

DAP Deutsches Akkreditierungssystem Prüfwesen GmbH

Annex to the Accreditation Certificate DAP-PL-3436.00 Accreditation based on DIN EN ISO/IEC 17025:2005

Period of validity: 2009-03-09 to 2012-07-08

Holder of the certificate:

**Testing laboratory
EKOLAB s.r.o.**

Napájadlá 17
040 12 Košice
SLOVAKIA

Tests in the areas:

selected physical, physico-chemical and chemical methods for analysis of water (drinking, surface, ground water, swimmingpool water, waste water and mineral water), aqua purificata, soils, waste and food; microbiological testing of water (drinking, surface, ground water, swimmingpool water, waste water and mineral water), aqua purificata, food, feeds, cosmetic products and biological materials; ecotoxicological tests of water and waste; testing of sterilizers and sterilization, control of efficiency of disinfection, control of microbes in internal environment air; selected tests of solid mineral fuels; physical, physico-chemical and chemical analysis of emissions (without sampling); sampling and physical, physico-chemical and chemical analysis of atmospheres and workplace atmospheres; sampling of drinking water, waste water, groundwater, swimming pool and bathing pool water, bottom sediments, sewage sludges and treatment works

abbreviations used:

see page 20

Without prior information to and approval by DAP German Accreditation System for Testing, the laboratory is permitted to use standard test methods or test methods equivalent to them, which are not included in the certificate, in the areas as shown by *. The listed test methods are seen only as examples.

1 Water (drinking, surface, groundwater, swimming pool water, wastewater and mineral water)

1.1 Sampling and treatment works

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|------------------------------|---|
| STN EN 25667-1 1999-03 | Water quality - Sampling - Part 1: Guidance on the design of sampling programmes |
| STN EN 25667-2 1999-03 | Water quality - Sampling - part 2: Guidance on sampling techniques (ISO 5667-2:1991) |
| STN EN ISO 5667-3 1999-03 | Water quality - Sampling - Part 3: Guidance on the preservation and handling of samples |
| STN ISO 5667-5 1999-03 | Water quality - Sampling - part 5: Guidance on sampling of drinking water and water used for food and beverage processing |
| STN ISO 5667-10 1999-03 | Water quality - Sampling - part 10: Guidance on sampling of waste waters |
| STN ISO 5667-11 1999-03 | Water quality - Sampling - part 11: Guidance on sampling of groundwaters |
| STN ISO 5667-12 1999-3 | Water quality - Sampling - part 12: Guidance on sampling of bottom sediments |
| STN ISO 5667-13 1999-3 | Water quality - Sampling - Part 13: Guidance on sampling of sludges from sewage and water treatment works |
| IPP 200 2008 | Sampling of swimming pool and bathing pool water |

1.2 Physical and chemical pointers

| | |
|-------------------------|---|
| STN EN 27888 1998-04 | Water quality. Determination of electrical conductivity. |
| STN 830520-9 1978-10 | Determination of pH. |
| STN 830540-3 1978-3 | Determination of total dissolved and insoluted substances |

1.3 Anions

| | |
|---------------------------|---|
| STN ISO 9297 2000-08 | Water quality. Determination of chloride. Silver nitrate titration with chromate indicator. |
| STN ISO 6703-1 1998-05 | Water quality - Determination of cyanide - Part 1: Determination of total cyanide |

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| STN ISO 6703-2 1998-05 | Water quality; Determination of cyanide; Part 2 : Determination of easily liberatable cyanide |
| IPP 125 2008-07 | Determination of free and bounded chlorine with DPD |
| STN EN 1189 2000-10 | Determination of phosphorus. Ammonium molybdate spectrometric method |
| STN EN ISO 10304-1 1998-11 | Water quality - Determination of dissolved fluoride, chloride, nitrite, orthophosphate, bromide, nitrate and sulfate ions, using liquid chromatography of ions - Part 1: Method for water with low contamination |
| STN EN ISO 10304-2 1998-11 | Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 2: Determination of bromide, chloride, nitrate, nitrite, orthophosphate and sulfate in waste water |
| STN EN ISO 10304-3 1998-11 | Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 3: Determination of chromate, iodide, sulfite, thiocyanate and thiosulfate (here: only for Chromate) |
| STN EN 903 1999-03 | Determination of anionic surfactants by measurement of the methylene blue index MBAS |

1.4 Cations

| | |
|-----------------------------|---|
| STN EN ISO 11885 2000-07 | Water Quality - Determination of 33 elements by inductively coupled plasma atomic emission spectroscopy |
| STN ISO 9965 1996-11 | Water quality; determination of selenium; atomic absorption spectrometric method (hydride technique) |
| STN EN ISO 11969 1999-10 | Water quality - Determination of arsenic - Atomic absorption spectrometric method (hydride technique) |
| STN EN 1483 1999-08 | Water quality - Determination of mercury - Method using atomic absorption spectrometry |
| STN ISO 8288 1998-04 | Water quality; Determination of cobalt, nickel, copper, zinc, cadmium and lead; Flame atomic absorption spectrometric methods |
| ČSN ISO 7980 1995-02 | Water quality - Determination of calcium and magnesium - Atomic absorption spectrometric method |
| STN ISO 7150-1 1995-09 | Water quality; Determination of ammonium; Part 1 : Manual spectrometric method |
| STN ISO 5664 1995-09 | Water quality; Determination of ammonium; Distillation and titration method |

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| STN ISO 9964-3 2000-08 | Water quality - Determination of sodium and potassium - Part 3: Determination of sodium and potassium by flame emission spectrometry |
| STN EN ISO 15586 2004-10 | Water quality - Determination of trace elements using atomic absorption spectrometry with graphite furnace |
| EPA Method 7000 A 1992-07 | Atomic Absorption Methods (here for: <i>Pb, Zn, Cu, Cr, Ni, Co, Cd, Fe, Mn</i>) |
| EPA method 200.7 1991-04 | Determination of metals and trace Elements in Water and wastes by ICP. (here for: <i>Al, Ag, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Na, Ni, Pb, Sb, Sn, Sr, V, Hg, As, Sb, Zn, P</i>) |
| EPA method 200.9 1991-04 | Determination of metals and trace elements in water and wastes by GFAA (here for: <i>Pb, Cu, Cd, Ni, Co, Cr, V, Ba, Ag, Be, Tl</i>) |
| EPA method 270.3 1974-05 | Selenium (Atomic Absorption Spectrometry, hydride technique) |
| IPP 90 2005-08 | Determination of metals by potentiometric stripping analyse |

1.5 Organic compounds

| | |
|-----------------------------|---|
| STN EN ISO 10301 1999-10 | Water quality. Determination of highly volatile halogenated hydrocarbons chromatographic methods. Benzén, Toluén, Xylén, Trichlómetán, Trichlóretén, Styrén, 1,3-dichlórbenzén, 1,2-dichlóretán, Tetrachlóretén, 1,4-dichlórbenzén, 1,1-dichlóretén, Tribrómmetán, Brómdichlómetán, cis-1,2dichlóretén, trans-1,2-dichlóretén Chlórbenzén, Dibrómmchlómetán, 1,2-dichlórbenzén Tetrachlómetán, 1,1,1,2 tetrachloretán, Brombenzén, 1,3,5, trimetylbenzén, Bromchlormetán, Bromdichlormetán, Trichloretán, 2-chlortoluén, Bromoform, 1,2 dichlorpropán, 4-chlortoluén, Dibromochloretán, Isopropylbenzén, Butylbenzén, Dichlorbenzény, Dibromometán, Etylbenzén, Brommetán, Metylén chloride, Chloretán, 1,1 dichloretán, 1,2,4 trimetylbenzén, Chlormetán, Dichlordifluormetán, Trichlorfluorometán, Trichlorfluormetán Dichlordifluormetán, Vinylchlorid, Trichlorbenzén (Deviation: <i>Determination using HS-GC-MS</i>) |
| EPA ISO 8165-1 1996-08 | Water quality. Determination of selected monovalent phenols. Gas-chromatographic method |
| EPA method 528 2000-04 | Determination of Phenols in water by liquid-solid extraction and capillary column gas chromatography/mass spectrometry (GC/MS) |

STN EN ISO 6468
1999-10

Water quality. Determination of organic compounds in water
Atrazín, Crimidine, Chlorprophan, Metabenzthiazuron, Dichlorvos
EPTC (Eptan), Mevinfos, Alachlor, Symetrin, Ametrin,
Prometrin, Terbutrin, Beta HCH, Delta HCH, Aldrin,
Dieldrin, Endrin, α -endosulfan, Lindan, Trifluralin, HCB,
Carbaryl, Ethofumesate, Thiabendazol, Pyrazofos, PCB
101, PCB 138, Acenaftén, Acenaftylén, Antracén, Chryzén,
Fluorén, Naftalén, Butylat, Vernolat, Pebulat, Tebuthiuron,
Molinat, Propachlor, Ethoprop, Folpet, Captan, Metiocarb,
Trifluralin, -HCH, Chlorpyriphos methyl, ention, Heptachlór,
Metoxychlór, p,p'-DDT, p,p'-DDD, p,p'-DDE, Metyl-paration,
Procymidon, Primicarb, Mecarbam, Thiazophos, PCB 18, PCB
20, PCB 28, PVC 31, PCB 44, PCB 52, PCB 52, PCB 101,
PCB 118, PCB 138, PCB 149, PCB 153, PCB 170, PCB 180,
PCB 194, Benzo(g,h,i)perylén, Benzo(b)Fluorantén,
Benzo(a)antracén, Benzo(k)Fluorantén, Fenantrén, Cykloat,
Trifluralin, Chlorprophan, Atraton, Propazin, Pronamid,
Terbacil, Dicofol, Pendimetalin, Tolyfluanid, Bromophos
etyl, Amazalyl, Monokrotophos, Metidation, Etion, Fenvalerat,
Phorat, Malation, Binapacryl, Brompropylat, Fosfamodon,
Metalaxyl, Omethoate, Pyretrins, PCBs, Benzo(a)pyrén,
Dibenzo(a,h)antracén, Fluorantén, Indeno(1,2,3,c,d)pyrén,
Pyrén

EPA method 525.2
1995-10

Determination of organic compounds in water by liquid-solid
extraction and capillary column gas chromatography/mass
spectrometry
Atrazín, Crimidine, Chlorprophan, Metabenzthiazuron,
Dichlorvos, Eptan, Mevinfos, Alachlor, Symetrin, Ametrin,
Prometrin, Terbutrin, Beta HCH, Delta HCH, Aldrin, Dieldrin,
Endrin, α -endosulfan, Lindan, Trifluralin, HCB, Carbaryl,
Ethofumesate, Thiabendazol, Pyrazofos, PCB 101, PCB 138,
Acenaftén, Acenaftylén, Antracén, Chryzén, Fluorén, Naftalén,
Butylat, Vernolat, Pebulat, Tebuthiuron, Molinat, Propachlor,
Ethoprop, Folpet, Captan, Metiocarb, Trifluralin, -HCH,
Chlorpyriphos methyl, ention, Heptachlór, Metoxychlór,
p,p'-DDT, p,p'-DDD, p,p'-DDE, Metyl-paration, Procymidon,
Primicarb, Mecarbam, Thiazophos, PCBs ,
Benzo(g,h,i)perylén, Benzo(b)Fluorantén, Benzo(a)antracén,
Benzo(k)Fluorantén, Fenantrén, Cykloat, Trifluralin,
Chlorprophan, Atraton, Propazin, Pronamid, Terbacil, Dicofol,
Pendimetalin, Tolyfluanid, Bromophos etyl, Amazalyl,
Monokrotophos, Metidation, Etion, Fenvalerat,
Phorat, Malation, Binapacryl, Brompropylat
Fosfamodon, Metalaxyl, Omethoate, Pyretrins, Benzo(a)pyrén,
Dibenzo(a,h)antracén, Fluorantén, Indeno(1,2,3,c,d)pyrén,
Pyrén, EPTC

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| ČSN EN ISO 11369 2000-12 | Water quality. Determination of selected plant treatment agents Method using high performance liquid chromatography with UV detection after solid-liquid extraction; Atrazine, Cyazine, Metazachlor, Sebutylazine, Terbutylazine, Metolachlor, Prometryne, Propazine, Simazine, Chloroxuron, Dimetufuron, Ethidimuron, Bromacil, Metamitron, Atrazin-disethyl, Atrazin-desisopropyl, Chloridazon, Metoxuron, Carbetamid, Bromacil, Terbutylazin-desethyl, Terbutryn, Vinclozolin, Benzotiazol, Chlortoluron, Diuron, Isoproturon, Linuron, Methabenzthiazuron, Metobromuron, Monolinuron |
| ČSN 757554 1998-08 | Water quality - Determination of selected polynuclear aromatic hydrocarbons - HPLC and GC methods |
| STN ISO 6439 1996-12 | Water quality. Determination of phenols indexes |
| STN 757550 1992-02 | Water quality. Determination of trihalogenmethans and aromatic compounds. Benzén, Toluén, Xylén, Trichlómetán, Trichlóretén, Styren, 1,3-dichlórbenzén, 1,2-dichlóretán, Tetrachlóretén, 1,4-dichlórbenzén, 1,1-dichlóretén, Tribrómmetán, Brómdichlómetán, cis-1,2dichlóretén, trans-1,2-dichlóretén, Chlórbenzén, Dibrómmchlómetán, 1,2-dichlórbenzén, Tetrachlómetán, 1,1,1,2 tetrachloretán, Brombenzén, 1,3,5, trimetylbenzén, Bromchlormetán, Bromdichlormetán Trichloretán, 2-chlortoluén, Bromoform, 1,2 dichlorpropán, 4-chlortoluén, Dibromochloretán, Isopropylbenzén,, Butylbenzén, Dichlorbenzény,, Dibromometán, Etylbenzén, Brommetán, Metylén chloride, Chloretán, 1,1 dichloretán, 1,2,4 trimetylbenzén, Chlormetán, Dichlordifluormetán, Trichlorfluorometán, Trichlorfluormetán, Dichlordifluormetán, Vinylchlorid, Trichlorbenzén |
| STN EN ISO 9562 2005-01 | Determination of adsorbable organically bound halogens |
| STN 830540-4 1984-07 | Physicochemical analysis of wastes water. Determination of crude oil and oil products |
| STN ISO 6060 2000-7 | Water quality. Determination of the chemical oxygen demand |
| STN EN 1899-1 2001-11 | Water quality - Determination of biochemical oxygen demand after n days (BOD _n) - Part 1: Dilution and seeding method with allylthiourea acid addition |
| STN EN 1899-2 2001-11 | Water quality - Determination of biochemical oxygen demand after n days (BOD _n) - Part 2: Method for undiluted samples |
| STN EN ISO 8467 2000-10 | Water quality - Determination of permanganate index |

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| STN EN 1484 2000-8 | Water analysis - Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC) |
| STN EN 18856 2006-2 | Water quality - Determination of selected phthalates using gas chromatography/mass spectrometry |
| STN EN ISO 15680 2005-01 | Water quality - Gas-chromatographic determination of a number of monocyclic aromatic hydrocarbons, naphthalene and several chlorinated compounds using purge-and-trap and thermal desorption |

1.6 Summative Parameters

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|------------------------------|---|
| STN ISO 10048 1996-11 | Water quality – Determination of nitrogen (Catalytic digestion after reduction with Devarda's alloy) |
| STN EN 25663 1998-06 | Water quality – Kjeldahl nitrogen – Method after mineralization with Selenium |
| STN EN ISO 9377-2 2003-08 | Water quality. Determination of hydrocarbon oil index. Part 2: Method using solvent extraction and gas chromatography |

1.7 Gaseous Parameters

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|-------------------------|--|
| STN EN 25814 1996-09 | Water quality – Determination of dissolved oxygen – Electrochemical probe method |
|-------------------------|--|

1.8 Ecotoxicological tests

| | |
|------------------------------|---|
| STN EN ISO 8692 2005-10 | Water quality. Freshwater algal growth inhibition test with unicellular green algae |
| STN EN ISO 6341-1 1999-08 | Water quality. Determination of the inhibition of the mobility of <i>Daphnia magna</i> Straus (Cladocera, Crustacea). Acute toxicity test |
| STN EN ISO 7346-1 1999-06 | Water quality. Determination of the acute lethal toxicity of substances to a freshwater fish [<i>Brachydanio rerio</i> Hamilton-Buchanan (Teleostei, Cyprinidae)]. Part 1: Static method |

1.9 Aqua purificata

| | |
|------------------------------|--|
| SL no.1 III p. 1534 2004; | Aqua purificata Conductivity Nitrate Heavy Metals Acidity and Alcalinity Oxidateable Substances Chloride Sulphate Ammonia Calcium and Magnesium Total Dissolved Solids Total Bacteria Count Total Enterobacteriaceae and Other Gramnegative Bacteria Pseudomonas Aureginosa |
|------------------------------|--|

2 Wastes

2.1 Preparation of samples

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|------------------------|-------------------------------|
| JMAKO MP 20 1994-05 | Preparation of water ekstrakt |
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2.2 Physical and chemical pointers

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|-------------------------|--|
| JMAKO MP 040 1994-05 | Determination of pH |
| JMAKO MP 050 1994-05 | Determination of electrical conductivity |

2.3 Anions

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|-------------------------|---|
| JMAKO MP 295 1994-05 | Determination of chloride. Silver nitrate titration with chromate indicator |
| JMAKO MP 310 1994-05 | Determination of total cyanide |
| JMAKO MP 320 1994-05 | Determination of total and easily liberatable cyanide |

2.4 Cations

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| JMAKO MP 170 1994-05 | Determination of metals - AAS (GAAS, hydride technique) As, Sb, Sn, Se, Bi, Te |
| JMAKO MP 180 1994-05 | Determination of metals by AES-ICP Al, Ag, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Na, Ni, Pb, Sb, Sn, Sr, V, Hg, As, Zn, Bi, Te |

2.5 Organic compounds

| | |
|-------------------------|--|
| JMAKO MP 070 1994-05 | Determination of selected polynuclear aromatic hydrocarbons. HPLC and GC methods. Benzo(a)pyrene, fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene, benzo(g,h,i)perylene, acenaphthene, acenaphthylene, anthracene, chrysene, benzo(a)anthracene, dibenzo(a,h,)anthracene, fluorene, naphthalene, phenanthrene, pyrene |
| JMAKO MP 080 1994-05 | Determination of phenols index |
| JMAKO MP 085 1994-05 | Determination of selected monovalent phenols. GC and HPLC method after enrichment by extraction |
| JMAKO MP 100 1994-05 | Determination of crude oil and oil products |
| JMAKO MP 150 1994-05 | Polychlorinated Biphenyl's by gas chromatography |
| JMAKO MP 160 1994-05 | Determination of benzene, toluene and xylene (BTX), chromatographic methods |

2.6 Ecotoxicological tests of waste

| | |
|------------------------|---|
| STN 83 8303 1999-01 | Testing of dangerous properties of wastes. Ecotoxicity. Acute toxicity tests on aquatic organisms and growth inhibition tests of algae and higher cultivated plants |
|------------------------|---|

3 Soils

3.1 Organic compounds

| | |
|----------------------------|--|
| EPA method 3810 1986-09 | Headspace (Determination of Volatile Hydrocarbons) |
| EPA method 8041 1996-12 | Phenols by Gas Chromatography |
| EPA method 8082 1996-12 | Polychlorinated Biphenyls (PCBs) by Gas Chromatography |
| EPA method 8270 1986-09 | Semivolatile organic compounds by GC/MS |
| JMAKO MP 100 1994-05 | Determination of crude oil and oil products |

3.2 Cations

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|-----------------------------|--|
| EPA method 200.7 1991-04 | Determination of metals and trace Elements in Water and wastes by ICP. <i>(here for: Al, Ag, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Na, Ni, Pb, P, Sb, Sn, Sr, V, Hg, As, Zn in soil after digestion)</i> |
| EPA method 7000 1992-07 | Atomic Absorption Methods <i>(here for: Pb, Zn, Cu, Cr, Ni, Co, Cd, Fe, Mn in soil after digestion)</i> |

3.3 Geotechnical investigations of soil

| | |
|------------------------|---|
| STN 72 1011 1980-09 | Determination of apparent density of solid particles of soils |
| STN 72 1012 1980-09 | Determination of moisture content of soils |
| STN 72 1013 1967-12 | Determination of plasticity limit of soils |
| STN 72 1014 1967-12 | Determination of liquid limit of soils |
| STN 72 1017 1970-12 | Determination of grain size distribution of soils |

4 Foods

4.1 Organic compounds - GC and LC methods

| | |
|--------------------------|--|
| STN EN 1528-1 2000-07 | Fatty food - Determination of pesticides and polychlorinated biphenyls (PCBs) - Part 1: General |
| STN EN 1528-2 2000-07 | Fatty food - Determination of pesticides and polychlorinated biphenyls (PCBs) - Part 2: Extraction of fat, pesticides and PCBs, and determination of fat content |
| STN EN 1528-3 2000-07 | Fatty food - Determination of pesticides and polychlorinated biphenyls (PCBs) - Part 3: Clean-up methods (only module A, B, C, D) |

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| STN EN 1528-4 2000-07 | Fatty food - Determination of pesticides and polychlorinated biphenyls (PCBs) - Part 4: Determination, confirmatory tests, miscellaneous (here for: o,o-DDD, p,p-DDD, p,p-DDT, o,p-DDT, p,p-DDE, Atrazín, Butylat, Cykloat, Crimidine, Vernolat, Trifluralin, Chlorprophan, Pebulat, Chlorprophan, Metabenzthiazuron, Tebuthiuron, Atraton, Dichlorvos, Molinat, Propazin, EPTC (Eptan), Propachlor, Pronamid, Mevinfos, Ethoprop, Terbacil, Alachlor, Polpet, Dicofol, Symetrin, Captan, Pendimetalin, Ametrin, Metiocarb, Tolyfluanid, Prometrin, Trifluralin, Bromophos etyl, Terbutrin, α -HCH, Amazaly, Beta HCH, Chlorpyrifos methyl, Monokrotophos, Delta HCH, Fention, Metidation, Aldrin, Heptachlór, Etiop, Dieldrin, Metoxychlór, Fenvalerat, Endrin, p,p'-DDT, Phorat, α -endosulfan, p,p'-DDD, Malation, Lindan p,p'-DDE, Binapacryl, Trifluralin, Metylparation, Brompropylat, HCB, Procymidon, Fosfamodon, Carbaryl, Primicarb, Metalaxyl, Ethofumesate, Mecarbam, Omethoate, Thiabendazol, Thiazophos, Pyretrins, Pyrazofos, kongenery PCB (PCB 28, 52, 101, 138, 153, 180) alfa, beta HCH, gama HCH (lindan) |
| ČSN EN 12014-1 1998-08 | Foodstuffs - Determination of nitrate and/or nitrite content - Part 1: General considerations |
| STN EN 12393-1 2001-05 | Foods of plant origin - Multiresidue methods for the gas chromatographic determination of pesticide residues - Part 1: General considerations |
| STN EN 12393-2 2001-05 | Foods of plant origin - Multiresidue methods for the gas chromatographic determination of pesticide residues - Part 2: Methods for extraction and clean-up (only module L and M) |
| STN EN 12393-3 2001-05 | Foods of plant origin - Multiresidue methods for the gas chromatographic determination of pesticide residues - Part 3: Determination and confirmatory tests (here for: o,o-DDD, p,p-DDD, p,p-DDT, o,p-DDT, p,p-DDE, Atrazín, Butylat, Cykloat, Crimidine, Vernolat, Trifluralin, Chlorprophan, Pebulat, Chlorprophan, Metabenzthiazuron, Tebuthiuron, Atraton, Dichlorvos, Molinat, Propazin, EPTC (Eptan), Propachlor, Pronamid, Mevinfos, Ethoprop, Terbacil, Alachlor, Polpet, Dicofol, Symetrin, Captan, Pendimetalin, Ametrin, Metiocarb, Tolyfluanid, Prometrin, Trifluralin, Bromophos etyl, Terbutrin, α -HCH, Amazaly, Beta HCH, Chlorpyrifos methyl, Monokrotophos, Delta HCH, Fention, Metidation, Aldrin, Heptachlór, Etiop, Dieldrin, Metoxychlór, Fenvalerat, Endrin, p,p'-DDT, Phorat, α -endosulfan, p,p'-DDD, Malation, Lindan p,p'-DDE, Binapacryl, Trifluralin, Metylparation, Brompropylat, HCB, Procymidon, Fosfamodon, Carbaryl, Primicarb, Metalaxyl, Ethofumesate, Mecarbam, Omethoate, Thiabendazol, Thiazophos, Pyretrins, Pyrazofos, kongenery PCB (PCB 28, 52, 101, 138, 153, 180) alfa, beta HCH, gama HCH (lindan) |

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| STN EN 12856 2001-08 | Foodstuffs. Determination of Acesulfame-K, Aspartame, Saccharine, Sorbic acid, Benzoic acid, HPLC method |
| IPP 7 2000-04 Official methods SR CH10.1 | Determination synthetic colours in food |
| IPP 14 2001-01 Official methods CH3.1 | Polynuclear aromatic hydrocarbons in food. Benzo(a)pyrene, fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-c,d)pyrene, benzo(g,h,i)perylene, acenaphthene, acenaphthylene, anthracene, chrysene, benzo(a)anthracene, dibenzo(a,h,)anthracene, fluorene, naphthalene, phenanthrene, pyrene |
| IPP 102 2005-9 Official methods CH8.4 | Determination of Aflatoxins B1,B2,G1,G2,M1 in food and feeds |
| STN EN ISO 15141-1 2001-11 | Foodstuffs - Determination of ochratoxin A in cereals and cereal products - Part 1: High performance liquid chromatographic method with silica gel clean up |
| IPP 104 2006-06 | Determination of aminoacids in foods and feeds |
| AOAC 982.29 1998-10 | Determination of vitamin D |
| IPP 107 2006-05 Official methods M-2 | Determination of vitamin E |
| IPP 105 2006-05 Official methods M-1 | Determination of vitamin A |

4.2 Spectrophotometric, titration and gravimetric determinations *

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|--------------------------------|--|
| STN 461011-17 1988-04 | Testing cereals, legumes and oil-bearing crops. Determination of nitrogen content |
| STN 461011-20 1988-04 | Testing cereals, legumes and oil-bearing crops. Determination of fat content |
| STN 461011-28 1988-04 | Testing cereals, legumes and oil-bearing crops. Determination of moisture content |
| STN 467013-4, 5, 20 1978-09 | Test methods for fodder mixtures. Determination of moisture content, of fat, of nitrogen substances, of ash content, of phosphorus, of calcium, of sodium |

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| STN 467092-3, 4, 7, 9, 11, 12, 14, 15, 21, 22 1986-11 | Methods of tests for feedstuffs. Determination of moisture content, of fat, of nitrogen substances, of ash content, of phosphorus, of calcium, of sodium, of potassium, of starch and of sugars |
| STN 560140-22, 23, 24, 29 1971-03 | Method of test for ice creams. Determination of moisture content, of fat and acidity |
| STN 560146-3, 4 1985-04 | Methods of tests for sweets and Jurable pastry. Determination of moisture content, of fat content |
| STN 560216-4, 5, 6, 7, 8 19982-01 | Methods of test for wine made of grape-juice, tokay wine and malt wine - Determination of alcohol, of total acidity, of volatile acidity, of sulfurous acid, of sugar |
| STN 560240-5 1983-02 | Methods testing of non-alcoholic drinks. Determination of acidity |
| STN 560246-10, 13, 15 1986-07 | Methods of testing for canned food semi-finished products and products of fruit and vegetables. Determination of dry matter, of total acidity, of volatile acids |
| STN 560512-7, 9 1973-11 | Tests for flour-milling products made from wheat and rye. Determination of moisture content and acidity |
| STN 560520 - 21 1966-02 | Tests for groats rice millet and legumens. Determination of moisture content |
| STN 570104-3, 4, 5, 8 1985-10 | Methods for testing of milk and liquid milk products. Determination of dry matter, of fat content, of protein content, of titratable acidity |
| STN 570146–18, 20 1964-10 | Methods of test for fish product and canned fish. Determination of moisture content and fat |
| STN 570153 1987-01 | Testing methods for meat products, and canned sterilised food. Determination of protein content according to Kjeldahl |
| STN 570154 1987-01 | Examination of meat products and canned sterilised food. Determination of water content |
| STN 570158 1987-01 | Testing methods for meat products and canned sterilised food. Determination of nitrates and nitrites |
| STN 570167-11 1985-07 | Testing methods for meat products and canned sterilised food. Determination of chlorides |
| STN 570168 1985-07 | Testing methods for meat products and canned food. Determination of free fats content |
| STN EN ISO 3961 2002-01 | Animal and vegetable fats and oils - Determination of iodine value |

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| STN EN ISO 660 2001-08 | Animal and vegetable fats and oils - Determination of acid value and acidity |
| AOAC 965.33 1998-05 | Determination of peroxide value |
| STN 588759 1995-9 | Determination of water by the Karl Fischer method |
| STN ISO 5508 1995-9 | Analysis by gas chromatography of methyl esters of fatty acids |

4.3 Cations *

| | |
|--|--|
| AOAC Official Method 999.10 1999 | Lead, Cadmium, Zinc, Copper and Iron in Foods |
| AOAC 985.01 1999 | Metals in plants and Foods Ca, Cu, K, Mg, Mn and Zn |
| AOAC 986.15 1999 | Arsenic, Cadmium, Lead, Selenium and Zinc in Human and Pet Foods |
| Official method SR CH1.7 2004-01 | Determination mercury (AAS) |

5 Physical, physico-chemical and chemical analysis of emissions, atmospheres and workplace atmospheres

5.1 Physical, physico-chemical and chemical analysis of emissions without sampling

5.1.1 Inorganic parameters

| | |
|------------------------------|---|
| STN 834728 - 3, 4 1986-04 | Determination of ammonium from stationary sources |
| STN EN 14385 2005-03 | Stationary source emissions - Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V |
| EPA 29A 1999-12 | Determination of metals Emissions from Stationary Sources Al, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Na, Ni, Pb, Sb, Sn, Sr, V, Tl, Hg, As, Zn |
| STN ISO 11564 2000-11 | Stationary source emissions - Determination of the mass concentration of nitrogen oxides - Naphthylethylenediamine photometric method |
| STN EN 1911 - 3 2001-01 | Stationary source emissions - Manual method of determination of HCl - Part 3: Absorption solutions analysis and calculation |

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| STN 834751 1987-08 | Determination of chlorine a hydrogenchlorine emissions from stationary sources |
| STN 834711-3, 4, 5, 6 1983-03 | Emission measurement of SO ₂ , SO ₃ , H ₂ SO ₄ from stationary sources of air pollution |
| STN EN 14791 2006-07 | Determination of mass concentration of sulphurous oxid |
| STN 834712-4 1988-06 | Determination of hydrogen sulphite emissions from stationary sources |
| STN 834752-3, 4 1990-08 | Determination of fluorine emissions from stationary sources |
| EPA 16A 1991-08 | Determination of total reduced sulphur emissions from stationary sources (Impinger technique) |
| CARB, Method 425 1987-01 | Emission measurement of cyanides and HCN from stationary sources of air pollution. Photometry method |
| IPP 5–STN 834729N 2005-10 | Emission measurement of cyanides and HCN from stationary sources of air pollution. Photometry method |

5.1.2 Organic compounds

| | |
|----------------------------|--|
| STN ISO 11338-2 2005-11 | Stationary source emissions - Determination of gas and particle-phase polycyclic aromatic hydrocarbons - Part 2: Sample preparation, clean-up and determination (<i>here for:</i> Benzo(a)pyrene, Fluoranthene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene, Benzo(g,h,i)perylene, Acenaphthene, Acenaphtylene, Anthracene, Chrysene, Benzo(a)anthracene, Dibenzo(a,h,)anthracene, Fluorene, Naphtalene, Phenantrene, Pyrene) |
|----------------------------|--|

STN EN 13649
2003-04

Stationary source emissions - Determination of the mass concentration of individual gaseous organic compounds - Activated carbon and solvent desorption method (here for: Benzén, 4-Nitrotoluén, acetón,heptadekán, Toluén, 3-Nitrotoluén, Cyklohexanón, oktadekán, Tetrachloretén, 2-Nitrotoluén, methylizobutylketón, Metylacetát, trichloretén, Nitrobenzén, Heptán, Etylacetát, Chloroform, Metanol, pentán, Vinylacetát, Tetrachlórmétan, n-butylalkohol, hexán, Butylacetát, vinylchlorid, 2- butylalkohol, Oktán, Dietyléter, tetrachlóretán, Izobutylalkohol, nonán, Dibutyléter, Chlorbenzén, n-propylalkohol, dekán, Difenyléter, 1,2- dichlóretán, olefíny, Etanol, undekán, Diizopropyléter, 1,2- dichlóretén, isopropylakohol, Dodekán, Propylén oxid, o-xylén, terc. Butylalkohol, tridekán, amylalkohol, m,p-xylén, allylalkohol, tetradekán, 1,1 dichloretén, styrén, cyklohexanol, Pentadekán, 3-etyltoluén, etylbenzén, Isoamylakohol, hexadekán, Trimethylbenzén,etylakrylát, etylénoxid, Propylénchlorhydrín, etylénchlorhydrín, olefíny, nitrobenzén, 1,2-dichlóretán, 2-chlórpropán, izopropylbenzén, 2 naftylamín, tetrachlóretén, dichlórmétán, epichlórhydrín, etylénoxid, trtrachlóretán, butylaldehyd, 1,4 dichlórbenzén,1,1-dichlóretán, 2-butanón, chlórétán, , cyklohexanón, etylbenzén, etylénchlórhydrín, dibutyléter, cyklohexanol, methylakrylát, methylmethakrylát.)

IPP 6–STN 834743N
2005-10

Determination of selected monovalent phenols from stationary sources;
Phenol, o,m,p-Cresol

IPP10-OTNŽP 2015:1N
2004-09

Determination of aldehydes from stationary sources;
Formaldehyde, Acetaldehyd, Furfural, 4-hydroxy 2-methyl 2-pentanon, Benzaldehyd, 4-methyl 2-pentanon, glytaryl aledehyde

5.2 Sampling and Physical, physico-chemical and chemical analysis of atmospheres and workplace atmospheres

STN EN ISO 16017-1
2002-11

Indoor, ambient and workplace air - Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography - Part 1: Pumped sampling

NIOSH 1003
1994-08

Hydrocarbons, Halogenated - in atmospheres and workplace atmospheres;
Benzylchlorid, Tetrachlorethene, Trichlorethene, Tetrachlor-methane, Trichlormethane, 2-dichlorethane, 1,2-dichlorethene (cis, trans), Dichlormethane, Vinylchloride

NIOSH 1300
1994-08

Determination of ketones - in atmospheres and workplace atmospheres;
Acetone, Cyclohexanone, Diisobultylketone, 2-pentanon, 2-hexanon, Methylizobythylketone

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| NIOSH 1401 1994-08 | Determination of alcohol's - in atmospheres and workplace atmospheres. n-buthylalcohol, n-propylalcohol, Isobutylalcohol, 1-Propylalcohol, Allyl alcohol, Cyclohexanol, Isoamylalcohol, Methanol, Ethanol, Izopropylalcohol, terc. Buthylalcohol |
| NIOSH 1450 1994-08 | Determination of acetates - in atmospheres and workplace atmospheres. Methylacetat, Ethylacetat, Vinylacetat, Buthylacetat |
| NIOSH 1459 1994-08 | Determination of acrylates - in atmospheres and workplace atmospheres; Methylacrylate, Ethylacrylate |
| NIOSH 1501 1994-08 | Hydrocarbons, Aromatic - in atmospheres and workplace atmospheres Benzene, Toluene, Xylene, Styrene |
| NIOSH 2016 2000-12 | Determination of formaldehyde - in atmospheres and workplace atmospheres |
| NIOSH 2546 1994-08 | Determination of cresols and phenols - in atmospheres and workplace atmospheres Phenol, Cresols |
| NIOSH 5506 1998-01 | Polynuclear aromatic hydrocarbons - in atmospheres and workplace atmospheres; Benzo(a)pyrene, Fluoranthene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene, Benzo(g,h,i)perylene, Acenaphthene, Acenaphtylene, Anthracene, Chrysene, Benzo(a)anthracene, Dibenzo(a,h,)anthracene, Fluorene, Naphtalene, Phenantrene, Pyrene |
| NIOSH 6010 1994-08 | Hydrogen Cyanide - in atmospheres and workplace atmospheres |
| OSHA ID-125G 1991-04 | Metal and Metalloid particulates in workplace Atmospheres. Al, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Na, Ni, Pb, Sb, Sn, Sr, V, Hg, As, Zn |
| OSHA ID 186SG 1993-04 | Determination of acetic and formic acid in atmospheres and workplace atmospheres |
| MDHS 96 2000-03 | Volatile organic compounds in air |

5.3 Sampling and gravimetric and microscopic determinations of atmospheres and workplace atmospheres

| | |
|----------------------|--|
| MDHS 39/4 1995-11 | Sampling and evaluation by Phase Contrast Microscopy under Control of Asbestos at. Work Regulations. |
| MDHS 59 1988-11 | Man made mineral fibres. |

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MDHS 14/3
1988 -12

General methods for sampling and gravimetric analysis of respirable and inhalable dust

6 Microbiological testing of Water (drinking, surface, swimmingpool water, ground water, waste water and mineral water), food, feeds and cosmetic products *

| | |
|------------------------------|---|
| STN ISO 7899-2 1996-08 | Water quality. Detection and enumeration of faecal streptococci |
| STN ISO 7932 2005-07 | Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of presumptive <i>Bacillus cereus</i> - Colony-count technique at 30 °C |
| STN ISO 4833 2004-02 | Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of microorganisms - Colony-count technique at 30 °C |
| STN ISO 6579 2004-02 | Microbiology of food and animal feeding stuffs - Horizontal method for the detection of <i>Salmonella</i> spp. |
| STN ISO 6888-1 2004-06 | Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci (<i>Staphylococcus aureus</i> and other species) - Part 1: Technique using Baird-Parker agar medium |
| STN ISO 6888-2 2004-06 | Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci (<i>Staphylococcus aureus</i> and other species) - Part 1: Technique using Baird-Parker agar medium |
| STN ISO 7954 1997-09 | Microbiology; General guidance for enumeration of yeasts and moulds; Colony count technique at 25 degrees C |
| STN ISO 4832 1997-09 | Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coliforms - Colony-count technique |
| ISO 21528-2 2004-08 | Microbiology of food and animal feeding stuffs - Horizontal methods for the detection and enumeration of Enterobacteriaceae - Part 2: Colony-count method |
| STN ISO 7937 2005-07 | Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of <i>Clostridium perfringens</i> - Colony-count technique |
| STN ISO EN 9308-1 2001-04 | Water quality - Detection and enumeration of <i>Escherichia coli</i> and coliform bacteria - Part 1: Membrane filtration method |
| STN EN 26461-2 1998-04 | Water quality; detection and enumeration of the spores of sulfite-reducing anaerobes (clostridia); part 2: method by membrane filtration |

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| STN 560094 1989-01 | Food products. Enumeration of bacteria of the genus Lactobacillus |
| STN 560095 1989-01 | Food products. Enumeration of slimeforming bacteria of the genus Leuconostoc |
| STN 560100-83, 89 1984-03 | Microbiological Examination of foodstuffs, Articles of Current Use, and Environment of Food Establishments |
| STN 830521-4, 5 1976-08 | Microbiological analysis of drinking water Total plate count at 37°C, Total plate count at 20°C |
| STN EN 866-3 2000-11 | Biological systems for testing sterilizers and sterilization processes - Part 3: Particular systems for use in moist sterilizers |
| STN EN 866-6 2000-11 | Biological systems for testing sterilizers and sterilization processes - Part 6: Particular systems for use in dry heat sterilizers |
| MBR1 2004-01 | Control of efficiency desinfection. |
| MBR12 2004-11 | Determination of quantity of mikrobes in internal environment air |
| ČSN ISO 16649-2 2003-05 | Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of β -glucuronidase-positive Escherichia coli - Part 2: Colony-count technique at 44 °C using 5-bromo-4-chloro-3-indolyl β -D-glucoronide |
| STN ISO 11731-2 2006-04 | Water quality - Detection and enumeration of Legionella - Part 2: Direct membrane filtration method for waters with low bacterial counts |
| STN EN ISO 11290-1 2005-06 | Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of Listeria monocytogenes - Part 1: Detection method |
| STN EN ISO 11290-2 2005-05 | Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of Listeria monocytogenes - Part 2: Enumeration method |
| STN 757712 2000-02 | Water quality. Determination of abioseston |
| STN 757711 2000-02 | Water quality. Determination of bioseston |
| IPP 59 2006-04 | Water aktivity |
| IPP MBR 15. 2006-03 | Detection of Listeria spp. In foods by TECRA modules |

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| IPP MBR 16 2006-05 | Detection of Salmonella spp. In Foods by TECRA modules |
| IPP MBR 19 2005-03 | Detection of termotolerant amoeba |
| STN EN 12780 2003-08 | Water quality - Detection and enumeration of Pseudomonas aeruginosa by membrane filtration |
| STN EN ISO 6222 2001-07 | Water quality. Enumeration of culturable micro-organism. Colony count by inoculation in s nutrient agar culture medium |
| STN ISO 6340 2001-03 | Water quality. Detection of Salmonella species |
| IPP MBR 20 2006-05 Official methods M.50 | Detection of Staphylococcus enterotoxins by TECRA modules |
| SL (Pharmacolopea Slovaca) 1 zv.(Volume) III-2000 | Check of sterility |

7 Tests of solid mineral fuels

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|-------------------------|---|
| STN ISO 1171 2003-08 | Solid mineral fuels. Determination of ash |
| STN ISO 587 2002-11 | Solid mineral fuels. Determination of chlorine using Eschka mixture |
| STN ISO 562 2002-11 | Hard coal and coke. Determination of volatile matter |
| STN ISO 1928 2003-07 | Solid mineral fuels. Determination of gross calorific value by the bomb calorimetric method, and calculation of net calorific value |
| STN 44 1377 1978-12 | Solid fuels. Determination of water content |
| IPP 129 2008-05 | Solid fuels. Determination of H,S,N and C v fuels |

Abbreviations used:

| | |
|-----------|---|
| ČSN | Czech National Standard |
| EN | European Standard |
| EPA | Environmental Protection Agency (USA) |
| IPP | In-house test method of EKOLAB |
| ISO | International Organization for Standardization |
| JMAKO, MP | Standard methods of analytical control of wastes, Methodical direktive |
| MBR | Microbiology |

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| MDHS | Methods for the determination of hazardous substances |
| NIOSH | National Institute for Occupational Safety and Health |
| OSHA | Occupational Safety & Health Administration |
| OTN ŽP | Technical branch standard of the Ministry of Environment of the Slovak Republic |
| SL no. 1 | Slovensky Liekopis; National regulation of European Pharmacopoeia |
| STN | Slovak Technical Standard (National) |

Authority to sign test reports and certificates for **all** the above mentioned areas of testing is held by:

| | |
|-----------------|----------------------|
| Eva Jusková | Dipl.-Ing., Chemical |
| Ľubomír Jusko | Dipl.-Ing., Chemical |
| Jana Tomleinová | Dipl.-Ing., Chemical |

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Gabriela Katuščáková MVDr.