

## Scope of Accreditation

Accredited body: VÚRUP, a.s.

Vlčie hrdlo, 820 03 Bratislava 23

Organizational unit and place of performance of the activity of the accredited body:

Workplace 1: Environment of Process safety and Environment

Workplace 2: Testing Laboratories

Workplace 4

Vlčie hrdlo, P.O.BOX 50, 820 03 Bratislava

Identification number of the accredited body: 049/S-119

Laboratory with fixed scope of accreditation.

Workplace 1: Environment of Process safety and Environment

Table No.: 1

Item	Object		Method applied		Other specification (range, uncertainty, purpose, modification/validation, opinions/interpretations, etc.)
	Object / Matrix / Environment	Property / Parameter / Indicator / Analyt	Principle / Kind / Type <sup>1</sup>	Identification	
1	Occupational environment	<p><b>Noise exposure</b></p> <p>Normalized level of noise exposure <math>L_{AEX, \theta h}</math> to the reference value <math>p_0 = 2 \cdot 10^{-5}</math> Pa</p> <p>Vrcholová hladina C akustického tlaku <math>L_{Cpeak, T}</math> k ref. hodnote <math>p_0 = 2 \cdot 10^{-5}</math> Pa</p> <p>Ekvivalentná hladina akustického tlaku (zvuku) v 1/3 oktávových pásmach <math>L_{teq, T}</math></p> <p>N-percentná hladina A akustického tlaku <math>L_{AN, T}</math></p>	Acoustic pressure measurement	STN EN ISO 9612 STN ISO 1996-1,2 (PP E 018)	1) 2) 3) 4) Frequency range from 20 Hz to 20 kHz.
2	Environment	<p><b>Immission of noise</b></p> <p>Equivalent level of acoustic pressure (noise) in 1/3 octave bands <math>L_{teq, T}</math>.</p> <p>Maximálna hladina A akustického tlaku <math>L_{Amax}</math></p> <p>N-percentná hladina A akustického tlaku <math>L_{AN, T}</math></p>	Acoustic pressure measurement	STN ISO 1996-1,2 (PP E 018)	1) 2) 5) Frequency range from 20 Hz to 20 kHz.
3	Occupational environment	<p><b>Exposure to vibration</b></p> <p>Normalized final level of mean vibration acceleration <math>a_{v, \theta h}</math></p>	<p><b>Vibration measurement</b></p> <p>(Measurement on the surface of stationary constructions of machines, equipments, devices in transfer place to the hand – shoulder)</p>	STN EN ISO 5349-1,2 (PP E 022)	1) 2) 6)

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4	Occupational environment	<b>Exposure to vibration</b> $a_{wx,8h}$ $a_{wy,8h}$ $a_{wz,8h}$	<b>Vibration measurement</b>  (Measurement on the surface of stationary constructions of machines, equipments, devices in transfer place to the standing or sitting person)	STN ISO 2631-1,2 (PP E 022)	1) 2) 6)
5	Occupational environment	<b>Measurement of artificial illuminance</b>  Average value of maintained illuminance $E_m$  Uniform of illumination $U_o$  Emergency lighting $E_m$	<b>Direct measurement of artificial illuminance</b>	STN EN 12 464-1, 2 STN EN 1838 (PP E 021)	1) 2) 7) 8)  Work place, task area.
6	Occupational environment	<b>Volatile Hydrocarbons:</b> Benzene Trimethylpentane Toluene Ethylbenzene p+m-Xylene o-Xylene Cumene  sum of xylenes	GC/FID      Calculation of xylenes content	STN EN ISO 23320 STN EN482 STN EN 689 + AC (PP E 501)	1)
7	Occupational environment	Hydrogen sulfide, Ammonia, Chlorine Sulphur dioxide	Electrochemical sensor	STN EN 45544-1 STN EN482 STN EN 689 + AC  Operating instructions of gas detector GasBadge Pro (PP E 515)	1)
8	Occupational environment	Hydrogen chlorid	Electrochemical sensor	STN EN 45544-1 STN EN482 STN EN 689 + AC Operating instructions of gas detector MX6 (PP E 523)	1)
9	Occupational environment	Airbone particles	Gravimetry	STN EN 481 STN EN 689 + AC  NV ČR č.361/2007 Sb. (PP E 524)	1)

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The scope of accreditation of the laboratory performing sampling

Workplace 1: Environment of Process safety and Environment

Table No.: 0-1

Item	Object			Method applied		Other specification
	Object / Matrix / Environment	Property	Site of sampling	Type / Principle	Identification	
1	Workplace air	Volatile Hydrocarbons: Benzene Trimethylpentane Toluene Ethylbenzene p+m-Xylene o-Xylene Cumene	Workplace	Personal sampling Static sampling	STN EN 482 STN EN 689 + AC STN EN ISO 23320 (PP E 501)	To the item 6
2	Workplace air	hydrogen sulphide, ammonia, chlorine, sulphur dioxide	Workplace	Personal sampling Static sampling	STN EN 482 STN EN 689 + AC operating instructions GasBadge Pro (PP E 515)	To the item 7
3	Workplace air	hydrogen chlorid	Workplace	Personal sampling Static sampling	STN EN 482 STN EN 689 + AC operating instructions MX6 (PP E 523)	To the item 8
4		airbone particles		Personal sampling Static sampling	STN EN 482 STN EN 689 + AC STN EN 481 (PP E 524)	To the item 9

Workplace 2: Testing Laboratories

Table No.: 2

Item	Object		Method applied		Other specification (range, uncertainty, purpose, modification/validation, opinions/interpretations, etc.)
	Object / Matrix / Environment	Property / Parameter / Indicator / Analyt	Principle / Kind / Type	Identification	
1	Petroleum and petroleum products Petrochemical products	Appearance	Visual control	ASTM D 4176 PP SII 0001	
	Petroleum and petroleum products Petrochemical products Liquid fuels Oils	Appearance and Colour		PP SII 0001 (ASTM D 4176)	
2	Petroleum and petroleum products	Colour by Saybolt	Colorimetry	ASTM D 156 (PP SII 0002)	
	Oils	Colour ASTM		ČSN ISO 2049 ASTM D 1500 (PP SII 0003)	
3	Petroleum and petroleum products Oils	Kinematic viscosita	Viscosimetry	STN EN ISO 3104 ASTM D 445 (PP SII 0004)	
	Liquid fuels	Calculation of viscosity index		STN 65 6218 ASTM D 2270 (PP SII 0004)	

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4	Petroleum and petroleum products Liquid fuels Oils	Pour point	Measurement of temperature	STN EN ISO 3016 ASTM D 97 (PP SII 0005)	
		Pour point			
5	Liquid fuels Oils	Flash and Fire point according to Cleveland	Measurement of temperature	STN EN ISO 2592 ASTM D 92 (PP SII 0016)	
6	Liquid fuels Oils	Flash point according to Pensky-Martens	Measurement of temperature	STN EN ISO 2719 ASTM D 93 (PP SII 0010)	
7	Petrochemical products	Refractive index	Refractionometry	STN 65 0341	
8	Petrochemical products	Evaporation residue	Gravimetric analysis	STN 65 6192	
9	Liquid fuels Petroleum and petroleum products	Water	Coulometry	STN EN ISO 12937 STN EN 15489 (PP SIII 0002)	
10	Petroleum and petroleum products Oils Liquid fuels Cooling liquids	Water	Potenciometry	PP SIII 0001 (ASTM E 203 STN EN 15692)	
11	Liquid fuels	Water presence	Visual control	STN EN 15469 (PP SIII 0004)	
12	Petroleum and petroleum products Liquid fuels Oils	Total base number (TBN)	Potentiometry	ASTM D 2896 (PP SII 0006)	
13	Petroleum and petroleum products Liquid fuels	Acidity	Volumetric visual titration	PP SII 0007	
14	Petroleum and petroleum products Liquid fuels	Acid number	Volumetric visual titration	PP SII 0008 (ASTM D 3242)	
	Oils	Acid number		ASTM D 974 (PP SII 0028)	
	Liquid fuels	Acid number		STN EN 14 104 (PP SII 0033)	
15	Petrochemical products	Bromine number	Coulometry	ASTM D 1492 (PP SII 0012)	
		Bromine index			
16	Petroleum and petroleum products Liquid fuels	Bromine number	Potenciometry	STN 65 6185 ASTM D 1159 (PP SII 0011)	
		Bromine index		ASTM D 2710 (PP SII 0011)	
17	Petroleum and petroleum products Liquid fuels Petrochemical products Oils	Density	Oscilometry	STN EN ISO 12185 ASTM D 4052	
18	Petroleum and petroleum products Liquid fuels Oils	Ash	Gravimetric analysis	STN EN ISO 6245 (PP SII 0013)	
		Sulphate ash		ISO 3987 ASTM D 874 (PP SII 0014)	
19	Petroleum and petroleum products Liquid fuels Oils	Carbon residue MCRT	Gravimetric analysis	STN EN ISO 10370 ASTM D 4530 (PP SII 0015)	

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20	Petroleum and petroleum products Liquid fuels, Oils	Corrosiveness to copper  steell	Corrodent tests	STN EN ISO 2160 ASTM D 130 STN EN ISO 6251 STN 65 6075	
	Oils	Corrosion-preventing properties		STN 65 6249 ASTM D 665 (PP SII 0017)	
21	Petroleum and petroleum products Oils	Mechanical impurities by filtration	Gravimetric analysis	STN 65 6080	
22	Liquid fuels	Mechanical impurities	Gravimetric analysis	STN EN 12662	
	Jet fuel			ASTM D 5452 (PP SII 0018)	
23	Petroleum and petroleum products Liquid fuels Oils	Mercapan Sulfur Hydrogen Sulfide	Potentiometry	UOP 163 ASTM D 3227 (PP SII 0019)	
24	Liquid fuels	Hydrogensulfur presence	Visual control	STN EN ISO 8819 (PP SIII 0167) ASTM D 2420	
25	Petroleum and petroleum products	Sulfur compounds	Visual control Visual test	STN 65 6174 ASTM D 4952	
26	Liquid fuels	FAME	FTIR	STN EN 14078 (PP SII 0020)	
27	Petroleum and petroleum products	Cloud point	Measurement of temperature	ASTM D 5773 STN EN ISO 3015 ASTM D 2500 STN EN ISO 22995 (PP SII 0021)	
28	Petroleum and petroleum products	Cold filter plugging point (CFPP)	Measurement of temperature	STN EN 116 ASTM D 6371 (PP SII 0040)	
29	Liquid fuels	Freezing point	Measurement of temperature	ASTM D 5972 ASTM D 2386 (PP SII 0022)	
30	Liquid fuels Diesel	Lubricity	Measurement of measures	STN EN ISO 12156-1 ASTM D 6079 (PP SII 0023)	
	Liquid fuels Kerosene			ASTM D 5001 (PP SII 0024)	
31	Liquid fuels Kerosene	Water microseparation index	Turbidimetry	ASTM D 3948 ASTM D 7224 (PP SII 0025)	
32	Liquid fuels	Cetane index	Calculation	STN EN ISO 4264 ASTM D 4737 (PP SII 0044)	
33	Petroleum and petroleum products Liquid fuels Petrochemical products	Distillation characteristics	Measurement of temperature	STN EN ISO 3405 ASTM D 86 ASTM D 850 ASTM D 1078 (PP SII 0026)	
34	Petroleum and petroleum products, Liquid fuels	Vapour pressure (DVPE)	Measurement of pressure	STN EN 13016-1 (PP SII 0041)	
35	Petroleum and petroleum products	Gum	Gravimetric analysis	STN EN ISO 6246 ASTM D 381 (PP SII 0042)	of light and middle distillate fuels

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36	Petroleum and petroleum products, Liquid fuels	Oxidation stability of gasoline	Chemical stability	STN EN ISO 7536 ASTM D 525	
37	Petroleum and petroleum products, Liquid fuels	Oxid. stability of middle distil. fuels	Gravimetric analysis	STN EN ISO 12205	
38	Liquid fuels	Oxid. stability of middle distil. fuels	Conductometry	STN EN 15751 (PP SII 0029) STN EN 14112 (PP SII 0029)	
39	Petroleum and petroleum products Liquid fuels	Water reaction	Visual control Visual test	ASTM D 1094 (PP SII 0045)	
40	Petroleum and petroleum products Liquid fuels	Aromatics Olefins	Fluorescent indicator adsorption method	STN EN 15553 ASTM D 1319 (PP SII 0030)	
41	Liquid fuels	Smoke point	Measurement of measures	ASTM D 1322 (PP SII 0031)	
42	Oils	Air- release properties	Measurement of time	STN ISO 9120 ASTM D 3427 (PP SII 0032)	
43	Oils	Deemulsification characteristic	Measurement of volume Measurement of time	ČSN ISO 6614 (PP SII 0034)	
44	Petroleum and petroleum products	Needle penetration	Measurement of measures	STN EN 1426	
		Cone penetration	Measurement of measures	STN ISO 2137 (PP SII 0035)	
45	Liquid fuels Oils	Iodine number	Potenciometry	STN EN 14111 DIN 53241-1 (PP SII 0036)	
46	Petroleum and petroleum products, Liquid fuels	Electrical conductivity	Conductometry	ASTM D 2624 (PP SII 0037)	
47	Petroleum and petroleum products	Softening point	Measurement of temperature	STN EN 1427	
48	Unoccupied				
49	Liquid fuels	Residual after evaporation	Gravimetric analysis	PP SIII 0113 (STN EN 15471)	
50	Liquid fuels	Smell	Organoleptically	STN EN 589 (PP SIII 0165)	
51	Petroleum and petroleum products	Carbon	Thermal Oxidation (High Temperature Combustion, Infrared Detection)	PP SV 5019 (ASTM D 5291)	
		Hydrogen			
52	Petroleum and petroleum products	Nitrogen	Thermal Oxidation (High Temperature Combustion, Thermal Conductivity Detection)	PP SV 5019 (ASTM D 5291)	
53	Underground Water	Loss on Ignition (LOI)	Calculation	STN 75 7373 (PP SIII 0175)	

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54	Petroleum and petroleum products	Sulfur	XRF (EDXRF)	STN EN ISO 8754 (PP SV 5006)	
55	Petroleum and petroleum products, Oils	Sulfur	XRF (WDXRF)	STN EN ISO 20884 (PP SV 5002)	
56	Petroleum and petroleum products Liquid fuels	Sulfur	Thermal Oxidation (UV fluorescence)	PP SV 5004 (STN EN ISO 20846) (ASTM D 5453)	
	Liquid fuels			PP SV 5025 (ASTM D 6667)	
57	Petroleum and petroleum products (Aviation Fuels)	Naphtalene Hydrocarbons	Spectrophotometric analysis	ASTM D 1840 (PP SV 5204) STN 65 6126	
58	Liquid fuels	Lead	FAAS	PP SV 5001 (STN EN 237)	
		Manganese		STN EN 16135 (PP SV 5156)	
59	Petroleum and petroleum products	Water	Gravimetric analysis	STN EN ISO 9029 (PP SIII 0003)	
60	Petroleum and petroleum products	Chlorides salts	Potentiometry	PP SIII 0034 (STN 65 6030)	
61	Underground Water Surface Water Waste Water Water from technological stages Water extract	VOC content: Methyl tert-butyl ether (MTBE) Ethyl tert-butyl ether (ETBE) Benzene Toluene Ethylbenzene o-Xylene m- and p-Xylene	GC-MS	PP SI 1165 (STN EN ISO 15680)	
		Sum of xylenes	Calculation of xylenes content		
62	Liquid fuels Gas fuels	Hydrogen	GC-TCD	UOP 539 STN EN 15984 STN EN 27941 ASTM D 1945 ASTM D 1946 STN EN ISO 6974-4 (PP SI 1080)	
		CO, CO <sub>2</sub> , Oxygen, Nitrogen Hydrogen sulfide			

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63	Liquid fuels Gas fuels	Hydrocarbons C <sub>1</sub> - C <sub>6+</sub> : Methane Ethane Ethylene Acetylene Cyklopropane Propane Propylene Propadiene Methylacetylene Ethylacetylene Vinylacetylene Isobutane n-Butane 1-Butene Isobutene trans-2-Butene cis-2-Butene 1,2-Butadiene 1,3-Butadiene Isopentane n-Pentane 1-Pentene C <sub>6</sub> and higher hydrocarbons	GC-FID	UOP 539 STN EN 15984 STN EN 27941 ASTM D 1945 ASTM D 1946 STN EN ISO 6974-4 ASTM D2163 DIN 51619 (PP SI 1080)	
63	Liquid fuels Gas fuels	Total dienes content	Calculation from the content of individual dienes		
64	Liquid fuels Gas fuels	Superior calorific value	Calculation	STN EN ISO 6976	
		Inferior calorific value		STN EN 15984	
		Density		STN EN ISO 6976 STN EN ISO 8973	
		Vapour pressure		STN EN ISO 8973 STN EN 589	
		Motor octane number (MON)		STN EN 589 STN EN ISO 6976	
64	Liquid fuels Gas fuels	Molar mass averages	Calculation	PP SI 1080	
		Wobbe index		STN EN ISO 6976	
		Emission factor (T CO <sub>2</sub> /T)		PP SI 1080	
65	Petroleum and petroleum products Liquid fuels	Monoaromatic hydrocarbons (MAH)	HPLC-RID	STN EN 12 916, Procedure A (PP SI 1011)	
		Diaromatic hydrocarbons (DAH)			
		Triaromatic and higher aromatic hydrocarbons (T+AH)			
		Polycyclic aromatic hydrocarbons (PAH)			
		Total aromatic hydrocarbons (TA)			

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66	Petroleum and petroleum products Liquid fuels	Saturated hydrocarbons	GC-FID	STN EN ISO 22854, Procedure A (PP SI 1095)						
		Aromatics								
		Olefins								
		Benzene								
		Oxygenated compounds (as an individual component or group): Methyl tert-butyl ether (MTBE) Ethyl tert-butyl ether (ETBE) di-Isopropyl ether (DIPE) tert-Amyl metyl ether (TAME) Methanol Ethanol n-Propylalcohol Isopropylalcohol n-Butanol terc-Butylalcohol Izobutylalcohol sec-Butylalcohol tert-Amyl alcohol								
		67				Petroleum and petroleum products Liquid fuels	Oxygen	Calculation	STN EN ISO 22854, Procedure A (PP SI 1095)	total oxygen content
							Ethers (5 or more atoms of carbon) Other oxygenated compounds			
		68				Liquid fuels	Free Glycerol Monoglycerides Diglycerides Triglycerides	GC-FID	STN EN 14105 (PP SI 1126)	
							Total Glycerol	Calculation		
		69				Liquid fuels	FAME Linolenic acid methyl ester (MEKL)	GC-FID	STN EN 14103 (PP SI 1125)	
70	Unoccupied									
71	Underground Water Surface Water Waste Water Water from technological stages	C10 – C40	GC-FID	STN EN ISO 9377-2 (PP SI 1146)						
72	Underground Water Surface Water Waste Water	pH	Potentiometry	STN EN ISO 10523						
	Waste Water Water extract Cooling liquids			STN 65 0313 ASTM D 1287 (PP SIII 0020)						
73	Underground Water Surface Water Waste Water Water from technological stages Water extract	Sulphide	Spectrophotomet ric analysis	STN 75 7483 (PP SIII 0152)	range of determination (0,1 – 1,0) mg/l					
			Volumetry		range of determination (1,0 – 20,0) mg/l					
74	Soil, Sludge	Solids	Gravimetric analysis	STN EN ISO 17892-1 (PP SIII 0176)						

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75	Underground Water Surface Water Waste Water	Chloride Nitrate Sulphate	IC	STN EN ISO 10304-1 (PP SIII 4002)	
76	Underground Water Surface Water Waste Water Water from technological stages Water extract	Total Substances (CL 105) Dissolved Substances (RL 105) Dissolved Substances (RL 550)	Gravimetric analysis	STN 75 7373 (PP SIII 0159)	
77	Underground Water Surface Water Waste Water Water from technological stages Water extract	Solid Substances (NL 105)	Gravimetric analysis	STN EN 872 (PP SIII 0158)	
78	Unoccupied	-	-	-	
79	Underground Water Surface Water Waste Water Water from technological stages Water extract Waste Sludge Soil, Sediments Ash	Extractable substances and Non-polar extractable substances	FTIR	PP SV 5214 (STN 83 0540-4)  PP SV 5213 (STN 75 7952)	
80	Underground Water Surface Water Waste Water Water extract	Anionic surfactants	Spectrophotomet ric analysis	STN EN 903 (PP SIII 0040)	
81	Underground Water Surface Water Waste Water Water extract Waste Sludge Soil Sediments Ash	Easily liberatable cyanide Total cyanide	Spectrophotomet ric analysis	STN ISO 6703-2 (PP SIII 0171) STN ISO 6703-1 (PP SIII 0171)	
82	Underground Water Surface Water Waste Water Water from technological stages Water extract Waste Sludge Soil Ash	Total Carbon (TC) Total organic carbon (TOC) Dissolved organic carbon (DOC)	Combustion and IR detection	STN EN 1484 (PP SV 5306)  STN EN 13137 (PP SV 5307)	

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83	Underground Water Surface Water Waste Water Water from technological stages Water extract	Conductivity	Conductometry	STN EN 27888	
84	Underground Water Surface Water Waste Water Water from technological stages	Base Neutralising Capacity	Volumetry	STN 75 7372 (PP SIII 0154)	
85	Underground Water Surface Water Waste Water Water from technological stages	Acid Neutralising Capacity	Volumetry	STN ISO 9963-1 (PP SIII 0155)	
86	Underground Water Surface Water Waste Water Water from technological stages Water extract	Chemical Oxygen Demand (COD <sub>Cr</sub> )	Volumetry	STN ISO 6060 STN 75 7376 (PP SIII 0156)	
87	Underground Water Surface Water Water from technological stages	Chemical Oxygen Demand (COD <sub>Mn</sub> )	Volumetry	STN EN ISO 8467 (PP SIII 0157)	
88	Underground Water Surface Water Water from technological stages Waste Water	Biochemical Oxygen Demand, after 5 days (BOD <sub>5</sub> )	Potentiometry (dilution and seeding method)	STN EN 1899-2 (PP SIII 0170) STN EN ISO 5815-1 (PP SIII 0170)	
89	Underground Water Surface Water Water from technological stages Waste Water Water extract	Phenol index	Spectrophotomet ric analysis	STN ISO 6439 (PP SIII 0153)	
90	Underground Water Surface Water Waste Water Water from technological stages Water extract	Ammonium Ammonium nitrogen	Spectrophotomet ric analysis	STN ISO 7150-1 (PP SIII 0150)	
91	Underground Water Surface Water Waste Water Water from technological stages Water extract	Orto-phosphate	Spectrophotomet ric analysis	PP SV 5012 (STN EN ISO 6878)	
92	Unoccupied				
93	Underground Water Surface Water Waste Water Water from technological stages Water extract	Nitrite Nitrite nitrogen	Spectrophotomet ric analysis	STN EN 26777 (PP SIII 0151)	

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94	Liquid fuels	Thermal stability	Measurement of pressure	ASTM D 3241 (PP SII 0027)	
95	Underground Water Surface Water Water from technological stages	Total hardness Sum Ca+Mg	Volumetry	PP SV 5035 (STN ISO 6059)	
96	Underground Water Surface Water Waste Water Water from technological stages Water extract	Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Cobalt Copper Chromium Iron Lead Magnesium Manganese Molybdenum Nickel Phosphorus Pottasium Selenium Silver Sodium Strontium Vanadium Zinc	ICP-AES	PP SV 5040 (STN EN ISO 11885)	
		Total hardness Sum Ca+Mg	Calculation		
96	Soil, Sediments, Sludge Waste Ash	Arsenic Cadmium Cobalt Copper Chromium Lead Nickel Vanadium Zinc	ICP-AES	PP SV 5041	
97	Underground Water Surface Water Waste Water Water from technological stages Water extract	Volatile hydrocarbons: 1,2-Trans- Dichlorethylene Benzene Trichloroethylene Toluene Tetrachloroethylene Ethylbenzene p- and m-Xylene o-Xylene Xylenes	GC-FID GC-ECD	PP SI 1145 (STN EN ISO 15680) (STN EN ISO 10301)	
		Sum of xylenes	Calculation of xylenes content		

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## Annex to the Certificate of Accreditation No. S-119 dated 22.07.2024.

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Item	Object		Method applied		Other specification (range, uncertainty, purpose, modification/validation, opinions/interpretations, etc.)
	Object / Matrix / Environment	Property / Parameter / Indicator / Analyt	Principle / Kind / Type	Identification	
98	Underground Water Surface Water Waste Water Water extract	Naphtalene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthrene Pyrene Benz(a)anthracene	HPLC-FLD	STN EN ISO 179937 (PP SI 1141)	
98	Underground Water Surface Water Waste Water Water extract	Chrysene Benz(b)fluoranthene Benz(k)fluoranthene Benz(a)pyrene Dibenz(a,h)anthracene Benz(ghi)perylene Indeno(1,2,3-cd)pyrene Sum of PAH	HPLC-FLD	STN EN ISO 179937 (PP SI 1141)	
99	Underground Water Surface Water Waste Water Water from technological stages	GRO (C7 - C12) C7 C8 C9 C10 C11 C12 Sum of C7 - C12	GC-FID	EPA 8015/C (PP SI 1157)	
100	Underground Water Surface Water Waste Water Water from technological stages	DRO (C13 - C22) C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 Sum of C13 - C22	Underground Water Surface Water Waste Water Water from technological stages Communal water Industry water	DRO (C13 - C22) C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 Sum of C13 - C22	
101	Soil, Sediments, Waste Sludge	C10 - C40	GC-FID	STN EN ISO 16703 STN EN 14039 (PP SI 1128)	
102	Underground Water Surface Water Waste Water Water from technological stages Water extract	POL content: Styrene Isopropylbenzene n-Propylbenzene 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzen terc-Butylbenzene sec-Butylbenzene 4-Isopropyltoluene n-Butylbenzene Naphthalene	GC-MS	PP SI 1165 (STN EN ISO 15680)	
103	Petroleum and petroleum products Liquid fuels Oils	Acid number neutralization number	Potentiometry	STN 65 6214 ASTM D 664 (PP SII 0009)	
104	Liquid fuels Petroleum and petroleum products	Research octane number RON (Antiknock characteristics of gasoline)	Test on combustion motor	STN EN ISO 5164 ASTM D 2699 (PP INS 8007)	

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Item	Object		Method applied		Other specification (range, uncertainty, purpose, modification/validation, opinions/interpretations, etc.)
	Object / Matrix / Environment	Property / Parameter / Indicator / Analyt	Principle / Kind / Type	Identification	
105	Liquid fuels Petroleum and petroleum products	Motor Octane Number MON (Antiknock characteristics of gasoline)	Test on combustion motor	STN EN ISO 5163 ASTM D 2700 (PP INS 8008)	
106	Liquid fuels Petroleum and petroleum products	Cetane number (combustion properties of diesel)	Test on combustion motor	STN EN ISO 5165 ASTM D 613 (PP INS 8001)	

## The scope of accreditation of the laboratory performing sampling

## Workplace 4

Table No.: 0-2

Item	Object		Site of sampling	Method applied		Other specification
	Object / Matrix / Environment	Property		Type / Principle	Identification	
1	Liquid fuels	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>	commercial site fuel dispensers and storage tanks of filling stations	manual sampling	STN EN 14275 STN EN ISO 3170 STN EN ISO 4257 STN EN ISO 10715 STN EN ISO 15403-1 (PP Č INS 8101)	
	Gas fuels	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>				
2	Liquid fuels	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>	stationary and mobile tanks, vehicle tanks, barrels and canisters, pipelines	manual sampling manual sampling	STN EN ISO 3170 STN EN ISO 4257 STN EN ISO 10715 (PP Č INS 8102)	
2	Petroleum and petroleum products	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>	stationary and mobile tanks, vehicle tanks, barrels and canisters, pipelines	manual sampling manual sampling	STN EN ISO 3170 STN EN ISO 4257 STN EN ISO 10715 (PP Č INS 8102)	
	Petrochemical products	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>				
	Gas fuels	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>				
	Oils	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>				
	Cooling liquids	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>				

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Item	Object			Method applied		Other specification
	Object / Matrix / Environment	Property	Site of sampling	Type / Principle	Identification	
3	Waste water	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>	sewage structures, piping distributors, drainage channels, water from individual technological steps stages and devices sewage construction	manual sampling  (point samples, mixed samples - time proportionally gathered)	PP Č INS 8103 (STN EN ISO 5667-1 STN EN ISO 5667-3 STN ISO 5667-10 STN EN ISO 5667-14 STN EN ISO 5667-16 STN 75 7375 STN EN ISO 19458)	
4	Surface water	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>	rivers, lakes, reservoirs	manual sampling (point samples, mixed samples - time proportionally gathered)	PP Č INS 8103 (STN EN ISO 5667-1 STN EN ISO 5667-3 STN ISO 5667-4 STN EN ISO 5667-6 STN EN ISO 5667-14 STN EN ISO 5667-16 STN 75 7375)	
5	Waste Soil	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>	buffer-stocks, piles and sites for disposal or reuse of contaminated soils, sites at building-up activities, reconstruction, cuttings during process of exploring site for contamination stocks, barrels, storing vessels, basins	manual sampling  (point samples, average mixed samples, proportionally mixed samples)	PP Č INS 8104 (STN EN 14899 CEN/TR 15310-1 to CEN/TR 15310-5)	
6	Sludge	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>	wastewater treatment plants, sludge beds, sewage constructions, sludge from the bottom of the storing basins	manual sampling  (point samples, average mixed samples, proportionally mixed samples)	PP Č INS 8105 (STN EN ISO 5667-1 STN EN ISO 5667-13 STN EN ISO 5667-15 STN EN 14899 CEN/TR 15310-1 to CEN/TR 15310-5)	
7	Water underground	Sampling for objects and methods of the scope of accreditation of the Workplace 2 <b>Table No.: 2</b>	technical environment (exploration and bucket wells)	sampling by deep-well pumps, manual sampling  (point samples)	PP Č INS 8111 (STN EN ISO 5667-1 STN EN ISO 5667-3 STN ISO 5667-11 STN EN ISO 5667-14)	

Property/Parameter/Indicator/Analyt

FAME	= fatty acid methyl esters
MTBE	= methyl tert-butyl ether
ETBE	= ethyl tert-butyl ether
TAME	= tert amyl methyl ether
GRO	= gasoline range organics
DRO	= diesel range organics

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**Annex to the Certificate of Accreditation No. S-119 dated 22.07.2024.***The Annex is an integral part of the Certificate of Accreditation*

POL = volatile organic compounds  
 VOC = volatile organic compounds

\* the result is possible to report also in % (V/V) or % (m/m) according to requirement of customer

Principle/Kind/Type of applied method

AAS/ETA = atomic absorption spectrometry/electrothermic atomization  
 AAS/F = atomic absorption spectrometry/flame atomization  
 AES/ICP = atomic emission spectrometry/inductively coupled plasma  
 DOC = dissolved organic carbon  
 FID = flame ionization detector  
 FTIR = fourier transform infrared spectrometry  
 GC-ECD = gas chromatography/electron capture detector  
 GC-FID = gas chromatography/flame ionization detector  
 GC-TCD = gas chromatography/thermal conductivity detector  
 HPLC-FLD = high performance liquid chromatography/fluorescence detector  
 HPLC-RID = high performance liquid chromatography/refractive index detector  
 IC = ion chromatography  
 LC = liquid chromatography  
 RFS (EDXRF) = energy-dispersive X-ray fluorescence spectrometry  
 RFS (WDXSRF) = Wavelength-dispersive X-ray fluorescence spectrometry  
 TOC = total organic carbon  
 (UV fluorescence) = high temperature oxidation/UV fluorescence detection

Identification of applied method

UOP = Universal Oil Products standard  
 INS = Inspection  
 PP = Working procedure  
 SI = Section I  
 SII = Section II  
 SIII = Section III  
 SV = Section V

**Note:**

- 1) For the purposes of the Act no. 355/2007 Coll. the protection, promotion and development of public health and amending certain acts as amended.
- 2) Vocational guidance Ministry of Health, which regulates the procedure for the objectification of physical factors of the environment and the working environment, 2011.
- 3) Vocational guidance Ministry of Health, which regulates the procedure for assessing exposure levels of employees using hearing protection, 2010
- 4) NV SR no. 115/2006 and VMZ SR as amended no. 555/2006 Coll.
- 5) VMZ SR č. 549/2007 Coll. as amended VMZ SR č. 237/2009 Coll.
- 6) NV Nr. 416/2005 Coll. as amended by NV SR no. 629/2005 Coll.
- 7) Vocational guidance Ministry of Health, which regulates the procedure for the measurement and evaluation of lighting, 2013
- 8) VMZ Nr. 541/2007 Coll. as amended VMZ SR no. 206/2011 Coll.

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