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The laboratory applies a flexible approach to the scope of accreditation. The current list of activities carried out within the flexible scope is publicly available on the laboratory's website <u>http://laborator.litolab.cz/uvod/uvod/akreditace/</u> in the form "List of activities within the flexible scope". Detailed information on activities within the scope of accreditation (determined analytes/ subject of testing) is given in the section "Specification of the scope of accreditation"

Ordinal number ¹	Test procedure / method name	Test procedure / method identification ²	Subject of the test	Degrees of freedom ³
1	Determination of pH by potentiometry	SOP - 1 (ČSN ISO 10523)	Water, aqueous extracts	А
2	Determination of electrical conductivity	SOP - 2 (ČSN EN 27888)	Water, aqueous extracts of waste	А
3	Determination of BOD-5 after incubation using an optical sensor	SOP - 3 (ČSN EN ISO 5815-1; ČSN ISO 17289)	Drinking, raw, processed and treated water, surface, percolation and waste water	A
4	Determination of acid neutralizing capacity (ANC) by titration	SOP - 4 (ČSN EN ISO 9963-1)	Water, aqueous extracts of waste	A
5	Determination of dissolved anions by liquid ion chromatography method ⁷⁾	SOP - 5 (ČSN EN ISO 10304-1; ČSN EN ISO 10304-4; ČSN EN ISO 15061)	Water, aqueous extracts	A, B, D
6	Determination of chemical oxygen demand with permanganate (COD-Mn) by titration	SOP - 6 (ČSN EN ISO 8467)	Water, aqueous extracts of waste	A
7	Determination of ammonium by spectrophotometry, ammonia and inorganic nitrogen by calculation	SOP - 7 (ČSN ISO 7150-1)	Water, aqueous extracts of waste	A
8	Determination of nitrate by spectrophotometry and nitrate nitrogen by calculation	SOP - 8 (ČSN 75 7455)	Water, aqueous extracts of waste	A
9	Determination of nitrite by spectrophotometry and nitrite nitrogen by calculation	SOP - 10 (ČSN EN 26777)	Water, aqueous extracts of waste	A
10	Determination of chlorides by titration	SOP - 11 (ČSN ISO 9297)	Water, aqueous extracts of waste	А
11	Determination of chemical oxygen demand with dichromate (COD _{Cr}) by spectrophotometry	SOP - 13 (ČSN ISO 15705)	Water, aqueous extracts of waste	A
12	Determination of dissolved solids (DS) and dissolved inorganic salts (DIS) by gravimetry	SOP – 14 (ČSN 75 7346; ČSN 75 7347)	Water, aqueous extracts of waste	A, B
13	Determination of suspended solids by gravimetry	SOP - 15 (ČSN EN 872)	Water, aqueous extracts of waste	A, B
14	Determination of orthophosphate by spectrophotometry	SOP - 16 (ČSN EN ISO 6878)	Water, aqueous extracts of waste	A

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Ordinal number ¹	Test procedure / method name	Test procedure / method identification ²	Subject of the test	Degrees of freedom ³
15	Determination of fluoride by	SOP - 17	Water, aqueous extracts of	А
15	spectrophotometry	(TNV 75 7431)	waste	
	Determination of anionic	SOP - 18	Water, aqueous extracts of	А
16	surfactants by	(ČSN EN 903)	water, aqueous extracts of waste	
	spectrophotometry		waste	
17	Determination of univalent	SOP - 19	Water, aqueous extracts of	А
17	phenols by spectrophotometry	(ČSN ISO 6439)	waste	
18	Determination of hexavalent	SOP - 20	Water, aqueous extracts of	А
10	chromium by spectrophotometry	(ČSN ISO 11083)	waste	
	Determination of	SOP - 21		A, B, D
	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,	(ČSN EN ISO 11885;		
19	Cu,Fe,K,Mg,Mn,Mo,Na,Ni,P,Pb	ČSN EN 12457-4;	Water, aqueous extracts of	
19	,S,Sb, Se,Tl,V,Zn by ICP-OES	ČSN EN ISO 15587-1)	waste	
	method and total hardness by			
	calculation			
	Determination of	SOP - 21 A		A, B, D
	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,	(ČSN EN ISO 11885;	Solid matrices, mineralizates of	
20	Cu,Fe,K,Mg,Mn,Mo,Na,Ni,P,Pb	JPP ÚKZÚZ Brno	solid matrices	
	,S,Sb, Se,Tl,V,Zn by ICP-OES	Soil Analysis II 2011;	sond matrices	
	method	Analysis of Plants 2005)		
	Determination of total mercury	SOP - 22	Water, aqueous extracts of	A, D
21	by single-purpose AAS	(ČSN 75 7440)	waste	
			Solid matrices	
	Detection and enumeration of	SOP - 25	Drinking, bottled, raw,	-
	coliform bacteria and E-coli by	(ČSN EN ISO 9308-1:2015)	processed, treated, surface and	
22	membrane filtration method		pool water, water from drinks	
			machines and non-alcoholic	
			beverages, solid matrices	
	Detection and enumeration of	SOP - 26	Drinking, bottled, raw,	-
	thermotolerant coliform bacteria	(ČSN 75 7835;	processed, treated, surface and	
23	by membrane filtration method	AHEM 7/2001)	pool water, water from drinks	
			machines and non-alcoholic	
			beverages, solid matrices	
	Detection and enumeration of	SOP - 27	Drinking, bottled, raw,	-
24	intestinal enterococci by	(ČSN EN ISO 7899-2;	processed, treated, surface and	
24	membrane filtration method	AHEM 7/2001)	pool water, water from drinks	
			machines and non-alcoholic	
			beverages, solid matrices	
	Enumeration of culturable	SOP - 30	Drinking, bottled, raw,	-
25	microorganisms	(ČSN EN ISO 6222)	processed, treated, surface and	
25	by inoculation in an agar culture		pool water, water from drinks	
	medium		machines and non-alcoholic	
	a) at 22 °C b) at 36 °C		beverages	
	Determination of exchangeable	SOP - 31		А
	pH by potentiometry	(JPP ÚKZÚZ Brno 2010		
26		Soil Analysis I;	Solid matrices	
		ČSN EN ISO 10390;		
		ČSN 46 5735)		
	Determination of Ca, Mg, K and	SOP - 32		A, B, D
27	P in extract according to	(JPP ÚKZÚZ Brno 2010, Soil	All types of soils	
	Mehlich III by ICP-OES method	Analysis I)		

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Ordinal number ¹	Test procedure / method name	Test procedure / method identification ²	Subject of the test	Degrees of freedom ³
28	Determination of turbidity by nephelometry	SOP - 33 (ČSN EN ISO 7027)	Water	A
29	Determination of colour by colorimetry	SOP - 34 (ČSN EN ISO 7887)	Water	A
30	Determination of absorbance	SOP - 35 (ČSN 75 7360)	Drinking, bottled, raw, processed, treated and surface water	A, B
31	Determination of total cyanide by spectrophotometry	SOP - 36 (ČSN 75 7415)	Water, aqueous extracts of waste	A, B
32	Determination of NEL _{IR} by infrared spectrometry method	SOP - 37 (ČSN 75 7505:1998)	Water	A, D
33	Determination of EL _{IR} by infrared spectrometry method	SOP - 38 (ČSN 75 7506)	Water	A, D
34	Determination of nitrogen – method using oxidative digestion with peroxodisulfate	SOP - 39 (ČSN EN ISO 11905-1)	Water	A
35*	Determination of free and total chlorine by photometry using HACH/HANNA instrument set and bound chlorine by calculation	SOP - 40 Hach manual; HANNA instruments manual)	Drinking, bottled, raw, processed, treated, surface water and water from bathing places, pools and saunas	A, B
36*	Determination of temperature	SOP - 41 (ČSN 75 7342)	Water	A
37	Detection and enumeration of Legionella by membrane filtration method	SOP - 43 (ČSN EN ISO 11731)	Drinking, bottled, raw, processed, treated and surface water, water from drinks machines and non-alcoholic beverages, water from bathing places, pools and saunas	-
38	Detection and enumeration of Pseudomonas aeruginosa by membrane filtration method.	SOP - 44 (ČSN EN ISO 16266)	Drinking, bottled, raw, processed, treated and surface water, water from drinks machines and non-alcoholic beverages, water from bathing places, pools and saunas	-
39	Enumeration of coagulase- positive staphylococci by membrane filtration method	SOP - 45 (ČSN EN ISO 6888-1, ČSN EN ISO 6888-2)	Drinking, bottled, raw, processed, treated and surface water, water from drinks machines and non-alcoholic beverages, water from bathing places, pools and saunas	-
40	Enumeration of yeasts and moulds by colony count technique	SOP - 46 (ČSN ISO 21527-1, ČSN ISO 21527-2)	Feedstuffs, solid matrices, non- alcoholic beverages	-
41	Determination of humic substances by spectrophotometry	SOP - 47 (ČSN 75 7536)	Water	A, B
42*	Determination of odour and flavour by preliminary sensory analysis	SOP - 48 (ČSN 75 7340; ČSN EN 1622)	Drinking, bottled, raw, processed and treated water	A

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Ordinal number ¹	Test procedure / method name	Test procedure / method identification ²	Subject of the test	Degrees of freedom ³
43	Determination of moisture (dry matter) content by gravimetry	SOP - 61 (ČSN 46 7092-3; Commission Regulation (EC) No. 152/2009, Annex III, "A";	Solid matrices	A, B
44	Determination of total nitrogen and nitrogenous substances – according to Dumas	ČSN 46 5735) SOP - 62 (ČSN EN ISO 16634-1)	Solid matrices	A, B
45	Determination of ash (organic substances) by gravimetry	SOP - 63 (Commission Regulation (EC) No. 152/2009, Annex III, "M"; ČSN 46 5735)	Solid matrices	A, B
46	Determination of fat by gravimetry	SOP - 64 (Commission Regulation (EC) No. 152/2009, Annex III, "H")	Solid matrices	A, B
47	Determination of silage acids by ITP method	SOP - 65 (ČSN 46 7092-42)	Feedstuffs	A, B, D
48	Determination of fibre content by gravimetry	SOP - 66 (Commission Regulation (EC) No. 152/2009, Annex III, "I"; ČSN ISO 6541)	Feedstuffs, livestock excrements	A, B
49	Determination of starch content by polarimetry	SOP - 67 (Commission Regulation (EC) No. 152/2009, Annex III, "L")	Feedstuffs, livestock excrements	A
50	Determination of sugar content by titration	SOP - 68 (Commission Regulation (EC) No. 152/2009, Annex III, "J")	Feedstuffs, livestock excrements	A, B
51	Determination of the content of ammonia nitrogen by spectrophotometry and mineral nitrogen by calculation	SOP - 70 (JPP ÚKZÚZ Brno 2011, Soil Analysis III)	Solid matrices	A
52	Determination of the content of nitrate nitrogen by potentiometry	SOP - 72 (JPP ÚKZÚZ Brno 2005. Analysis of Plants; JPP ÚKZÚZ Brno 2011, Soil Analysis III)	Solid matrices	A
53	Determination of dissolved organic carbon (DOC) and total organic carbon (TOC) by spectrometry	SOP - 77 (ČSN EN 1484)	Water, aqueous extracts of waste	A, B, D
54	Determination of extractable organically bound halogens (EOX) by coulometry	SOP - 78 (DIN 38414-S17)	Solid matrices	A, B, D
55	Determination of adsorbable organically bound halogens (AOX) by coulometry	SOP - 80 (ČSN EN ISO 9562)	Water, aqueous extracts of waste	A, B, D
56	Determination of adsorbable organically bound halogens (AOX) by coulometry	SOP - 80 A (ČSN EN 16166; DIN 38414-S18)	Solid matrices	A, B, D

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Ordinal number ¹	Test procedure / method name	Test procedure / method identification ²	Subject of the test	Degrees of freedom ³
57	Determination of volatile organic compounds by gas chromatography method with FID, ECD, MS detector and the sum of THM and sum of xylenes by calculation	SOP - 81 (ČSN EN ISO 15680; ČSN EN ISO 10301)	Water	A, B, D
58	Determination of volatile organic compounds by gas chromatography method with FID, ECD, MS detector and and the sum of BTEX by calculation	SOP - 81 A (ČSN EN ISO 15680, ČSN EN ISO 10301)	Solid matrices	A, B, D
59	Determination of polychlorinated biphenyls (PCB). Direct determination by GC-ECD method and the sum of PCB by calculation	SOP - 82 (ČSN EN ISO 6468)	Water	A, B, D
60	Determination of polychlorinated biphenyls (PCB). Direct determination by GC-ECD method and the sum of PCB by calculation	SOP - 82 A (ČSN EN 17322; ČSN EN 15741)	Solid matrices	A, B, D
61	Determination of organochlorinated pesticides (OCP) by GC-ECD method and pesticide substances by calculation	SOP - 83 (ČSN EN ISO 6468)	Water	A, B, D
62	Determination of organochlorinated pesticides (OCP) by GC-ECD method	SOP - 83 A (ČSN EN 15741; EPA Method 608; EPA Method 3550; EPA 3620)	Soils, sediments, sludge	A, B, D
63	Determination of triazine herbicides by GC-NPD method	SOP - 84 (ČSN EN ISO 10 695)	Water	A, B, D
64	Determination of the sum of hydrocarbons $C_{10} - C_{40}$ by GC-FID method	SOP - 85 (ČSN EN ISO 9377-2)	Water	A, B, D
65	Determination of the sum of hydrocarbons $C_{10} - C_{40}$ by GC-FID method	SOP - 85 A (ČSN EN 14039)	Soils, sludge, sediments and waste	A, B, D
66	Determination of polycyclic aromatic hydrocarbons (PAH) by HPLC method with fluorescence detection ⁵⁾	SOP - 91 (ČSN 75 7554:1998; ČSN EN ISO 17993)	Water, aqueous extracts of waste	A, B, D
67	Determination of polycyclic aromatic hydrocarbons (PAH) by HPLC method with fluorescence detection and the sum of PAH by calculation	SOP - 91 A (ČSN EN 17503; TNV 75 8055:2004; JPP ÚKZÚZ Brno 2011, Soil Analysis II)	Soils, sludge, sediments and waste	A, B, D

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- ¹ asterisk at the ordinal number identifies the tests, which the laboratory is qualified to carry out outside the permanent laboratory premises
- ² if the document identifying the test procedure is dated, only these specific procedures are used. If the document identifying the test procedure is not dated, the latest edition of the specified procedure is used (including any changes)
- ³ degrees of freedom: A Flexibility concerning materials/products (subject of the test), B Flexibility concerning components/parameters/characteristics, C Flexibility concerning the performance of the method, D Flexibility concerning the method

The laboratory can modify the test procedures with the specified degree(s) of freedom in the scope of accreditation while maintaining the principle of measurement. If no degree of freedom is specified, the laboratory cannot apply a flexible approach to the scope of accreditation for the test.

Ordinal test number	Detailed information on activities within the scope of accreditation (determined analytes)
5	Bromates, chlorites, chlorates, bromides, chlorides, fluorides, nitrates, nitrites, sulphates, phosphates.
47	Acetic acid, lactic acid, propionic acid, butyric acid
57, 58	Benzene, toluene,ethylbenzene, m-xylene, o-xylene, p-xylene, tetrachloromethane, trichloromethane, bromodichloromethane, dibromochloromethane, 1,1-dichloroethene, 1,4-dichlorobenzene, 1,2- dichloroethane, 1,1,1-trichloroethane, trichloroethene, tetrachloroethene, styrene, methylchloride, trans-1,2- dichloroethene, cis-1,2-dichloroethene, chlorobenzene, bromoform, 1,2-dichlorobenzene, 1,3- dichlorobenzene, trihalomethanes, sum of trihalomethanes (THM), sum of benzene+toluene+ethylbenzene+ xylenes (BTEX), sum of xylenes
59, 60	Congeners PCB 28, 52, 101, 118, 153, 138, 180, sum of PCB
61, 62	Trifluralin, HCB, α -HCH, lindan, β -HCH, heptachlor, δ -HCH, aldrin, α -endosulfan, β - endosulfan, p,p'-DDE, p,p'-DDD, p,p'-DDT, dieldrin, endrin, methoxychlor, sum of pesticidal substances (PL)
63	Desethylatrazine, atrazine, simazine, terbuthylazine, sebuthylazine, prometryn, terbutryn, cyanazine, metazachlor, atrazine-desizopropyl
66, 67	Fluoranthene, anthracene, benzo(a)anthracene, dibenz(a,b)anthracene, chrysene, pyrene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, indeno(1,2,3-c,d)pyrene, acenaphthene, acenaphthylene, fluorene, naphthalene, phenanthrene, sum of PAH

Specification of the scope of accreditation:

Specification of the scope of accreditation:

Ordinal test number	Detailed information on activities within the scope of accreditation (subject of testing)
1, 2, 4-19, 21, 28, 29, 31-34, 36, 41, 53, 55, 57, 59, 61, 63, 64, 66	Drinking, raw, processed and treated water; ground, spring, surface, hot service water, percolation and waste water, bottled water, water from drinks machines, water from bathing places, pools and saunas
1, 2, 4-19, 21, 31, 53, 55, 66	Aqueous extracts of inert waste, biodegradable waste, liquid waste, municipal waste, WWTP sludge, compostable waste, excavated soil, mixed waste and other materials classified as waste in accordance with Decree No. 273/2021 Coll. as amended
20, 21, 24, 26, 40, 43-45, 51, 52, 54	Material of plant or animal origin, food, fruit and vegetables, cereal grains, oilseeds, spices, feed, fertilisers, soils, slurries, manures, excrements, sludge, sediments, composts, composting materials, substrates, sand from sandboxes, inert waste, biodegradable waste, liquid waste,

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Ordinal test number	Detailed information on activities within the scope of accreditation (subject of testing)	
	municipal waste, compostable waste, excavated soil, mixed waste and other materials classified as waste in accordance with Decree No. 273/2021 Coll. as amended	
56, 58, 60	Material of plant origin, soils, slurries, manures, excrements, sludge, sediments, composts, composting materials, substrates, inert waste, biodegradable waste, liquid waste, municipal waste, compostable waste, excavated soil, mixed waste and other materials classified as waste in accordance with Decree No. 273/2021 Coll. as amended	
65, 67	Soils, sludge, sediments, composts, composting materials, substrates, inert waste, biodegradable waste, liquid waste, municipal waste, compostable waste, excavated soil, mixed waste, bituminous mixtures and other materials classified as waste in accordance with Decree No. 273/2021 Coll. as amended	

Sampling:

Ordinal number	Sampling procedure name	Sampling procedure identification ¹	Subject of sampling
1	Manual sampling of drinking water	SOP V-1 (ČSN EN ISO 5667-3; ČSN ISO 5667-5; ČSN EN ISO 19458; ČSN EN ISO 5667-14)	Raw, processed, drinking, hot service water and water used in the production of food and beverages, bottled water
2	Ground water sampling – manually or using a pump	SOP V-2 (ČSN EN ISO 5667-3; ČSN ISO 5667-11; ČSN EN ISO 19458; ČSN EN ISO 5667-14)	Ground water
3	Waste water sampling – manually or using an automatic sampler	SOP V-3 (ČSN EN ISO 5667-3; ČSN ISO 5667-10; ČSN EN ISO 5667-14)	Waste water
4	Surface water sampling – manually, using a pump or an automatic sampler	SOP V-4 (ČSN EN ISO 5667-3; ČSN EN ISO 5667-4; ČSN ISO 5667-6; ČSN EN ISO 19458; ČSN EN ISO 5667-14)	Surface water from water reservoirs, rivers and streams
5	Manual sampling of water from bathing places and pools	SOP V-5 (Regulation No. 238/2011 Coll.; ČSN EN ISO 5667-14)	Water from bathing places, pools and saunas
6	Sampling of waste and composts	SOP V-6 (MoE CR Guideline for waste sampling, MoE CR Bulletin No. 6/2008; Regulation No. 273/2021 Coll.; ČSN EN 14899; ČSN 46 5735)	Waste, composts

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Ordinal number	Sampling procedure name	Sampling procedure identification ¹	Subject of sampling
		SOP V-7 (Agricultural and forest soils	
7	Sampling of agricultural soils	monitoring method, ÚKZÚZ 1995;	Soils
		Regulation No. 275/1998 Coll.)	
		SOP V-8	
	Sampling	(ČSN EN ISO 5667-13;	
8	of water treatment plant sludge	ČSN EN ISO 5667-14;	Sludge
		ČSN EN ISO 5667-15;	
		Regulation No. 437/2016 Coll.)	
	Sampling of feedstuffs	SOP V-9	
9		(Commission Regulation (EC) No. 152/2009, Annex No. I;	Feedstuffs
		Regulation No. 415/2009 Coll.)	
		SOP V-11	
	Sampling of agricultural products	(Government Regulation No. 79/2007 Coll.;	
10		Commission Regulation (EC) No. 152/2009;	Fruits and vegetables, cereal grains, oil seeds, spices
		Regulation No. 415/2009 Coll.;	
		ČSN ISO 6639-2)	
11	Sampling of sediments –	SOP V-12	Bottom sediments
	manually or using a sampler	(ČSN ISO 5667-12)	Bottom seaments

¹ if the document identifying the sampling procedure is dated, only these specific procedures are used. If the document identifying the sampling procedure is not dated, the latest edition of the specified procedure is used (including any changes)

EXPLANATIONS:

TNV	= Branch Technical Standard of Water Management
JPP	= Uniform working procedure (ÚKZÚZ Brno)
ÚKZÚZ	= Central Institute for Supervising and Testing in Agriculture
STN	= Slovak Technical Standard
DIN	= German national standard
AHEM 7/2001	= Enumeration of indicator micro-organisms for microbiological criteria for the use of sludge on agricultural soil within the meaning of Regulation. 382/2001 Coll., on the conditions of use of treated sludge on agricultural soil, Prague 2001.
ITP	= Isotachophoresis
AAS	= Atomic Absorption Spectrometry
ICP-OES	= Inductively Coupled Plasma Optical Emission Spectrometer
NEL	= Nonpolar Extractives
EL	= Extractives
HPLC	= High-Performance Liquid Chromatography
GC	= Gas Chromatography
ECD	= Electron Capture Detector
FID	= Flame Ionization Detector

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MS	= Mass Detector

- **NPD** = Flame Ionization Detector with alkali metal
- MZČR = Ministry of Health of the Czech Republic