

**The Appendix is an integral part of
Certificate of Accreditation No. 582/2018 of 02/11/2018**

Accredited entity according to ČSN EN ISO/IEC 17025:2005:

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The Laboratory is qualified to update standards identifying the test procedures.

The laboratory has a flexible scope of accreditation permitted as detailed in the Annex.

Updated list of activities provided within the flexible scope of accreditation is available at the laboratory from the Laboratory Manager.

The laboratory provides expert opinions and interprets test results.

Tests:

Ordinal number	Test procedure/method name	Test procedure/method identification	Tested object
1	Determination of electrical conductivity.	SOP No.1.2.1 (ČSN EN 27 888)	Drinking, ground, surface and waste water, aqueous extracts
2	Determination of potential of hydrogen (pH) - by potentiometry	SOP No.1.2.2 (ČSN ISO 10523)	Drinking, ground, surface and waste water, aqueous extracts
3	Determination of acid neutralizing capacity (ANC-alkalinity) - by titrimetric method	SOP No.1.2.3 (ČSN EN ISO 9963-1)	Drinking, ground, surface and waste water
4	Determination of chemical oxygen demand with permanganate (COD-Mn)	SOP No.1.2.4 (ČSN EN ISO 8467)	Drinking, surface, ground and raw water
5	Determination of chemical oxygen demand using dichromate (CHSK-Cr) – test-tube method	SOP No.1.2.5 (ČSN ISO 15705)	Ground, surface and waste water
6	Determination of suspended solids - gravimetric method	SOP No.1.2.6 (ČSN EN 872)	Drinking, ground, surface and waste water
7	Determination of dissolved solids, dissolved inorganic salts (DIS) - gravimetric method	SOP No.1.2.7 (ČSN 75 7346, ČSN 75 7347)	Drinking, ground, surface and waste water, aqueous extracts
8	Determination of ammonium - spectrophotometric method and ammonia nitrogen by calculation from measured values	SOP No.1.2.8 (ČSN ISO 7150-1)	Drinking, ground, surface and waste water
9	Determination of total phosphorus - Spectrophotometric method using MERCK commercial set	SOP No.1.2.9B (ČSN EN ISO 6878, Merck Manual)	Surface and waste water
10	Determination of nitrite by spectrophotometric method and nitrite nitrogen by calculation from measured values	SOP No.1.2.10 (ČSN EN 26777)	Drinking, ground, surface and waste water



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Ordinal number	Test procedure/method name	Test procedure/method identification	Tested object
11	Determination of nitrate - Spectrophotometric method in UV range	SOP No.1.2.11 (Chemical and Physical Methods for Water Analysis, SNTL 1986)	Drinking and ground water
12	Determination of nitrate by spectrophotometric method and nitrate nitrogen by calculation from measured values	SOP No.1.2.12 (ČSN ISO 7890-3)	Drinking, ground, surface and waste water
13	Determination of sulphate - gravimetric method using barium chloride	SOP No.1.2.13 (TNV 75 7476)	Drinking, ground, surface and waste water, aqueous extracts
14	Determination of chloride - Mohr titration method	SOP No.1.2.14 (ČSN ISO 9297)	Drinking, ground, surface and waste water, aqueous extracts
15	Determination of colour - spectrophotometric method	SOP No.1.2.15 (ČSN EN ISO 7887)	Drinking and ground water
16	Determination of turbidity - spectrophotometric method, nephelometry	SOP No.1.2.16A (ČSN EN ISO 7027)	Drinking and ground water
17	Determination of turbidity - spectrophotometric method, turbidimetry	SOP o.1.2.16B (ČSN EN ISO 7027)	Drinking and ground water
18	Determination of absorbance - spectrophotometric method	SOP No.1.2.17 (ČSN 75 7360)	Drinking and ground water
19	Determination of fluoride - ISE electrode method	SOP No.1.2.18 (ČSN ISO 10359-1)	Drinking, ground, surface and waste water, aqueous extracts
20	Determination of boron - spectrophotometric method	SOP No.1.2.19 (ČSN ISO 9390)	Drinking, ground, surface and waste water
21	Determination of biological oxygen demand (BOD 5) - electrochemical method with membrane probe	SOP No.1.2.20 (ČSN EN 1899-1, ČSN EN 1899-2)	Drinking, ground, surface and waste water
22	Determination of base neutralizing capacity (BNC - acidity) - tritrimetric method	SOP No.1.2.21 (ČSN 75 7372)	Drinking, ground, surface and waste water
23	Determination of dissolved oxygen - electrochemical method with membrane probe	SOP No.1.2.22 (ČSN EN ISO 5814)	Drinking, ground, surface and waste water
24	Determination of extractives - gravimetric method	SOP No.1.2.23 (ČSN 75 7508)	Surface and waste water

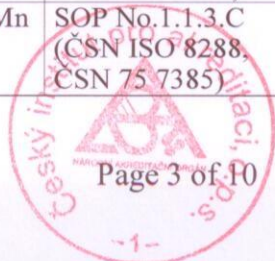


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Ordinal number	Test procedure/method name	Test procedure/method identification	Tested object
25	Determination of total nitrogen - Kjeldahl method, by titration and inorganic and organic nitrogen by calculation from measured values	SOP No.1.2.28 (ČSN 83 0540 Part 13)	Ground, surface and waste water
26	Determination of total nitrogen and nitrogenous substances - Kjeldahl method	SOP No.1.9.1 (Uniform working procedures ÚKZÚZ, "Analysis of Vegetable Material", Chapter 3.1.1)	Vegetable material, feedstuffs
27-39	Reserved		
40	Determination of Ca, Mg - flame AAS method and water hardness (Ca+Mg) by calculation from measured values	SOP No.1.1.1.A (ČSN ISO 7980)	Drinking, ground, surface and waste water
41	Determination of Ca, Mg - flame AAS method	SOP No.1.1.1.B (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN ISO 7980)	Sludge, soil, compost, sediment, substrate, fertilizers
42	Determination of Na, K - flame AAS method	SOP No.1.1.2A (ČSN ISO 9964-1, ČSN ISO 9964-2)	Drinking, ground, surface and waste water
43	Determination of Na - flame AAS method	SOP No.1.1.2B (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN ISO 9964-1)	Sludge, soil, compost, sediment, substrate
44	Determination of K - flame AAS method	SOP No.1.1.25 (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN ISO 9964-2)	Sludge, soil, compost, sediment, substrate, fertilizers
45	Determination of Co, Ni, Pb - flame AAS method	SOP No.1.1.3.A (ČSN ISO 8288)	Surface and waste water, aqueous extracts
46	Determination of Co, Ni, Pb - flame AAS method	SOP No.1.1.3.B (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN ISO 8288)	Sludge, soil, compost, sediment, substrate, fertilizers
47	Determination of Cu, Zn, Mn - flame AAS method	SOP No.1.1.3.C (ČSN ISO 8288, ČSN 75 7385)	Drinking, ground, surface and waste water, aqueous extracts



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Ordinal number	Test procedure/method name	Test procedure/method identification	Tested object
48	Determination of Cu, Zn, Mn - flame AAS method	SOP No.1.1.3.D (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN ISO 8288, ČSN 75 7385)	Sludge, soil, compost, sediment, substrate, fertilizers
49	Determination of Cu, Zn, Mn - flame AAS method	SOP No.1.1.3.E (Uniform working procedures ÚKZÚZ, "Analysis of Vegetable Material", Chap. 2.2.3, ČSN ISO 8288, ČSN 75 7385)	Vegetable material, food, feedstuffs
50	Determination of Cd - flame AAS method	SOP No.1.1.3.F (ČSN ISO 8288)	Waste water, aqueous extracts
51	Determination of Cd - flame AAS method	SOP No.1.1.3.G (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN ISO 8288)	Sludge, soil, compost, sediment, substrate, fertilizers
52	Determination of Fe - flame AAS method	SOP No.1.1.4.A (ČSN 75 7385)	Drinking, ground, surface and waste water, aqueous extracts
53	Determination of Fe - flame AAS method	SOP No.1.1.4.B (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN 75 7385)	Sludge, soil, compost, sediment, substrate, fertilizers
54	Determination of Fe - flame AAS method	SOP No.1.1.4.C (Uniform working procedures ÚKZÚZ, "Analysis of Vegetable Material", Chap. 2.2.3, ČSN 75 7385)	Vegetable material, food, feedstuffs
55	Determination of Cd - AAS-ETA method	SOP No.1.1.9.A (ČSN EN ISO 5961)	Drinking, ground, surface and waste water, aqueous extracts
56	Determination of Cd - AAS-ETA method	SOP No.1.1.9.B (Uniform working procedures ÚKZÚZ, "Analysis of Vegetable Material", Chap. 2.2.2, ČSN EN ISO 5961)	Vegetable material, food, feedstuffs
57	Determination of Cr - flame AAS method	SOP No.1.1.10.A (ČSN EN 1233)	Surface and waste water, aqueous extracts



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Ordinal number	Test procedure/method name	Test procedure/method identification	Tested object
58	Determination of Cr - flame AAS method	SOP No.1.1.10.B (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN EN 1233)	Sludge, soil, compost, sediment, substrate, fertilizers
59	Determination of Cr - AAS-ETA method	SOP No.1.1.11.A (ČSN EN 1233)	Drinking, ground, surface and waste water, aqueous extracts
60	Determination of Cr - AAS-ETA method	SOP No.1.1.11.B (Uniform working procedures ÚKZÚZ, "Analysis of Vegetable Material", Chap. 2.2.2, ČSN EN 1233)	Vegetable material, food, feedstuffs
61	Determination of Ni - AAS-ETA method	SOP No.1.1.12.A (ČSN EN ISO 15586)	Drinking, ground, surface and waste water, aqueous extracts
62	Determination of Pb - AAS-ETA method	SOP No.1.1.13.A (ČSN EN ISO 15586)	Drinking, ground, surface and waste water, aqueous extracts
63	Determination of Pb - AAS-ETA method	SOP No.1.1.13.B (Uniform working procedures ÚKZÚZ, "Analysis of Vegetable Material", Chap. 2.2.2, ČSN EN ISO 15586)	Vegetable material, food, feedstuffs
64	Determination of Mo - AAS-ETA method	SOP No.1.1.14.A (ČSN EN ISO 15586)	Drinking, ground, surface and waste water, aqueous extracts
65	Determination of Mo - AAS-ETA method	SOP No.1.1.14.B (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN EN ISO 15586)	Sludge, soil, compost, sediment, substrate, fertilizers
66	Determination of Be - AAS-ETA method	SOP No.1.1.15.A (ČSN EN ISO 15586)	Drinking, ground, surface and waste water, aqueous extracts
67	Determination of Be - AAS-ETA method	SOP No.1.1.15.B (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN EN ISO 15586)	Sludge, soil, compost, sediment, substrate
68	Determination of Al - AAS-ETA method	SOP No.1.1.16 (ČSN EN ISO 12020)	Drinking and ground water
69	Determination of Al - flame AAS method	SOP No.1.1.17.A (ČSN EN ISO 12020)	Surface and waste water, aqueous extracts



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Ordinal number	Test procedure/method name	Test procedure/method identification	Tested object
70	Determination of Al - flame AAS method	SOP No.1.1.17.B (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN EN ISO 12020)	Sludge, soil, compost, sediment, substrate, fertilizers
71	Determination of V - AAS-ETA method	SOP No.1.1.19.A (ČSN EN ISO 15586)	Drinking, ground, surface and waste water, aqueous extracts
72	Determination of V - AAS-ETA method	SOP No.1.1.19.B (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN EN ISO 15586)	Sludge, soil, compost, sediment, substrate
73	Determination of Ag - AAS-ETA method	SOP No.1.1.21 (ČSN 75 7400)	Drinking, ground water
74	Determination of Se - AAS-ETA method	SOP No.1.1.22 (ČSN EN ISO 15586)	Drinking, ground, surface and waste water, aqueous extracts
75	Determination of As - AAS-ETA method	SOP No.1.1.23.A (ČSN EN ISO 15586)	Drinking, ground, surface and waste water, aqueous extracts
76	Determination of As - AAS-ETA method	SOP No.1.1.23.B (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chap. 3.2.1, ČSN EN ISO 15586)	Sludge, soil, compost, sediment, substrate, fertilizers
77	Determination of As - AAS-ETA method	SOP No.1.1.23.C (Uniform working procedures ÚKZÚZ, "Analysis of Vegetable Material", Chap.2.2.2, ČSN EN ISO 15586)	Vegetable material, food, feedstuffs
78	Determination of Sb - AAS-ETA method	SOP No.1.1.24 (ČSN EN ISO 15586)	Drinking, ground, surface and waste water, aqueous extracts
79	Determination of Hg - AMA method	SOP No.1.1.18 (ČSN 75 7440)	Water, aqueous extracts, sludge, soil, compost, sediment, substrate, vegetable material, food, feedstuffs, fertilizers
80 *	Determination of odour and taste	SOP No.1.4 (ČSN EN 1622, TNV 75 7340)	Drinking water
81 *	Determination of temperature	SOP No.1.5.1 (ČSN 75 7342)	Drinking, ground, surface and waste water
82 *	Determination of free chlorine - HACH set	SOP No.1.5.2 (HACH firm method)	Drinking water



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Ordinal number	Test procedure/method name	Test procedure/method identification	Tested object
83-89	Reserved		
90	Determination of pH (Mehlich 3) - by potentiometry	SOP No.1.7.1.A (Uniform working procedures ÚKZÚZ, "Analysis of soils I", Chapter 2.3.1)	Soil
91	Determination of phosphorus (Mehlich 3) - spectrophotometric method	SOP No.1.7.1.B (Uniform working procedures ÚKZÚZ, "Analysis of Soils I", Chapter 3.1.1 and 3.1.3)	Soil
92	Determination of K (Mehlich 3) - flame AAS method	SOP No.1.7.1.C (Uniform working procedures ÚKZÚZ, "Analysis of Soils I", Chapter 3.1.1 and 3.1.4)	Soil
93	Determination of Ca and Mg (Mehlich 3) - flame AAS method	SOP No.1.7.1.D (Uniform working procedures ÚKZÚZ, "Analysis of Soils I", Chapter 3.1.1 and 3.1.2)	Soil
94	Determination of pH - by potentiometry	SOP No.1.6.1 (ČSN EN 12 176)	Sludge, sediment
95	Determination of phosphorus - spectrophotometric method	SOP No.1.6.2 (Uniform working procedures ÚKZÚZ, "Analysis of Soils II", Chapter 3.2.1, ČSN EN ISO 6878)	Sludge, soil, compost, sediment, substrate, fertilizers
96	Determination of total nitrogen - Jodlbauer method	SOP No.1.6.3 (Uniform working procedures ÚKZÚZ, "Analysis of Soils III", Chapter 2.1.5, Uniform working procedures ÚKZÚZ "Testing of Fertilizers", Part I: Determination of nitrogen, Chapter 2.4.2.5)	Sludge, soil, compost, sediment, substrate, fertilizers
97	Determination of dry matter and water content - gravimetric method	SOP No.1.6.4.A (Uniform working procedures ÚKZÚZ, "Analysis of Soils I", Chapter 2.1)	Sludge, soil, compost, sediment, substrate
98	Determination of dry matter and water content - gravimetric method	SOP No.1.6.4.B (Uniform working procedures ÚKZÚZ, "Analysis of Vegetable Material", Chapter 1.7)	Vegetable material, feedstuffs



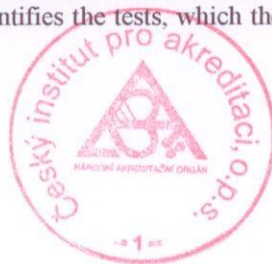
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Ordinal number	Test procedure/method name	Test procedure/method identification	Tested object
99	Determination of combustibles - gravimetric method	SOP No.1.6.5.A (ČSN EN 12879, ČSN 46 5735)	Sludge, soil, compost, sediment, substrate
100	Determination of combustibles - gravimetric method	SOP No.1.6.5.B (Uniform working procedures ÚKZÚZ "Procedures for Laboratory Testing of Feedstuffs, Complements and Premixes I", chap. 6.1)	Vegetable material, feedstuffs
101- 109	Reserved		
110	Enumeration of coliforms - membrane filtration method	SOP No.1.3.1 (ČSN 75 7837)	Drinking, surface, ground and raw water
111	Detection and enumeration of coliform bacteria and Escherichia coli - membrane filtration method	SOP No.1.3.2 (ČSN EN ISO 9308-1)	Drinking, ground and raw water
112	Detection and enumeration of thermotolerant coliform bacteria and Escherichia coli - membrane filtration method	SOP No.1.3.3 (ČSN 75 7835)	Drinking, surface, ground and raw water
113	Detection and enumeration of intestinal enterococci - membrane filtration method	SOP No.1.3.4 (ČSN EN ISO 7899-2)	Drinking, surface, ground and raw water
114	Enumeration of colonies by inoculation in a nutrient agar culture (culturable microorganisms): a) at 36°C b) at 22°C	SOP No.1.3.7 (ČSN EN ISO 6222)	Drinking, surface, ground and raw water
115	Detection and enumeration of Clostridium perfringens - membrane filtration method	SOP No.1.3.8 (MoH Regulation No. 252/2004 Coll.)	Drinking, surface, ground and raw water

¹⁾ Asterisk at the ordinal number identifies the tests, which the Laboratory is qualified to carry out outside the permanent laboratory premises.



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Annex:
Flexible scope of accreditation

Ordinal numbers of tests
1-26, 40-82, 90-100, 110-115

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.

Sampling:

Ordinal number	Sampling procedure name	Sampling procedure identification	Sampled object
1	Sampling of drinking and ground water	SOP No. 2.3.4 (ČSN EN ISO 5667-1, ČSN EN ISO 5667- 3, ČSN EN ISO 5667-16, ČSN ISO 5667-5, ČSN EN ISO 5667-14, ČSN ISO 5667-11-p. 4.2.1, ČSN EN ISO 19458)	Drinking and ground water
2	Surface water sampling (manual sampling, sampling using a sampling pump)	SOP No. 2.3.5 (ČSN EN ISO 5667-1, ČSN EN ISO 5667-3, ČSN EN ISO 5667-16, ČSN ISO 5667-4, ČSN ISO 5667-6, ČSN EN ISO 5667-14)	Surface water
3	Waste water sampling (manual sampling and sampling using an automatic sampler)	SOP No. 2.3.6 (ČSN EN ISO 5667-1, ČSN EN ISO 5667- 3, ČSN ISO 5667-10, ČSN EN ISO 5667- 14)	Waste water
4	Sampling of sludge	SOP No. 2.4.1 (ČSN EN ISO 5667-1, ČSN EN ISO 5667-13, ČSN EN ISO 5667-15)	Sludge
5	Sampling of bottom sediments	SOP No. 2.4.3 (ČSN EN ISO 5667-1, ČSN ISO 5667-12, ČSN EN ISO 5667-15)	Sediment



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Ordinal number	Sampling procedure name	Sampling procedure identification	Sampled object
6	Sampling of solid bulk materials from heaps and containers	SOP No. 2.4.4.1 (ČSN EN ISO 5667-1, ČSN EN ISO 5667-15, ČSN EN 14899) Ministry of Environment Guideline (2008)	Solid bulk materials

Explanations:

Aqueous extracts - Aqueous extracts within the scope of Regulation No. 294/2005 Coll.

Substrate - solid environment, from which land plants gain water and nutrients

Sediment - bottom deposits of water streams, ponds and other water reservoirs

Solid bulk materials - soils, sludge, sediments, waste, mined soils, debris, fertilizers

SOP - Standard Operating Procedure EKOAKVA LABORATORY

ÚKZÚZ – Central Institute for Supervising and Testing in Agriculture

TNV - Branch Technical Standard of Water Management

MoH - Ministry of Health of the Czech Republic

AAS (flame) - Atomic Absorption Spectrometry (Flame Method)

AAS (ETA) - Atomic Absorption Spectrometry (Electrothermal Atomization Method)

ISE - Ion Selective Electrode

AMA - Advanced Mercury Analyzer

Uniform working procedures ÚKZÚZ, "Analysis of Vegetable Material" - 2005

Uniform working procedures ÚKZÚZ, "Analysis of Soils I" - 2010

Uniform working procedures ÚKZÚZ, "Analysis of Soils II" - 2011

Uniform working procedures ÚKZÚZ "Procedures for Laboratory Testing of Feedstuffs, Complements and Premixes I" - 2000

