

**The Appendix is an integral part of
Certificate of Accreditation No. 140/2022 of 14/03/2022**

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

E&H services, a.s.
Testing Laboratory
Dobrá 240, 739 51 Dobrá

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 in the laboratory from the Testing Laboratory Manager.

The Laboratory provides expert opinions and interprets test results.

The Laboratory is qualified to carry out independent sampling.

Tests:

Ordinal number ¹	Test procedure/ method name	Test procedure/ method identification ²	Test object
1	Determination of alkylphenols, alkylphenolethoxylates, bisphenol A and phthalates by gas chromatography (MS) and the sum of alkylphenols, alkylphenolethoxylates and phthalates by calculation from measured values ³	SOP 1.00 (ČSN EN ISO 18857-1, ČSN EN ISO 18857-2, ČSN EN ISO 18856)	Water, extracts, dialyzates from SPMD, sea water
2	Determination of alkylphenols and alkylphenolethoxylates by gas chromatography (MS) and the sum of alkylphenols and alkylphenolethoxylates by calculation from measured values ³	SOP 1.01 (ČSN EN ISO 18857-1, ČSN EN ISO 18857-2)	Solid samples
3	Determination of chlorobenzenes, organochlorinated pesticides (OCP) and musk substances by gas chromatography (MS) and the sum of OCP and chlorobenzenes by calculation from measured values ³	SOP 3.00 (ČSN EN ISO 6468)	Water, extracts, dialyzates from SPMD
4	Determination of chlorobenzenes and organochlorinated pesticides (OCP) by gas chromatography (MS) and the sum of OCP and chlorobenzenes by calculation from measured values ³	SOP 3.02 (ČSN EN ISO 6468)	Biological material
5	Determination of polyaromatic hydrocarbons (PAH) by gas chromatography (MS) and the sum of PAH by calculation from measured values ³	SOP 6.00 (ČSN 75 7554)	Drinking, underground and surface water, dialyzates from SPMD
6	Determination of polyaromatic hydrocarbons (PAH) by gas chromatography (MS) and the sum of PAH by calculation from measured values ³	SOP 6.04 (ČSN 75 7554, EPA TO 13, STN ISO 11338-2)	Emission, air

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Ordinal number ¹	Test procedure/ method name	Test procedure/ method identification ²	Test object
7	Determination of polychlorinated dibenzo – p-dioxines and furanes (PCDD/F), specified congeners of polychlorinated biphenyls (PCB) and specified congeners of polybrominated diphenylethers (PBDE) by gas chromatography (MS/MS, HRMS) and the sum of PCDD/F, PCB and PBDE by calculation from measured values ³	SOP 7.00 (EPA 1613)	Water, extracts, dialyzates from SPMD
8	Determination of polychlorinated dibenzo – p-dioxines and furanes (PCDD/F), specified congeners of polychlorinated biphenyls (PCB) and specified congeners of polybrominated diphenylethers (PBDE) by gas chromatography (MS/MS, HRMS) and the sum of PCDD/F, PCB and PBDE by calculation from measured values ³	SOP 7.01 (EPA 1613)	Solid samples
9	Determination of polychlorinated dibenzo – p-dioxines and furanes (PCDD/F), specified congeners of polychlorinated biphenyls (PCB) and specified congeners of polybrominated diphenylethers (PBDE) by gas chromatography (MS/MS, HRMS) and the sum of PCDD/F, PCB and PBDE by calculation from measured values ³	SOP 7.02 (EPA 1613)	Biological material
10	Determination of polychlorinated dibenzo – p-dioxines and furanes (PCDD/F), specified congeners of polychlorinated biphenyls (PCB) and specified congeners of polybrominated diphenylethers (PBDE) by gas chromatography (MS/MS, HRMS) and the sum of PCDD/F, PCB and PBDE by calculation from measured values ³	SOP 7.03 (EPA 1613)	Food, feedstuffs
11	Determination of polychlorinated dibenzo – p-dioxines and furanes (PCDD/F), specified congeners of polychlorinated biphenyls (PCB) and specified congeners of polybrominated diphenylethers (PBDE) by gas chromatography (MS/MS, HRMS) and the sum of PCDD/F, PCB and PBDE by calculation from measured values ³	SOP 7.04 (ČSN EN 1948-2, ČSN EN 1948-3, ČSN EN 1948-4+A1)	Air, emission

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Ordinal number ¹	Test procedure/ method name	Test procedure/ method identification ²	Test object
12	Determination of hydrocarbons C ₁₀ to C ₄₀ by gas chromatography (FID)	SOP 10.00 (ČSN EN ISO 9377-2)	Water, dialyzates from SPMD
13	Determination of dry matter by gravimetry and water content (moisture content) by calculation from measured values	SOP 13.00 (ČSN EN 14346, part A)	Solid samples, feedstuffs, biological materials
14	Determination of cannabinoids by liquid chromatography ³	SOP 16.02 ⁴	Vegetable materials
15	Determination of cannabinoids by liquid chromatography ³	SOP 16.03 ⁴	Food and food supplements
16	Determination of cannabinoids by liquid chromatography ³	SOP 16.05 ⁴	Cosmetics

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 Identifies the tests for which the range of determined parameters is specified at the end of this Appendix.

⁴ Identifies the tests where implementing regulations are specified at the end of this Appendix.

Annex:

Flexible scope of accreditation

Ordinal numbers of tests
1-16

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 the scope of accreditation cannot be applied to the tests not included in the Annex.

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Sampling:

Ordinal number	Sampling procedure name	Sampling procedure identification ¹	Sampled object
1	Sampling with semipermeable membrane devices (SPMD), passive samplers POCIS and DGT	SOP 1.00 VZ ²	Drinking, surface, underground and waste water
2	Manual sampling of waste and solid samples	SOP 2.00 VZ ²	Soils, sands, sludge, waste

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)

² identifies the tests where implementing regulations are specified at the end of this Appendix

Explanations of used terms

Water	Drinking, hot, bottled, surface, underground, bathing and waste water
Extracts	Aqueous extracts of waste according to valid law
Solid samples	Soils, sands, sediments, waste, sludge
Air	Outdoor air, indoor air, working air
Emissions	Waste gas containing pollutants released in a controlled manner or leaking into atmosphere from pollution sources (the object of the test is an emission sample on a filter, sorbed in an absorption solution and/or in a solid sorbent, according to the nature of the substance)
Dialyzates from SPMD, eluates from POCIS, DGT	Passive samplers – Systems working on the basis of passive diffusion of determined substances into a suitable medium (absorbent, adsorbent) – SPMD, POCIS and DGT
Biological material	Animal and vegetable materials

List of used abbreviations:

SOP	Standard operating procedure
SPMD	Semipermeable Membrane Device
POCIS	Polar Organic Chemical Integrative Sampler
FID	Flame Ionisation Detector
MS	Mass spectrometry
MS/MS	Tandem Mass Detector
HRMS	High Resolution Mass Spectrometry

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Range of determined parameters:

Ord. no.	Test procedure/method name – Range of parameters
1	Alkylphenols – 4-t-octylphenol (identical with technical 4-octylphenol), 4-n-octylphenol, 4-n-nonylphenol, 4-nonylphenol (technical mixture), nonylphenol (identical with 4-nonylphenol), 4-nonylphenolmonoethoxylate, 4-nonylphenoldiethoxylate, bisphenol A Phthalates – di-n-butylphthalate, butylbenzylphthalate, bis(2-ethylhexyl)phthalate (BEHP,DEHP), di-n-octylphthalate, diisononylphthalate, diisodecylphthalate, n-octyl-n-decylphthalate, di-decylphthalate
2	4-t-octylphenol (identical with technical 4-octylphenolem), 4-n-octylphenol, 4-n-nonylphenol, 4-nonylphenol (technical mixture), nonylphenol (identical with 4-nonylphenol), 4-nonylphenolmonoethoxylate, 4-nonylphenoldiethoxylate.
3	Organochlorinated pesticides (OCP): alphaHCH, betaHCH, gammaHCH (lindane), delta HCH, HCB (hexachlorobenzene), Aldrin, Dieldrin, Endrin, Endrinaldehide, Endrinketone, Heptachlor, trans-Chlordan, cis-Chlordan, Nonachlor, Methoxychlor, opDDT, ppDDT, opDDD, ppDDD, opDDE, ppDDE, Endosulfane I (alpha) and II (beta), Endosulfansulfate, trans-Heptachloroepoxide, cis-Heptachloroepoxide, Isodrin, Chlorpyrifos, Trifluralin, Tetradifon, Clopyralid, Picloram, Iprodione, Octachlorostyrene, Dichlobenil Chlorobenzenes – Tetrachlorobenzenes, pentachlorobenzenes, hexachlorobenzenes Musk substances - Galaxolide (HHCb), tonalide (AHTN), musk xylene, musk ketone
4	Organochlorinated pesticides (OCP): alphaHCH, betaHCH, gammaHCH (lindane), delta HCH, HCB, Aldrin, Dieldrin, Endrin, Endrinaldehide, Endrinketone, Heptachlor, trans-Chlordan, Nonachlor, Methoxychlor, opDDT, ppDDT, opDDD, ppDDD, opDDE, ppDDE, Endosulfane I (alpha) and II (beta), Endosulfanesulfate, trans-Heptachloroepoxide, cis-Heptachloroepoxide, Isodrin, Chlorpyrifos, Trifluralin, Tetradifon, Clopyralid, Picloram, Iprodione, Octachlorostyrene, Dichlobenil Chlorobenzenes – Tetrachlorobenzenes, pentachlorobenzenes, hexachlorobenzenes
5-6	Naphtalene, acenaphtene, acenaphtylene, phenanthrene, anthracene, fluorene, fluoranthene, pyrene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(123-cd)pyrene.
7-8	dibenzo-p-dioxines and -furanes (PCDD/F) 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD, 1,2,3,4,7,8-HxCDD, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8,9-OCDD, sum of TCDD, sum of PeCDD, sum of HxCDD, sum of HpCDD 2,3,7,8-TCDF, 1,2,3,7,8-PeCDF, 2,3,4,7,8-PeCDF, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, 2,3,4,6,7,8-HxCDF, 1,2,3,7,8,9-HxCDF, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,4,6,7,8,9-OCDF, sum of TCDF, sum of PCDF, sum of HxCDF, sum of HpCDF polychlorinated biphenyls (PCB) trichlorinated, tetrachlorinated, pentachlorinated, hexachlorinated, heptachlorinated, octachlorinated, nonachlorinated and decachlorinated PCB congeners polybrominated diphenyls (PBDE) PBDE15, PBDE17, PBDE28, PBDE47, PBDE49, PBDE66, PBDE71, PBDE77, PBDE99, PBDE100, PBDE138, PBDE153, PBDE154, PBDE156, PBDE183, PBDE206, PBDE207, PBDE209
9-11	dibenzo-p-dioxines and -furanes (PCDD/F) 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD, 1,2,3,4,7,8-HxCDD, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8,9-OCDD, sum of TCDD, sum of PeCDD, sum of HxCDD, sum of HpCDD 2,3,7,8-TCDF, 1,2,3,7,8-PeCDF, 2,3,4,7,8-PeCDF, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, 2,3,4,6,7,8-HxCDF, 1,2,3,7,8,9-HxCDF, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,4,6,7,8,9-OCDF, sum of TCDF, sum of PCDF, sum of HxCDF, sum of HpCDF polychlorinated biphenyls (PCB) trichlorinated, tetrachlorinated, pentachlorinated, hexachlorinated, heptachlorinated, octachlorinated, nonachlorinated and decachlorinated PCB congeners polybrominated diphenyls (PBDE) PBDE15, PBDE17, PBDE28, PBDE47, PBDE49, PBDE66, PBDE71, PBDE77, PBDE99, PBDE100, PBDE138, PBDE153, PBDE154, PBDE156, PBDE183, PBDE206, PBDE207, PBDE209
14-16	Cannabinoids: CBD, CBDA, THC, THCA, CBG, CBGA, CBN

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List of implementing regulations

Ord. no.	Test procedure/method identification
14	A.A.M. Stolker, J. van Schoonhoven, A.J. de Vries, I. Bobeldijk-Pastorova, W.H.J. Vaes, R. van den Berg (2004): Determination of cannabinoids in cannabis products using liquid chromatography–ion trap mass spectrometry, Journal of Chromatography A, 1058 (2004) 143–151, Roth, N., Moosmann, B. and Auwärter, V. (2013), Development and validation of an LC-MS/MS method for quantification of Δ9-tetrahydrocannabinolic acid A (THCA-A), THC, CBN and CBD in hair. J. Mass Spectrom., 48: 227–233
15	A.A.M. Stolker, J. van Schoonhoven, A.J. de Vries, I. Bobeldijk-Pastorova, W.H.J. Vaes, R. van den Berg (2004): Determination of cannabinoids in cannabis products using liquid chromatography–ion trap mass spectrometry, Journal of Chromatography A, 1058 (2004) 143–151, Roth, N., Moosmann, B. and Auwärter, V. (2013), Development and validation of an LC-MS/MS method for quantification of Δ9-tetrahydrocannabinolic acid A (THCA-A), THC, CBN and CBD in hair. J. Mass Spectrom., 48: 227–233, Pellegrini M., Marchei E., et al (2004), A rapid and simple procedure for the determination of cannabinoids in hemp food products by gas chromatography-mass spectrometry, Journal of Pharmaceutical and Biomedical Analysis 36(2005) 939-946, Koch J., delta9 –THC stimulates food intake in Lewis rats Effects on chow, high-fat and sweet high-fat diets, 2000, Pharmacology, Biochemistry and Behavior 68 (2001) 539-543
16	A.A.M. Stolker, J. van Schoonhoven, A.J. de Vries, I. Bobeldijk-Pastorova, W.H.J. Vaes, R. van den Berg (2004): Determination of cannabinoids in cannabis products using liquid chromatography–ion trap mass spectrometry, Journal of Chromatography A, 1058 (2004) 143–151, Roth, N., Moosmann, B. and Auwärter, V. (2013), Development and validation of an LC-MS/MS method for quantification of Δ9-tetrahydrocannabinolic acid A (THCA-A), THC, CBN and CBD in hair. J. Mass Spectrom., 48: 227–233, Jurado C., et al (1997), Influence of the cosmetic treatment of hair on drug testing, Int. J. legal Med. 110:159-163

Ord. No.	Sampling procedure identification
1	ČSN EN ISO 5667-23
2	ČSN EN ISO 5667-1, ČSN EN ISO 5667-3, ČSN EN ISO 5667-13, ČSN ISO 5667-14, ČSN ISO 5667-15, TNI CEN/TR 15310-1, TNI CEN/TR 15310-2, TNI CEN/TR 15310-3, TNI CEN/TR 15310-4, TNI CEN/TR 15310-5, ČSN 015110, ČSN 015111, ČSN 015112, ČSN EN 14899, ČSN EN ISO 19458, ČSN EN ISO 3170, MoE Guideline for waste sampling 2008, 101s