*	Determination of free and total chlorine by photometry using Hach set and bound chlorine by calculation	SOP CH 2 (ČSN EN ISO 7393-2, Hach set manual)	Drinking, bathing water, distilled, demineralized water and water for dialysis
54	Determination of turbidity by turbidimetry	ČSN EN ISO 7027-1	Bathing water
55	Determination of dissolved solids (DS) and dissolved inorganic salts (DIS) by gravimetry. Determination of total evaporation residue.	SOP CH 4 (ČSN 75 7346, ČSN 75 7347)	Drinking, raw, surface, waste, ground water
56	Determination of suspended solids (SS) by gravimetry	SOP CH 5 (ČSN EN 872, ČSN 75 7350)	Raw, surface, waste, ground water
57*	Determination of pH by potentiometry	SOP CH 7 (ČSN ISO 10523)	Drinking, raw, bathing, surface, hot, waste, ground, purified <sup>7</sup> water
58*	Determination of redox potential	ČSN 75 7367	Bathing, ground, waste, surface water





**The Appendix is an integral part of  
Certificate of Accreditation No. 701/2021 of 31/12/2021**

**Accredited entity according to ČSN EN ISO/IEC 17025:2018:**

**Technická univerzita v Liberci**  
Chemical Decontamination Methods Laboratory  
Bendlova 1409/7, 460 01 Liberec 1

Ordinal number <sup>1</sup>	Test procedure/method name	Test procedure/method identification <sup>2</sup>	Tested object
59*	Determination of electrical conductivity	ČSN EN 27888	Drinking, raw, bathing, surface, waste, ground, purified <sup>7</sup> water
60*	Determination of dissolved oxygen electrochemically	SOP CH 6 (ČSN EN ISO 5814, ČSN ISO 17289)	Bathing, surface and ground water
61*	Determination of temperature	ČSN 75 7342	Drinking, raw, bathing, surface, hot, ground water
62*	Preliminary sensory analysis of water	SOP CH 8 (ČSN 75 7340, ČSN EN 1622)	Drinking water, bathing water
63	Determination of colour by spectrophotometry	SOP CH 13 (ČSN EN ISO 7887)	Drinking, bathing, ground, surface water
64	Determination of ammonium by spectrophotometry and ammonia nitrogen by calculation	SOP CH 25 (ČSN ISO 7150-1)	Drinking, bathing, ground, surface, waste water, aqueous extract
65	Reserved		
66	Determination of turbidity nephelometrically	SOP CH 55 (ČSN EN ISO 7027-1, Lovibond manual)	Drinking, bathing water
67	Determination of acid neutralizing capacity (ANC) by titration	SOP CH 22 (ČSN EN ISO 9963-1)	Drinking, waste, ground, surface, raw water
68	Determination of basic neutralizing capacity (BNC) by titration and of free CO <sub>2</sub> by calculation from measured values	SOP CH 23 (ČSN 75 7372, ČSN 75 7373)	Drinking, waste, ground, surface, raw water
69	Determination of chlorophyll-a by spectrophotometry	ČSN ISO 10260	Bathing, surface water
70	Reserved		
71	Determination of dry residue (water content) and calculation of dry matter fraction	SOP CH 48 (ČSN EN 15934)	Sludge, waste and soils
72	Determination of loss on ignition	SOP CH 49 (ČSN EN 15935)	Sludge, waste and soils



**The Appendix is an integral part of  
Certificate of Accreditation No. 701/2021 of 31/12/2021**

**Accredited entity according to ČSN EN ISO/IEC 17025:2018:**

**Technická univerzita v Liberci**  
Chemical Decontamination Methods Laboratory  
Bendlova 1409/7, 460 01 Liberec 1

Ordinal number <sup>1</sup>	Test procedure/method name	Test procedure/method identification <sup>2</sup>	Tested object
73	Determination of nitrates, nitrites, chlorides, sulphates, fluorides, phosphates, bromates, chlorites and chlorates by ion chromatography. Determination of N-inorganic and forms of N-NO <sub>3</sub> , N-NO <sub>2</sub> by calculation from measured values. Determination of the sum of chlorates and chlorites by calculation from measured values.	SOP CH 9 (ČSN EN ISO 10304-1)	Drinking, bathing, waste, ground, surface, purified <sup>7</sup> water, extract
74	Determination of TC, TOC, TIC, DOC, NPOC and TN <sub>b</sub> by combustion method	SOP CH 17 (ČSN EN 1484, ČSN EN 12260)	Drinking, bathing, ground, surface, waste water
75	Determination of selected elements <sup>4</sup> by ICP-OES method	SOP CH 11 - a (ČSN EN ISO 11885, Perkin Elmer application notes)	Drinking, bottled, raw, bathing, surface, hot, waste, ground, process, purified <sup>7</sup> water, extract <sup>6</sup>
76	Determination of selected elements <sup>4</sup> by ICP-OES method	SOP CH 11 - b (ČSN EN ISO 11885, Perkin Elmer application notes)	Soils, rocks, sludge, sediments and waste, including extract of them, filters with aerosol samples
77	Determination of selected elements <sup>4</sup> by ICP-OES method	SOP CH 11 - c (ČSN EN ISO 11885, Perkin Elmer application notes)	Vegetable materials
78	Reserved		
79	Determination of selected elements <sup>5</sup> by ICP-MS method	SOP CH 16 - a (ČSN EN ISO 17294-1, ČSN EN ISO 17294-2)	Drinking, bottled, raw, bathing, surface, hot, waste, ground, process, purified <sup>7</sup> water, extract <sup>6</sup>
80	Determination of selected elements <sup>5</sup> by ICP-MS method	SOP CH 16 - b (ČSN EN ISO 17294-1, ČSN EN ISO 17294-2)	Soils, rocks, sludge, sediments and waste





**The Appendix is an integral part of  
Certificate of Accreditation No. 701/2021 of 31/12/2021**

**Accredited entity according to ČSN EN ISO/IEC 17025:2018:**

**Technická univerzita v Liberci**  
Chemical Decontamination Methods Laboratory  
Bendlova 1409/7, 460 01 Liberec 1

Ordinal number <sup>1</sup>	Test procedure/method name	Test procedure/method identification <sup>2</sup>	Tested object
81	Determination of selected elements <sup>5</sup> by ICP-MS method	SOP CH 16 - c (ČSN EN ISO 1729-1, ČSN EN ISO 1729-2)	Vegetable materials
82-83	Reserved		
84	Determination of hydrocarbons C <sub>10</sub> -C <sub>40</sub> by GC/FID method	SOP CH 14 a (ČSN EN ISO 9377-2)	Raw, ground, surface, waste water
85	Determination of volatile organic compounds <sup>3</sup> by head space GC/MS, GC/FID method	SOP CH 10 (ČSN EN ISO 10301)	Drinking, hot, raw, waste, ground, surface water
86	Determination of mercury by atomic absorption method by AMA 254 analyzor	SOP CH 30 (ČSN 75 7440)	Drinking, bottled, raw, bathing, surface, hot, waste, ground, process water, purified <sup>7</sup> water, extract <sup>6</sup> , soils, rocks, sludge, sediments and waste, vegetable materials

Annex:

Flexible scope of accreditation

Ordinal numbers of tests
<i>1 - 13, 15</i>

The Laboratory is allowed to modify the test methods listed in the Annex within the specified scope of accreditation provided the measuring principle is observed. The flexible approach to the scope of accreditation cannot be applied to the tests not included in the Annex.



**The Appendix is an integral part of  
Certificate of Accreditation No. 701/2021 of 31/12/2021**

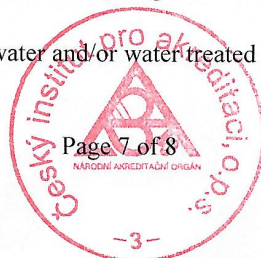
**Accredited entity according to ČSN EN ISO/IEC 17025:2018:**

**Technická univerzita v Liberci**  
Chemical Decontamination Methods Laboratory  
Bendlova 1409/7, 460 01 Liberec 1

**Sampling:**

Ordinal number	Sampling procedure name	Sampling procedure identification <sup>1</sup>	Sampled object
1	Drinking water sampling	SOP VZ 1 (ČSN EN ISO 5667-1, ČSN EN ISO 5667-3, ČSN ISO 5667-5, ČSN EN ISO 5667- 14, ČSN EN ISO 19458, MoH Regulation No. 252/2004 Coll.)	Drinking water
2	Bathing water sampling	SOP VZ 2 (ČSN EN ISO 5667-1, ČSN EN ISO 5667-3, ČSN ISO 5667- 4, ČSN EN ISO 5667-6, ČSN EN ISO 5667-14, ČSN EN ISO 19458, MoH Regulation No. 238/2011 Coll.)	Bathing water
3	Sampling by biological and non-biological systems for the check of sterilization efficiency of devices	SOP VZ 4 (ČSN EN ISO 11138-1, ČSN EN ISO 11138-3, ČSN EN ISO 11140-1, MoH Regulation No. 306/2012 Coll., AHEM No. 1/2014 NIPH Praha)	Sterilizers

- <sup>1</sup> asterisk at the ordinal number identifies the tests, which the laboratory is qualified to carry out outside the permanent laboratory premises
- <sup>2</sup> if the document identifying the test/sampling procedure is dated, only these specific procedures are used. If the document identifying the test/sampling procedure is not dated, the latest edition of the specified procedure is used (including any changes)
- <sup>3</sup> benzene, toluene, ethylbenzene, xylenes, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, TCE (trichloroethene), VC (vinylchloride), PCE (tetrachloroethene), TCM (trichloromethane), PCM (tetrachloromethane), chlorobenzene, dichlorobenzenes, 1,2-dichlorethane, bromdichloromethane, dibromchloromethane, bromoform
- <sup>4</sup> Ag, Al, As, Au, B, Ba, Be, Ca, Cd, Co, Cr, Cr<sup>3+</sup>, Cr<sup>6+</sup>, Cu, Fe, Ir, K, Mg, Mn, Mo, Na, Ni, P, Pb, Pd, Pt, Rh, Ru, Sb, Sn, Se, Sr, Ti, Tl, V, Zn, total Ca + Mg
- <sup>5</sup> Ag, Al, As, Au, B, Ba, Be, Br, Ca, Cd, Co, Cr, Cr<sup>3+</sup>, Cr<sup>6+</sup>, Cu, Fe, Hg, I, Ir, K, Mg, Mn, Mo, Na, Ni, P, Pb, Pd, Pt, Rh, Ru, Sb, Sn, Se, Sr, Th, Ti, Tl, U, V, Zn, total Ca + Mg
- <sup>6</sup> extract - from solid materials, waste or products (including consumer goods and products for contact with water or food), into water or other liquid media according to the requirements of customers or valid regulations
- <sup>7</sup> purified water – distilled, demineralized water and/or water treated by softening agent





**The Appendix is an integral part of  
Certificate of Accreditation No. 701/2021 of 31/12/2021**

**Accredited entity according to ČSN EN ISO/IEC 17025:2018:**

**Technická univerzita v Liberci**  
Chemical Decontamination Methods Laboratory  
Bendlova 1409/7, 460 01 Liberec 1

- <sup>8</sup> technical literature:  
T. KALINA, J. VÁŇA. Sinice, řasy, houby, mechorosty a podobné organismy v současné biologii. Praha: Karolinum, 2005  
M. ZAHRADNÍKOVÁ, H. L. ANDERSEN, T. TØNSBERG a A. BECK. Molecular Evidence of Apatococcus, including A. fuscidea sp. nov., as Photobiont in the Genus Fuscidea. Protist [online]. 2017, 168(4), 425-438. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1434461017300548>  
H. Ettl, G. GÄRTNER. Syllabus der Boden-, Luft- und Flechtenalgen. 2., ergänzte Aufl. Berlin: Springer Berlin, 2013
- <sup>9</sup> WTW literature:  
Operation of the Single Measuring System OxiTop, Instruction manual  
AR\_BOD5\_domestic waste water\_lab\_02\_E, Application report, WTW  
AR\_BOD5\_waste water, (in)organic toxins or inhibitors\_lab\_01\_E, Application report, WTW  
AR\_BOD\_system supervision\_lab\_01\_E, Application report, WTW  
Determination of Biochemical Oxygen Demand (BOD), WTW

**Explanations and abbreviations:**

GC/MS	– Gas Chromatography/Mass Spectrometry
GC/FID	– Gas chromatography / Flame Ionization Detector
ICP-OES	– Inductively Coupled Plasma - Optical Emission Spectrometry
ICP-MS	– Inductively Coupled Plasma - Mass Spectrometry
AMA	– Advanced Mercury Analyzer
TC	– total carbon
TOC	– total organic carbon
TIC	– total inorganic carbon
DOC	– dissolved organic carbon
NPOC	– non-purgeable organic carbon
TN <sub>b</sub>	– total nitrogen bound

