SCHEDULE OF ACCREDITATION
OF THE RESEARCH LABORATORY
NUMBER AB 918
(Accredited to ISO/IEC 17025:2018-02)

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POLISH CENTRE FOR ACCREDITATION

Issue number 21, issue date 04-05-2020

Certificate validity: 09.06.2024
Accreditation since: 10.06.2008

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WESSLING Polska Sp. z o.o. **Emission measurements laboratory** Prof. Michała Bobrzyńskiego 14 street, 30-348 Cracow		
Objects/product	**Analyzed parameters and research methods**	**Standards and documented procedures**
Period measurements from stationary source emissions according to law regulations		
Outlet gases	Volumetric flow rate for dynamic pressure > 10 Pa Method by cumulation	PN-Z-04030-7:1994
	Dust sampling for analysis	
	Dust concentration Range: (0.001 - 100) g/m^3 Gravimetric method	
	Emission of dust (calculated)	
	Dust sampling for analysis	PN-EN 13284-1:2018-02
	Dust concentration Range: (0.0005 – 0.05) g/m^3 Gravimetric method	
	Emission of dust (calculated)	
	Concentration of: CO, CO_2, H_2O, SO_2, NO, NO_2 Range: CO_2 (1.2 – 21,0) % CO (3 - 2184) mg/m^3 NO (8 - 1893) mg/m^3 NO_2 (8- 615) mg/m^3 SO_2 (9 - 2094) mg/m^3 Fourier transform infrared spectroscopy (FTIR method)	PN-ISO 10396:2001 PB-E-13/03 Issue 02 dated 19.07.2016 PB-E-13/04 Issue 01 dated 10.02.2014
	Emission of CO, CO_2 SO_2, NO, NO_2 (calculated)	
	Concentration of O_2 Range: (3.0 – 21.0) % Method by zirconia cell	PB-E-13/03 Issue 02 dated 19.07.2016
	Concentration of: CO_2, CO, SO_2 Range: CO_2 (0.,5 - 21,0) % CO (3 - 2184) mg/m^3 SO_2 (9 - 2094) mg/m^3 The method of non-dispersive infrared spectroscopy (NDIR)	PN-ISO 10396:2001
	Emission of CO, CO_2, SO_2 (calculated)	
	Concentration of O_2 Range (3 – 21.0) % Paramegnetic method	
	Concentration of NO_x Range (8 – 1893.86) mg/m^3 Chemiluminescency method CLD	
	Emission of NO_x (NO and NO_2 calculated to NO_2 (calculated)	
	Sampling for analysis of concentration of SO_2	PN-EN 14791:2017-04
	Emission of SO_2 (calculated)	

Laboratory competence has been confirmed, taking into account the applicable requirements of the provisions of implementing acts to the Act of 27 April 2001 - Environmental Protection Law (Journal of Laws of 2018, item 799) and technical specification PKN-CEN / TS 15675.

Objects/product	Analyzed parameters and research methods	Standards and documented procedures
Period measurements from stationary source emissions according to law regulations		
Outlet gases	Sampling for analysis of concentration of HF	ISO 15713:2006
	Emission of HF (calculated)	
	Sampling for analysis of concentration of HCl	PN-EN 1911:2011
	Emission of HCl (calculated)	
	Concentration of total organic carbon TVOC Range: (0.6 - 286) mg/m^3 Method of continuous flame ionization detection (FID)	PN-EN 12619:2013
	Emission of total organic carbon TVOC (calculated)	
	Sampling for analysis of metals concentration As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb,Tl, V Filtration and aspiration method	PN-EN 14385:2005
	Emission of metals in dust: Pb, Cr, Cu, Mn, Ni, As, Cd, Tl, Sb, V, Co (calculated)	
	Sampling for analysis of mass concentration of individual gaseous organic compounds Method with usage of active carbon	PN-EN 13649:2005 With exclusion of point 7
	Emission of individual gaseous organic compounds (calculated)	
	Sampling for analysis of total mercury concentration Filtration and aspiration method	PN-EN-13211+AC:2006
	Emission of mercury (calculated)	

Laboratory competence has been confirmed, taking into account the applicable requirements of the provisions of implementing acts to the Act of 27 April 2001 - Environmental Protection Law (Journal of Laws of 2018, item 799) and technical specification PKN-CEN / TS 15675.

Objects/product	Analyzed parameters and research methods	Standards and documented procedures
Period measurements from stationary source emissions according to law regulations		
Outlet gases	Sampling for analysis of organic compounds concentration	PN-Z-04008-4:1999
	Emission of organic compounds(calculated)	
	Concentration of CO Range: (3-2184) mg/m^3 The method of non-dispersive infrared spectroscopy (NDIR)	PN-EN 15058:2006
	Concentration of O_2 Range (3.0 – 21. 0) % Paramegnetic method	PN-EN 14789:2006
	Concentration of NO_x Range (8 - 1893) mg/m^3 CLD chemiluminescence	PN-EN 14792:2006
	Emission of NO_x (NO and NO_2 calculated to NO_2 (calculated)	
	Concentration of water vapor in ducts Range:(4 – 40)% Condensation-adsorption method	PN-EN 14790:2017-04
	Sampling for analysis of mass concentration of PCDD/PCDFs and dioxin-like PCBs Filtrating-condensation method	PN-EN 1948-1:2006
Automatic Monitoring Systems (AMS)	Calibration (QAL 2) Range: dust, NO_x, O_2, CO_2, HCl, HF, SO_2, CO, total organic carbon	PN-EN 14181:2015-02
	Annual control measurements (AST) range: dust, NO_x, O_2, CO_2, HCl, HF, SO_2, CO, total organic carbon	PN-EN 14181:2015-02
	Concentration of dust Range: (0.001 - 100) g/m^3 Gravimetric method	PN-04030-7:1994
	Concentration of dust Range: (0.0005 – 0,05) g/m^3 Gravimetric method	PN-EN 13284-1:2018-02
	Concentration of: CO_2 CO_2 (0.5 – 21.0) % Infrared spectroscopy (IR spectroscopy)	PN-ISO 10396:2001
	Concentration of total organic carbon TVOC Range: (0.6 - 286) mg/m^3 Method of continuous flame ionization detection	PN-EN 12619:2013
	Concentration of HCl Range:(0.1 - 5000) mg/m^3 Ion chromatography (IC)	PN-EN 1911:2011 With exclusion of point 6.3 and 6.4*
	Concentration of HF Range: (0.05 - 100) mg/m^3 Ion-selective electrode method	ISO 15713:2006
	Concentration of SO_2 Range:(0.05 - 6000) mg/m^3 Ion chromatography (IC)	PN-EN 14791:2017-04*
	Concentration of NO_x Range (8 - 1893) mg/m^3 CLD chemiluminescence	PN-EN 14792:2006

Laboratory competence has been confirmed, taking into account the applicable requirements of the provisions of implementing acts to the Act of 27 April 2001 - Environmental Protection Law (Journal of Laws of 2018, item 799) and technical specification PKN-CEN / TS 15675.

* The content of the tested compound is determined by the Laboratory of Physicochemical Analysis

Objects/product	Analyzed parameters and research methods	Standards and documented procedures
Period measurements from stationary source emissions according to law regulations		
Automatic Monitoring Systems (AMS)	Concentration of O_2 Range (3.0 – 21.0) % Paramegnetic method	PN-EN 14789:2006
	Concentration of CO Range: (3 - 2184) mg/m^3 The method of non-dispersive infrared spectroscopy (NDIR)	PN-EN 15058:2006
	Concentration of water vapor in ducts Range: 4 – 40% Condensation-adsorption method	PN-EN 14790:2006

Laboratory competence has been confirmed, taking into account the applicable requirements of the provisions of implementing acts to the Act of 27 April 2001 - Environmental Protection Law (Journal of Laws of 2018, item 799) and technical specification PKN-CEN / TS 15675.

Objects/product	Analyzed parameters and research methods	Standards and documented procedures
Outlet gases	Concentration of N_2O, NH_3 Range: N_2O (4 - 566) mg/m^3 NH_3 (1 - 91) mg/m^3 Fourier transform infrared spectroscopy (FTIR method)	PN-ISO 10396:2001 PB-E-13/03 issue 02 dated 19.07.2016 PB-E-13/04 issue 01 dated 10.02.2014
	Emission of N_2O, NH_3 (calculated)	
	Sampling for analysis of mass concentration of PAH Filtrating-condensation-adsorption method	ISO 11338-1:2003
	Emission of PAH (calculated)	
	Sampling for analysis of metals concentration (Al, Ba, Hg, Sn, Zn, Fe, Mo, Se) Filtration and aspiration method	PB-E-13/02 issue 03 dated 28.06.2019
	Emission of metals Al, Ba, Hg, Sn, Zn, Fe, Mo, Se (calculated)	
	Sampling for analysis of PM2,5 and PM10 fraction participation in dust Filtration method	PN-Z-04030-7:1994 PN-EN 13284-1:2018-02 PB-E-14/06 issue 02 dated 11.06.2018
	Emission of PM2,5 and PM 10 dust (calculated)	
	Sampling for analysis of ammonia concentration in dust Filtration method	PN-Z-04030-7:1994 WES 827 issue 04 dated 11.06.2018
	Emission of ammonia (calculated)	
	Sampling for analysis of formaldehyde concentration	PB-E-14/07 issue 01 dated 22.08.2016
	Emission of formaldehyde (Calculated)	
	Sampling to absorption liquid for ammonia concentration	ISO 21877:2019
	Concentration of NH_3 Range: (2-174) mg/m^3 Spectrofotometric method	
	Emission of ammonia (Calculated)	
Automatic Monitoring Systems (AMS)	Calibration (QAL 2) Range: NH_3,	PN-EN 14181:2015-02
	Annual control measurements (AST) range: NH_3	PN-EN 14181:2015-02
	Concentration of NH_3 Range: NH_3 (1 - 91) mg/m^3 Fourier transform infrared spectroscopy (FTIR method)	PB-E-13/06 issue 01 dated 19.07.2016
	Concentration of NH_3 Range: NH_3 (2 - 174) mg/m^3 Spectrofotometric method	ISO 21877:2019
Rooms intended to accommodate people - air	Sampling for analysis formaldehyde and organochlorine volatile compounds Aspiration method	PN-EN ISO 16000-2:2008 ISO 16000-3:2011 PN-EN ISO 16000-5:2007 ISO 16000-6:2011
Dedusting equipements of outlet gases	Dust concentration Range: (0.001 - 100) g/m^3 Gravimetric method	PN-87/M-34129-method A PN-Z-04030-7:1994 PN-EN 13284-1:2018-02
	Effectiveness of dedusting for dust concentration (Calculated)	

WESSLING Polska Sp. z o.o. **Customer Service** Prof. Michała Bobrzyńskiego 14 street, 30-348 Cracow		
Objects/product	**Analyzed parameters and research methods**	**Standards and documented procedures**
Groundwater	Sampling of groundwater for physicochemical analysis Water/Sample temperature Range (0.5 – 70.0) °C	PN-ISO 5667-11:2017-10 WES 927-L/M Issue no. 03 dated 13.02.2019r.
Waste water **Melt water** **Rain water**	Sampling for physicochemical analysis Waste/Sample temperature Range (0.5 – 70.0) °C	PN-ISO 5667-10:1997 WES 927-L/M Issue no. 03 dated 13.02.2019r.
Surface water	Sampling of surface water for physicochemical analysis Waste/Sample temperature Range (0.5 – 70.0) °C	PN-ISO 5667-6:2016-12 PN-ISO 5667-4:2017-10 WES 927-L/M Issue no. 03 dated 13.02.2019r.
Drinking water	Sampling for physicochemical analysis Waste/Sample temperature Range (0.5 – 70.0) °C	PN-ISO 5667-5:2017-10 WES 927-L/M Issue no. 03 dated 13.02.2019r.
Swimming pool water	Sampling for physicochemical analysis Waste/Sample temperature Range (0.5 – 70.0) °C	WES 900-L/M Issue no. 03 dated 17.04.2018r. WES 927-L/M Issue no. 03 dated 13.02.2019r.
Soil	Soil sampling for physicochemical analysis	PN-ISO 10381-4:2007 PN-ISO 10381-5:2009 PN-ISO 10381-6:1998 PB-E-14/3 Issue no. 01 dated 10.02.2014 r.
Sludge	Sludge sampling for physicochemical analysis	PN-EN ISO 5667-13:2011 With exclusion of point: 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.10
Soil	pH_{KCl} Range: (2.0 – 12.0) Potentiometric method	PN-EN ISO 10390:1997
Water, drinking water, swimming pool water, wastewater, water eluates, rain water, melt water	pH ☑ Range: (2 – 12.0) Potentiometric method	PN-EN ISO 10523:2012
Water, drinking water, swimming pool water, wastewater, water eluates	Conductivity ☑ Range: (10 – 200000) µS/cm Conductivity method	PN-EN 27888:1999
Drinking water	Concentration of free chlorine ☑ Range: (0.1 – 5.0) mg/l Concentration of total chlorine ☑ Range: (0.1 – 5.0) mg/l Colorimetric method	WES 921 – L/M Issue 02 dated 27.04.2017 based on method HACH 8021 AND HACH 8167
	Concentration of bound chlorine (calculated)	

☑ – analysis/measurements done in place of sampling

Objects/product	Analyzed parameters and research methods	Standards and documented procedures
Swimming pool water	Concentration of free chlorine ☑ Range: (0.1 – 5.0) mg/l Concentration of total chlorine ☑ Range: (0.1 – 5.0) mg/l Colorimetric method	WES 921 – L/M Issue 02 dated 27.04.2017 based on method HACH 8021 AND HACH 8167
	Concentration of bound chlorine (calculated)	
	Redox potential ☑ Range: (200 – 800) mV Potentiometric method	WES 926 – L/M Issue 02 dated 27.04.2017
Water, waste water	Dissolved oxygen ☑ Range: (0.5 – 20) mg/l O_2 Electrochemical method	PN-EN ISO 5814:2013-04

☑ – analysis/measurements done in place of sampling

Objects/product	Analyzed parameters and research methods	Standards and documented procedures
Sampling and testing performed for the purposes of the regulated area covered by the Regulation of the Minister Economy of July 16, 2015 on the acceptance of waste for landfilling (Journal of Laws 2015, item 1277)		
Flexible range of accreditation [1)]		
Waste [o)]: code **10 13 09,** **15 02 03,** **19 01 14,** **19 12 10,** **19 12 12,** **19 08 01**	Sampling for chemical tests and physical	WES 783 [3)]

[o)] waste codes according to the Regulation of the Minister of Climate on the waste catalog

Within the flexible scope of accreditation it is permissible:

1. use of updated methods described in standards/procedures developed by the laboratory

The current " list of tests carried out under the "flexible scope " is available upon request from an accredited entity body

Objects/product	Analyzed parameters and research methods	Standards and documented procedures
Sampling and testing performed for the purposes of the regulated area covered by the Regulation of the Minister Economy of July 16, 2015 on the acceptance of waste for landfilling (Journal of Laws 2015, item 1277) Sampling for the purposes of the regulated area covered by the Regulation of the Minister Environment of 11 May 2015 on the recovery of waste outside installations and devices (Journal of Laws 2015, Pos. 796)		
DAB-11 waste: **Mineral deposits and waste** **Construction waste** **Sewage sludge** **Paper and cardboard** **Wood** **Other municipal wastes, incl mixed waste**	Sampling for chemical tests and physical	WES 783 wydanie 04 z dnia 23.03.2018 r.

DAB-11) **Waste codes according to the Regulation of the Minister of Climate on the catalog of waste for the validation group are given in the Annex No. 1 to DAB-11**

WESSLING Polska Sp. z o.o. **Physicochemical analysis laboratory** Prof. Michała Bobrzyńskiego 14 street, 30-348 Cracow		
Objects/product	**Analyzed parameters and research methods**	**Standards and documented procedures**
Soil	pH_{KCl} Range: (2.0 – 12.0) Potentiometric method	PN-EN ISO 10390:1997
Water, drinking water, swimming pool water, wastewater, water eluates, rain water, melt water	pH Range: (2 – 12.0) Potentiometric method	PN-EN ISO 10523:2012
Water, drinking water, swimming pool water, wastewater, water eluates	Conductivity Range: (10 – 200000) µS/cm Conductivity method	PN-EN 27888:1999
Water, wastewater, melt water, rain water	Suspension Range: (2 - 5000) mg/l Gravimetric method	PN-EN 872:2007+Ap1:2007
Water, wastewater	Turbidity Range: (0.1 - 1000) NTU Nephelometric method	PN-EN ISO 7027-1:2016-09 *except chapter 5*
	Colour Range: (1 - 70) mg/l Spectrophotometric method	PN-EN ISO 7887:2012 *except chapter 4,5 and 7*
Swimming pool water	Concentration ∑THM Range: Trichloromethane (0.5 – 2000) ug/l Bromodichloromethane (0.5 – 2000) ug/l Dibromodichloromethane (0.5 – 2000) ug/l Tribromomethane (0.5 – 2000) ug/l Gas chromatography with mass spectrometry with the technique of headspace analysis (HS-GC-MS)	PN-EN ISO 10301:2002
Water, waste water	Dissolved oxygen + Range: (0.5 – 20) mg/l O_2 Electrochemical method	PN-EN ISO 5814:2013-04
	Biochemical oxygen demand - BOD5 Range: (1.5 – 6) mg/l O_2 Electrochemical method	PN-EN 1899-2:2002
	Biochemical oxygen demand - BOD5 Range: (1 – 6000) mg/l O_2 Electrochemical method	PN-EN ISO 5815-1:2019-12
	Chemical oxygen demand - COD in range: (4 – 50000) mg/l Spectrophotometric method	PN-ISO 15705:2005

Objects	Analyzed parameters and research methods	Standards and documented procedures
Flexible range of accreditation [1), 2), 3)]		
Water, Waste water	Concentration of polycyclic aromatic hydrocarbons[1) 2)] Gas chromatography with mass spectrometry (GC-MS)	WES 496[3)]
	Concentration of petrol hydrocarbons C_6-C_{12} [2)] Gas chromatography with mass spectrometry with the technique of headspace analysis (HS-GC-MS)	PN-ISO 11423-1[3)]
	Concentration of aromatic hydrocarbons[1) 2)] Gas chromatography with mass spectrometry with the technique of headspace analysis (HS-GC-MS)	PN-ISO 11423-1[3)]
	Concentration of mineral oil ($C_{12} – C_{35}$ fraction) [2)] Gas chromatography with flame- ionization detection (GC-FID)	PN-EN ISO 9377-2[3)]
	Concentration of single hydrocarbons from C_{10} to C_{40} [1) 2)] Gas chromatography with flame- ionization detection (GC-FID)	PN-EN ISO 9377-2 [3)] WES 702 [3)]
	Concentration of selected hydrocarbons from C_{10} to C_{40} (from calculations)	
	Metals[1) 2)] Method of ICP OES	PN-EN ISO 11885[3)]
	Concentration of volatile chloroorganic compounds 1) 2) Gas chromatography with mass spectrometry with the technique of headspace analysis (HS-GC-MS)	PN-EN ISO 10301[3)]
Water, waste water, melt water, rain water	Mineral oil index (concentration of hydrocarbons $C_{10} – C_{40}$) [2)] Gas chromatography with flame- ionization detection (GC-FID)	PN-EN ISO 9377-2[3)]

Within the flexible scope of accreditation it is permissible:
1.Addition of the tested characteristic within the subject/group of subjects and methods (research technique)
2.change in the measurement range of the test method
3.Use of updated methods described in standards/procedures developed by the laboratory

The current " list of tests carried out under the "flexible scope " is available upon request from an accredited entity body

Objects	Analyzed parameters and research methods	Standards and documented procedures
Sampling and methods realized according to Polish law regulations *(Dz.U. 2015, poz.1277)*		
Flexible scope of accreditation [1), 2), 3)]		
Waste [o)] **(water eluates): code 03 01 01, 03 01 05, 03 03 01, 03 03 07, 03 03 08, 10 13 09, 10 13 11, 10 13 80, 10 13 81, 10 13 82, 15 01 01, 15 02 03, 17 05 04, 17 05 08, 19 01 14, 19 08 01, 19 08 02, 19 12 07, 19 12 09, 19 12 10, 19 12 12, 20 02 02, 20 03 02**	pH Range: (2.0 – 12.0) Potentiometric method	PN-EN ISO 10523 [3)] PN-EN 12457-2 [3)]
	Conductivity Range: (10 – 200000) µS/cm Conductometric method	PN-EN 27888 [3)] PN-EN 12457-2 [3)]
	Concentration of metals Method of ICP-OES	PN-EN ISO 11885 [3)] PN-EN 12457-2 [3)]
	Concentration of mercury [2)] Atomic Absorption Spectrometry (AAS) method with technique of amalgamation	PN-EN 12457-2 [3)] WES 504 [3)]
	Concentration of anions [1) 2)] Ion chromatography method (IC)	PN-EN ISO 10304-1 [3)] PN-EN 12457-2 [3)]
	Concentration of dissolved organic carbon [2)] Infrared spectrometry method	PN-EN 12457-2 [3)] PN-EN 1484 [3)]
	Phenol Index [2)] Spectrophotometric method	PN-EN 12457-2 [3)] PN ISO 6439 [3)]
	Concentration of total dissolved solids Gravimetric method	PN-EN 15216 [3)] PN-EN 12457-2 [3)]
	Dry matter, moisture content Range: (5 – 99.9)% Gravimetric method	PN-ISO 11465 [3)]
	Alkalinity (acid neutralizing capacity ANC) Range: (150 - 50000) mg/kg CaCO3 Titrate method Potentiometric method	PN-EN ISO 9963-1 [3)] PN-EN 12457-2 [3)]

o) codes of waste according to Regulation of the Minister of Environment about waste catalogue

Within the flexible scope of accreditation it is permissible:

1. Addition of the tested characteristic within the subject/group of subjects and methods (research technique)
2. change in the measurement range of the test method
3. use of updated methods described in standards/procedures developed by the laboratory

The current " list of tests carried out under the "flexible scope " is available upon request from an accredited entity body

Objects	Analyzed parameters and research methods	Standards and documented procedures
Water, Waste water	Concentrations of anions Range: Fluorides: (0.02 - 100) mg/l Bromides: (0.02 - 20) mg/l Nitrates: (0.02 - 20) mg/l $N\text{-}NO_2$: (0.006 - 6,09) mg/l Nitrites: (0.1 - 500) mg/l $N\text{-}NO_3$: (0.023 - 113) mg/l Phosphates: (0.1 - 50) mg/l $P\text{-}PO_4$: (0.033 – 16.3) mg/l Chlorides: (0.1 - 50000) mg/l Sulphate: (1 - 10000) mg/l Ion chromatography method (IC)	PN-EN ISO 10304-1:2009+AC:2012
	Concentratnion of mercury Range: (0.5 - 2000) µg/l Atomic Absorption Spectrometry (AAS) method with technique of amalgamation	WES 504 Issue no. 09 dated 11.06.201 PN-EN ISO 10304-1:2009+AC:2012 .
	Dissolved matter: Range: (5 - 25000) mg/l Gravimetric method	WES 522 Issue no. 02 dated 08.02.2012 r..
	Dry residue: Range: (5 - 25000) mg/l Gravimetric method	WES 523 Issue no. 02 dated 08.02.2012 r.
	Cr^{+6} concentration Range: (0.01 - 10) mg/l Spectrophotometric method	PN-77/C-04604/08
Water	Total hardness (calculated)	WES 521 Issue no. 05 dated 11.06.2018r.
Drinking water	Concentration of aromatic hydrocarbons Range: Benzene (0.15 – 1000) µg / l Gas chromatography with mass spectrometry with the technique of headspace analysis (HS-GC-MS)	PN-ISO 11423-1:2002
	Concentration of volatile organochlorine compounds Range: vinyl chloride (0.15 – 1000) µg / l 1,2-dichloroethane (0.5 – 1000) µg / l trichloroethene (0.5 – 1000) µg / l tetrachloroethene (0.5 – 1000) µg / l trichloromethane (0.5 – 1000) µg / l bromodichloromethane (0.5 – 1000) µg / l dibromochloromethane (0.5 – 1000) µg / l tribromomethane (0.5 – 1000) µg / l Gas chromatography with mass spectrometry with the technique of headspace analysis (HS-GC-MS)	PN-EN ISO 10301:2002
Water, Waste water	Concentration of ammonium nitrate / ammonium Range: $N\text{-}NH_4$ (0.04 - 200) mg/l NH_4 (0.05 - 260) mg/l Spectrophotometric method	PN-ISO 7150-1:2002
	Concentration of phosphates Range: (0.01 - 100) mg/l $P\text{-}PO_4$ (0.003 – 32.6) mg/l Spectrophotometric method	PN-EN ISO 6878:2006+Ap1:2010+Ap2:2010
	Concentration of anionic surface-active compounds as MBAS Range: (0.05 - 250) mg/l MBAS Spectrophotometric method	WES 561 wydanie 05 z dnia 13.12.2019 r. na podstawie testu kuwetowego Merck Nr 1.02552
	Concentration of non-ionic surface-active compounds Range: (0.1 - 100) mg/l	WES 563 wydanie 04 z dnia 13.12.2019 r. na podstawie testu kuwetowego

	Spectrophotometric method	Merck Nr 1.01787
	Organic matter extracted by paraffin ether Range: (2 - 5000) mg/l Gravimetric method	WES 568 Issue no. 04 dated 11.06.2018 r.
	Permanganate index: Range: (1 - 300) mg/l O_2 Titrate method	PN-EN ISO 8467:2001
General environment: **outlet gases samples** **taken using absorption liquid**	Ammonia concentration Range: (0.008 - 29) mg / in sample Spectrophotometric method	ISO 21877:2019
General environment: **- flue gas samples** **taken using filters**	Metal content Range: As (0.25-500)) µg in the sample Cd (0.025 - 1000) µg in the sample Co (0.5 - 100) µg in the sample Cr (0.25 - 2500) µg in the sample Cu (2 - 5000) µg in the sample Mn (0.5 - 2500) µg in the sample Ni (0.1 - 2500) µg in the sample Pb (0.25 - 1000) µg in the sample Sb (0.25-100) µg in the sample Tl (0.1 - 1000)) µg in the sample V (0.1 - 1000)) µg in the sample Method of ICP- OES	PN-EN 14385:2005*
General environment: **- flue gas samples** **taken using filters**	Metal content Range: Ba (1 - 500)) µg per sample Fe (15 - 10000) µg per sample Mo (5 - 500) µg per sample Se (0.25-100) µg per sample Sn (0.25 - 100) µg per sample Zn (1 - 50000) µg per sample Method of ICP- OES	PB-E-13/39 issued 03 dated 15.05.2019 r.
General environment: **- flue gas samples** **taken using absorption liquid**	Metal content Range: As (0.15-3000)) µg per sample Cd (0.015 - 6000) µg per sample Co (0.3 - 3000) µg per sample Cr (0.15 - 15000) µg per sample Cu (0.15 - 6000) µg per sample Mn (0.3 -6 000) per sample Ni (0.06 - 1500) µg per sample Pb (0.15 – 15000) µg per sample Sb (0.15 – 3 000) µg per sample Tl (0.06 - 1500) µg per sample V (0.06 - 1500) µg per sample Method of ICP- OES	PN-EN 14385:2005*

*The method is applicable as a reference in the regulated area (see p.3/37)

Objects	Analyzed parameters and research methods	Standards and documented procedures
General environment: **- flue gas samples** **taken using absorption liquid**	Metal content Range: Ba (0.6 -7 500)) per sample Fe (0.3 - 75000) per sample Mo (0.06 -7 500) per sample Se (0.15-300) per sample Sn (0.15 - 300) per sample Zn (0.6 – 150.000) per sample Method of ICP- OES	PB-E-13/39 issued 03 dated 15.05.2019 r.
General environment: **- flue gas samples** **taken using absorption liquid**	SO2 concentration Range: (0.00268-1500) mg per sample Ion chromatography (IC) method	PN-EN 14791: 2017-04 excluding point 9.3 *
	HCl concentration Range: (0.004 - 6000) mg per sample Ion chromatography method	PN-EN 1911: 2011 excluding points 6.3 and 6.4 *
	HF concentration Range: (0.004–12) mg per sample Ion selective electrode method	ISO 15713:2006*
Water	Alkalinity, bicarbonates, complex alkalinity Range: Alkalinity (0.3 – 100) mmol/l Complex alkalinity (0.3 – 100) mmol/l Bicarbonate (18.3 – 6100) mg/l HCO_3 Titrate method Potentiometric method	PN-EN ISO 9963-1:2001+Ap1:2004
	Total calcium and magnesium content (Total hardness) Range: (5 – 500) mg/l $CaCO_3$ Titrate method	PN ISO 6059:1999
Water, waste water	Concentration of volatile organic compounds Range: dichlorodifluoromethane (0.5 – 12000) ug/l chloromethane (0.5 – 12000) ug/l bromomethane (0.5 – 12000) ug/l chloroethane (0.5 – 12000) ug/l trichloromonofluoromethane (0.5 – 12000) ug/l 2,2-dichloropropane (0.5 – 12000) ug/l bromochloromethane (0.5 – 12000) ug/l 1,1-dichloropropene (0.5 – 12000) ug/l dibromomethane (0.5 – 12000) ug/l 1,2-dichloropropane (0.5 – 12000) ug/l bromodichloromethane (0.5 – 12000) ug/l cis-1,3-dichloropropene (0.5 – 12000) ug/l trans-1,3-dichloropropene (0.5 – 12000) ug/l dibromochloromethane (0.5 – 12000) ug/l 1,3-dichloropropane (0.5 – 12000) ug/l 1,2-dibromoethane (0.5 – 12000) ug/l tribromomethane (0.5 – 12000) ug/l bromobenzene (0.5 – 12000) ug/l 2-chlorotoluene (0.5 – 12000) ug/l 1,2,3-trichloropropane (0.5 – 12000) ug/l 4-chlorotoluene (0.5 – 12000) ug/l tert-butylbenzene (0.5 – 12000) ug/l sec-butylbenzene (0.5 – 12000) ug/l p-cymene (isopropyltoluene) n-butylbenzene (0.5 – 12000) ug/l 1,2-dibromo-3-chloropropane (0.5 – 12000) ug/l 1,2,4-trichlorobenzene (0.5 – 12000) ug/l 1,2,3-trichlorobenzene (0.5 – 12000) ug/l Gas chromatography with mass spec-trometry with the technique of headspace analysis	PN-ISO 11423-1:2002 PN-EN ISO 10301:2002

	(HS-GC-MS)	
Water, waste water	Concentration of polychlorinated biphenyls (PCB) Range: PCB-28 (0.001 – 20) ug/l PCB-52 (0.001 – 20) ug/l PCB-101 (0.001 – 20) ug/l PCB-118 (0.001 – 20) ug/l PCB-138 (0.001 – 20) ug/l PCB-153 (0.001 – 20) ug/l PCB-180 (0.001 – 20) ug/l Gas chromatography method with electron capture detection (GC-ECD) and gas chromatography with mass spectrometry (GC-MS)	PN-EN ISO 6468:2002

*The method is applicable as a reference in the regulated area (see p.2/37, 3/37)

Objects	Analyzed parameters and research methods	Standards and documented procedures
Water, waste water	Concentration of ammonium nitrate / ammonium: $N\text{-}NH_4$ (1 - 1000) mg/l NH_4 (1.3 - 1280) mg/l Titrate method	PN-ISO 5664:2002
	Phenol index: Range: (0.01 - 15) mg/l Spectrophotometric method	PN ISO 6439:1994 With exception of point 5
Waste water	Easy descended suspension Range: (0.1 - 500) ml/l Volumetric method	WES 572 Issue no. 02 dated 08.02.2012 .
Water, waste water	Concentration of organochlorine pesticides Range: 1,2,3-Trichlorbenzene (0.001 – 10) ug/l 1,2,4-Trichlorbenzene (0.001 – 10) ug/l 1,3,5-Trichlorbenzene (0.001 – 10) ug/l 1,2,3,4-Tetrachlorbenzene (0.001 – 10) ug/l 1,2,4,5-Tetrachlorbenzene and 1,2,3,5-Tetrachlorbenzene (0.002 – 20) ug/l Pentachlorobenzene (0.001 – 10) ug/l Pentachloronitrobenzene (Quintozene) (0.001 – 10) ug/l Hexachlorobenzene (0.001 – 10) ug/l α-Hexachlorocyclohexane (0.001 – 10) ug/l ß-Hexachlorocyclohexane (0.001 – 10) ug/l γ-Hexachlorocyclohexane (0.001 – 10) ug/l δ-Hexachlorocyclohexane (0.001 – 10) ug/l 2,4'-DDE (0.001 – 10) ug/l 4,4'-DDE (0.001 – 10) ug/l 2,4'-DDD (0.001 – 10) ug/l 4,4'-DDD (0.001 – 10) ug/l 2,4'-DDT (0.001 – 10) ug/l 4,4'-DDT (0.001 – 10) ug/l Isodrin (0.001 – 10) ug/l 4,4'-Metoxychlor (0.001 – 10) ug/l Aldrin (0.001 – 10) ug/l Dieldrin (0.001 – 10) ug/l Endrin (0.001 – 10) ug/l Heptachlor (0.001 – 10) ug/l Heptachlor epoxide (Isomer B) (0.001 – 10) ug/l α-Endosulfan (0.001 – 10) ug/l ß-Endosulfan (0.001 – 10) ug/l Gas chromatography method with electron capture detection (GC-ECD) and gas chromatography with mass spectrometry (GC-MS)	PN-EN ISO 6468:2002
	Sum of chloroorganic pesticides (from calculations)	

Objects	Analyzed parameters and research methods	Standards and documented procedures
Water, waste water	Concentration of free cyanides Range: (0.002 –1) mg/l Spectrophotometric method	PN-80/C-04603/01 with exception of 7b i 7c
Water	Total acidity: Range: (0.1 - 10) mmol/l Titrate method	WES 581 Issue no. 02 dated 08.02.2012 r.
Water, waste water	Concentration: Total organic carbon Range: (1 - 50 000) mg/l Dissolved organic carbon Range: (1 - 50 000) mg/l Total inorganic carbon Range: (1 - 50 000) mg/l Total carbon Range: (2 - 50 000) mg/l Infrared spectrometry method	PN-EN 1484:1999
	Redox potential (Eh) Range: (-200 - 500) mV Potentiometric method	WES 593 Issue no. 04 dated 11.06.2018 .
	Concentration of total nitrogen Range: (0.5 - 10000) mg/l Infrared spectrometry method	WES 595 Issue no. 04 dated 11.06.2018 .
	Concentration of organic nitrogen and non-organic nitrogen (calculated)	
	Concentration of aggressive CO_2: Range: 3 – 400 mg/l Titrate method	PN-EN 13577:2008
	Concentration of fluorides Range (0.100 – 100) mg/l Potentiometric method	PN-7/C-04588/03
Soil **Soil - water eluates**	Concentration of free cyanides in water Range: (0.002 - 1) mg/l (0.02 –10) mg/kg Spectrophotometric method	PN-80/C-04603/01 with exception of 7b i 7c WES 575 Issue no. 03 dated 11.06.2018r.

	Concentration of anions: Range: Fluoride: (0.02 - 100) mg/l (0.2 – 1000) mg/kg Bromide: (0.02 - 20) mg/l (0.2 – 200)mg/kg Nitrite: (0.02 - 20) mg/l (0.2 - 200) mg/kg $N\text{-}NO_2$: (0.006 – 6.09) mg/l (0.06 – 60.9) mg/kg Nitrate: (0.1 - 500) mg/l (1 - 5000) mg/kg $N\text{-}NO_3$: (0.023 - 113) mg/l (0.23 - 1130) mg/kg Phosphate: (0.1 - 50) mg/l (1.0 - 500) mg/kg $P\text{-}PO_4$: (0.033 – 16.3) mg/l (0.33 – 163.0) mg/kg Chlorid: (0.1 - 50000) mg/l (1.0 - 500000) mg/kg Suplhate: (1 - 10000) mg/l (10 - 100000) mg/kg Ion chromatography method (IC)	PN-EN ISO 10304-1:2009 WES 640 Issue no. 02 dated 11.06.2018 .

Objects	Analyzed parameters and research methods	Standards and documented procedures
Soil **Soil - water eluates**	Concentration of mercury: Range: (0,5 - 2000) µg/l (0,005 - 20) mg/kg Atomic Absorption Spectrometry (AAS) method with technique of amalgamation	WES 504 Issue no. 09 dated 11.06.2018 .
	Concentration of Cr^{+6} Range: (0,01 - 10) mg/l (0,1 - 100) mg/kg Spectrophotometric method	PN-77/C-04604/08 WES 639 Issue no. 02 dated 11.06.2018r.
	Concentration of metals Range: As: (0,005 - 1) mg/l As: (0,05 - 10) mg/kg Ba: (0,02 - 30) mg/l Ba: (0,2 - 300) mg/ kg Cd: (0,0005 - 1) mg/l Cd: (0,005 - 10) mg/ kg Co: (0,01 - 1,5) mg/l Co: (0,1 - 15) mg/ kg Cr: (0,005 - 10) mg/l Cr: (0,05 - 100) mg/ kg Cu: (0,005 - 20) mg/l Cu: (0,05 - 200) mg/ kg Mo: (0,002 - 1) mg/l Mo: (0,02 - 10) mg/ kg Ni: (0,002 - 5) mg/l Ni: (0,02 - 50) mg/ kg Pb: (0,005 - 10) mg/l Pb: (0,05 - 100) mg/ kg Sb: (0,005 - 1) mg/l Sb: (0,05 - 10) mg/ kg Se: (0,005 - 1) mg/l Se: (0,05 - 10) mg/ kg Sn: (0,005 - 1,5) mg/l Sn: (0,05 - 15) mg/l kg Zn: (0,02 - 500) mg/l Zn: (0,2 - 5000) mg/ kg Mn: (0.01 - 10) mg/l Mn: (0.1 - 100) mg/kg Method of ICP OES	PN-EN ISO 11885:2009 WES 638 Issue 04 dated 11.06.2018r.
	Phenol index Range: (0.01 - 15) mg/l (0.1 - 150) mg/kg (in dry matter) Spectrophotometric method	PN ISO 6439:1994 with exception of point no. 5 WES 641 Issue 02 dated 11.06.2018r.
	Concentration of total organic carbon Range: (1 - 50 000) mg/l (10 - 500 000) mg/kg Infrared spectrometry method	PN-EN 1484:1999 WES 614 Issue 03 dated 11.06.2018r.

Objects	Analyzed parameters and research methods	Standards and documented procedures
Soil, sludge	pH Range: (2.0 – 12.0) pH Potentiometric method	WES 500 Issue 06 dated 11.06.2018r.
Soil	Dry matter: Range: 5 – 99.9 % Gravimetric method	PN-ISO 11465:1999
Soil	Phenol Index: Range: 0.6 - 200 mg/kg Spectrophotometric method	WES 576 Issue no. 02 dated 19.02.2015
	Lost on ignition Range: (0.1 – 99.9) % Gravimetric method	WES 566 Issue no. 3 dated 11.06.2018 r.
	Residue on ignition Range: (0.1 – 99.9) % Gravimetric method	WES 566 Issue no. 3 dated 11.06.2018 r.
	Content of polychlorinated biphenyls (PCB) Range: PCB 28 (0.001 – 2) mg/kg PCB-52 (0.001 – 2) mg/kg PCB-101 (0.001 – 2) mg/kg PCB-118 (0.001 – 2) mg/kg PCB-138 (0.001 – 2) mg/kg PCB-153 (0.001 – 2) mg/kg PCB-180 (0.001 – 2) mg/kg Gas chromatography with electron capture detection (GC-ECD) and of gas chromatography with mass spectrometry (GC-MS)	PN ISO 10382:2007
Soil	Granulometric compostion (grain size) (0.063 – 63.0) mm With separating fraction Range: (0.5 – 99.5) % Sieve method	PKN-CEN ISO/TS 17892-4:2009
	Water permeability – filtration efficiency Range: (10^{-6} – 10^{-2}) m/s (calculated)	PKN-CEN ISO/TS 17892-4:2009 PB-L-13/57 Issue no. 1 dated 28.01.2019
	Humidity Range: (5 – 40) % Gravimetric method	PN-EN ISO 17892-1:2015-02
	Water permeability – filtration efficiency Range: (10^{-10} – 10^{-5}) m/s Method of variable hydraulic gradient	PKN-CEN ISO/TS 17892-11:2009
	Bulk density Range: (1 – 2.8) g/cm^3 Volumetric-gravimetric method	PN-EN ISO 17892-2:2015-02
	Grain size range particle size <0.063mm Range: (0.5 - 99.5)% The areometric method	PKN-CEN ISO/TS 17892-4-2009 PN-EN ISO/TS 17892-4-2017-01

Objects	Analyzed parameters and research methods	Standards and documented procedures
Flexible scope of accreditation [1), 2), 3)]		
Soil, aggregate, stone, rocks	Content of metals in soil [1), 2)] Method of ICP OES	WES 638[3)] WES 832 [3)]
Soil, aggregate, stone, rocks	Content of Hg [2)] Range: (0.005 - 15) mg/kg (in dry matter) Atomic Absorption Spectrometry (AAS) method with technique of amalgamation	WES 503 [3)] WES 833 [3)]
Soil	Content of petrol hydrocarbons C_6 -C_{12} (components of the gasoline fraction) [2)] Gas chromatography with mass spectrometry with the technique of headspace analysis (HS-GC-MS)	PN-ISO 22155[3)]
	Content of aromatic hydrocarbons[4)] Gas chromatography with mass spectrometry with the technique of headspace analysis (HS-GC-MS)	PN-ISO 22155 [3)]
	Content of volatile organochlorine compounds[1) 2)] Gas chromatography with mass spectrometry with the technique of headspace analysis (HS-GC-MS)	PN-ISO 22155 [3)]
Soil, aggregate, stone, rocks	Concentration of polycyclic aromatic hydrocarbons [1) 2)] Gas chromatography with mass spectrometry (GC-MS)	WES 502 [3)]
	Mineral oil index (C_{10} – C_{40}) [2)] Gas chromatography with flame ion detection (GC-FID)	PN-EN ISO 16703 [3)]
	Content of mineral oil (C_{12} – C_{35} fraction) [2)] Gas chromatography with flame- ionization detection (GC-FID)	PN-EN ISO 16703 [3)]
Soil	Content of single hydrocarbons from C_{10} to C_{40} [1), 2)] Gas chromatography with flame- ionization detection (GC-FID)	PN-EN ISO 16703 [3)] WES 703 [3)]
	Content of selected hydrocarbon fractions from C_{10} to C_{40} (from calculations)	
Sludge	Content of metals[1), 2)] Method of ICP-OS	WES 638 [3)]

Within the flexible scope of accreditation it is permissible:

1. Addition of the tested characteristic within the subject/group of subjects and methods (research technique)
2. change in the measurement range of the test method
3. use of updated methods described in standards/procedures developed by the laboratory

The current " list of tests carried out under the "flexible scope " is available upon request from an accredited entity body

Objects	Analyzed parameters and research methods	Standards and documented procedures
Soil	Range: 1,2,3-Trichlorobenzene (0.001 – 1) mg/kg 1,2,4-Trichlorobenzene (0.001 – 1) mg/kg 1,3,5-Trichlorobenzene (0.001 – 1) mg/kg 1,2,3,4-Tetrachlorobenzene (0.001 – 1) mg/kg 1,2,4,5-Tetrachlorobenzene and 1,2,3,5-Tetrachlorobenzene (0.002 – 2) mg/kg Pentachlorobenzene (0.001 – 1) mg/kg Pentachloronitrobenzene (Quintozene) (0.001 – 1) mg/kg Hexachlorobenzene (0.001 – 1) mg/kg α-Hexachlorocyclohexane (0.001 – 1) mg/kg ß-Hexachlorocyclohexane (0.001 – 1) mg/kg γ-Hexachlorocyclohexane (0.001 – 1) mg/kg δ-Hexachlorocyclohexane (0.001 – 1) mg/kg 2,4'-DDE (0.001 – 1) mg/kg 4,4'-DDE (0.001 – 1) mg/kg 2,4'-DDD (0.001 – 1) mg/kg 4,4'-DDD (0.001 – 1) mg/kg 2,4'-DDT (0.001 – 1) mg/kg 4,4'-DDT (0.001 – 1) mg/kg Isodrin (0.001 – 1) mg/kg 4,4'-Metoxychlor (0.001 – 1) mg/kg Aldrin (0.001 – 1) mg/kg Dieldrin (0.001 – 1) mg/kg Endrin (0.001 – 1) mg/kg Heptachlor (0.001 – 1) mg/kg Heptachlor epoxide (Isomer B) (0.001 – 1) mg/kg α-Endosulfan (0.001 – 1) mg/kg ß-Endosulfan (0.001 – 1) mg/kg Gas chromatography with electrone capture detection (GC-ECD) and of gas chromatography with mass spectrometry (GC-MS)	PN ISO 10382:2007

Objects	Analyzed parameters and research methods	Standards and documented procedures
Soil	Content of volatile organic compounds Range: dichlorodifluoromethane (0.01 – 200) mg/kg chloromethane (0.01 – 200) mg/kg bromomethane (0.01 – 200) mg/kg trichloromonofluoromethane (0.01 – 200) mg/kg 2,2-dichloropropane (0.01 – 200) mg/kg bromochloromethane (0.01 – 200) mg/kg 1,1-dichloropropene (0.01 – 200) mg/kg dibromomethane (0.01 – 200) mg/kg 1,2-dichloropropane (0.01 – 200) mg/kg bromodichloromethane (0.01 – 200) mg/kg cis-1,3-dichloropropene (0.01 – 200) mg/kg trans-1,3-dichloropropene (0.01 – 200) mg/kg dibromochloromethane (0.01 – 200) mg/kg 1,3-dichloropropane (0.01 – 200) mg/kg 1,2-dibromoethane (0.01 – 200) mg/kg tribromomethane (0.01 – 200) mg/kg bromobenzene (0.01 – 200) mg/kg 2-chlorotoluene (0.01 – 200) mg/kg 1,2,3-trichloropropane (0.01 – 200) mg/kg 4-chlorotoluene (0.01 – 200) mg/kg tert-butylbenzene (0.01 – 200) mg/kg sec-butylbenzene (0.01 – 200) mg/kg p-cymene (isopropyltoluene) (0.01 – 200) mg/kg n-butylbenzene (0.01 – 200) mg/kg 1,2-dibromo-3-chloropropane (0.01 – 200) mg/kg 1,2,4-trichlorobenzene (0.01 – 200) mg/kg 1,2,3-trichlorobenzene (0.01 – 200) mg/kg Headspace gas chromatography with mass spectrometry (HS - GC-MS)	PN-EN ISO 22155:2016-07
Soil	Total organic carbon Range: (0.05 - 35) % (500 - 350000) mg/kg Method of infrared spectrometry (IR)	PN-ISO 10694:2002
Soil	Concentration of free, complex and total cyanides Range: Cyanides complex (0.04 – 50.0) mg/kg Cyanides total (0.08 – 50.0) mg/kg Cyanides free (0.04 – 50.0) mg/kg Spectrophotometric method	PN-ISO 11262:2008
Soil	Baumann-Gully`s acidity Range: (4 – 300) ml/kg Titration method	DIN 4030-2:2006-06

Objects	Analyzed parameters and research methods	Standards and documented procedures
Sludge	Residue on ignition Range: (0.1 – 99.9) % Gravimetric method	PN-EN 12879:2004
	Content dry residue (dry matter), moisture content Range: (1 - 99) % Gravimetric method	PN-EN 12880:2004
	Content of Hg Range: (0.005 - 15) mg/kg (in dry matter) Atomic Absorption Spectrometry (AAS) method with technique of amalgamation	WES 503 Issue no. 08 dated 02.02.2015r.
	Lost on ignition Range: (0.1 – 99.9) % Gravimetric method	PN-EN 12879:2004
	Organic matter content in 600°C Range: (0.1 – 99.9) % Gravimetric method	
Soil, sludge	Concentration of ammonium nitrate / ammonium Range: $N\text{-}NH_4$ (10 - 100000) mg/kg NH_4 (12.8 - 128800) mg/l Titrate method	WES 578 Issue no. 03 dated 11.06.2018 r.

Materials/Product tested	Properties measured/ Range of measurement/ Equipment/ Techniques used	Standards and documented procedures
Food: **Fresh fruits and vegetables**	Nitrate and nitrite concentration Range: Nitrate (40 – 10000) mg/kg Nitrite (10 – 1000) mg/kg Ion chromatography method	WES 745 version 04 dated 26.06.2017.
Plant origin food: **Fruits and vegetables with high water content**	Determination of residues dithiocarbamates: ferbam, mancozeb, maneb, metam, metiram, nabam, propineb, thiram, ziram, zineb Range: (0.025 - 2.5) mg / kg as CS2 Headspace gas chromatography with mass spectrometry (HS-GC-MS)	PN-EN 12396-2:2002
Feed and feed materials	Moisture and other volatile compound Range: (0.1 – 80) % Gravimetric method	Commission Regulation (EC) No 152/2009 of 27 January 2009. Annex III A
	Dry matter content Range: (20 – 99.9) % Gravimetric method	
Herbal raw materials	Moisture and other volatile compound Range: (0.1 – 90.0) % Gravimetric method	PN-R-87019:1991
	Dry matter content Range: (10 – 99.9) % Gravimetric method	
Cereal and cereal products	Moisture and other volatile compound Range: (0.1 – 90.0) % Gravimetric method	PN-EN ISO 712:2012
	Dry matter content Range: (10 – 99.9) % Gravimetric method	
Fish and fish products	Moisture and other volatile compound Range: (0.1 – 90.0) % Gravimetric method	PN-A-86783:1962
	Dry matter content Range: (10 – 99.9) % Gravimetric method	
Spices, **Dried fruits,** **Fruit preserves,** **Food concentrates**	Moisture and other volatile compound Range: (0.1 – 90.0) % Gravimetric method	PN-A-79011-3:1998
	Dry matter content Range: (10 – 99.9) % Gravimetric method	
Confectionery products	Moisture and other volatile compound Range: (0.1 – 90.0) % Gravimetric method	PN-A-88027:1984
	Dry matter content Range: (10 – 99.9) % Gravimetric method	
Cakes products and semi-finished cakes products	Moisture and other volatile compound Range: (0.1 – 90.0) % Gravimetric method	PN-A-74252:1998
	Dry matter content Range: (10 – 99.9) % Gravimetric method	

Materials/Product tested	Properties measured/ Range of measurement/ Equipment/ Techniques used	Standards and documented procedures
Tea	Moisture and other volatile compound Range: (0.1 – 90.0) % Gravimetric method	PN-ISO 1572:1996
	Dry matter content Range: (10 – 99.9) % Gravimetric method	
Nuts	Moisture and other volatile compound Range: (0.1 – 90.0) % Gravimetric method	WES 948 version 02 dated 11.06.2018.
	Dry matter content Range: (10 – 99.9) % Gravimetric method	
Food products	Net weight, the drained weight, Share of ingredients Range: net weight: (1 - 3000) g Drained weight: (1 - 2500) g Gravimetric method	WES 781 – L/M version 01 dated 19.02.2015 r.
	The share of ingredients (calculations)	

Materials/Product tested	Properties measured/ Range of measurement/ Equipment/ Techniques used	Standards and documented procedures
Flexible scope of accreditation [1), 2), 3), 4)]		
Food [1)]	Content of metals [2), 3)] Method of Inductively Coupled Plasma Spectrophotometry Optical Emisson Spectrometry (ICP-OES)	PN-EN 13804 [4)] PN-EN 13805 [4)] PN-EN ISO 11885 [4)]
Food [1)]	Content of Hg [3)] Method of atomic absorption spectrometry with amalgamation technique	WES 597 [4)]
Food [1)]	Content of pesticide residues [2), 3)] Liquid chromatography with tandem mass spectrometry (HPLC-MS-MS)	PN-EN 15662 [4)]
Food [1)]	Content of pesticide residues [2), 3)] Gas chromatography with tandem mass spectrometry (GC-MS -MS)	PN-EN 15662 [4)]
Food [1)]	Mycotoxins content [2), 3)] Liquid chromatography with tandem mass spectrometry (HPLC-MS-MS)	WES 747 [4)]
Feed and compound feed	Mycotoxins content [2), 3)] Liquid chromatography with tandem mass spectrometry (HPLC-MS-MS)	WES 747 [4)]
Food [1)]	Acrylamide content Liquid chromatography with tandem mass spectrometry (HPLC-MS-MS)	WES 925 [4)]
Feed and compound feed, premixes [1)]	Content of Hg Method of atomic absorption spectrometry with amalgamation technique	WES 597 [4)]
Feed and compound feed, premixes [1)]	Content of metals [2), 3)] Method of Inductively Coupled Plasma Spectrophotometry Optical Emisson Spectrometry (ICP-OES)	WES 834 [4)]

In the flexible scope of accreditation, it is allowed:
1) Adding product tested within a group of products
2) Adding properties within the measured properties and methods (equipment, technique)
3) Change in the measuring range of the test method
4) Use of updated methods described in the standards / procedures developed by the laboratory

Current " list of methods perform in the framework of a flexible scope of accreditation " is available upon request at an accredited entity

WESSLING Polska Sp. z o.o. **Microbiological analysis laboratory** Jasielska 7a street, 60-476 Poznan		
Materials/Product tested	**Properties measured/ Range of measurement/ Equipment/ Techniques used**	**Standards and documented procedures**
Water for human consumption **Water in swimming pools**	Quality of water. Taking samples for microbiological analyses	PN EN ISO 19458:2007 with excluding p. 4.4.2, 4.4.4, 4.4.5 i 4.4.6
Water **Water for human consumption**	Most probable number of coliform bacteria Most probable number method Colilert 18	PN-EN ISO 9308-2:2014-06
	Most probable number of Escherichia coli Most probable number method Colilert 18	
Water for human consumption	Enumeration of Clostridium perfringens (including spores) Membrane filtration method	PN-EN ISO 14189:2016-10
	Taking samples for chemical tests and physical properties Manual method Water sample temperature Range: (0.5-70.0)°C	PN-ISO 5667-5:2017-10 WES 927-L/M wydanie 03 z dnia 13.02.2019 r
	Specific electrical conductivity ☑ Range: (10-200000) µS/cm Conductivity method	PN-EN 27888:1999
	Free chlorine concentration ☑ Range:(0.1-5.0)mg/l Total chlorine concentration ☑ Range : (0.1-5.0)mg/l Colorimetric method	WES 921- L/M wydanie 02 z dnia 27.04.2017 r. na podstawie metody HACH 8021 i HACH 8167
	Concentrated chlorine concentration (from calculations)	
	pH ☑ Range: (2.0-12.0) Potentiometric method	PN-EN ISO 10523:2012
Water in swimming pools	Taking samples for chemical tests and physical tests Water sample temperature Range:(0.5-70.0)°C	WES 900-L/M wydanie 03 z dnia 17.04.2018 r. WES 927-L/M wydanie 03 z dnia 13.02.2019 r
	Free chlorine concentration ☑ Range: (0.1-5.0)mg/l Total chlorine concentration ☑ Range: (0.1-5.0)mg/l Colorimetric method	WES 921- L/M wydanie 02 z dnia 27.04.2017 r. na podstawie metody HACH 8021 i HACH 8167
	Concentrated chlorine concentration (from calculations)	
	pH ☑ Range: (2.0-12.0) Potentiometric method	PN-EN ISO 10523:2012
	Oxidation-reduction potential (Redox) ☑ Range: (200-800) zmV Potentiometric method	WES 926-L/M wydanie 02 z dnia 27.04.2017 r.

☑ analysis/measurements done in place of sampling

WESSLING Polska Sp. z o.o. **Microbiological analysis laboratory** Jasielska 7a street, 60-476 Poznan		
Materials/Product tested	**Properties measured/ Range of measurement/ Equipment/ Techniques used**	**Standards and documented procedures**
Environmental samples from the food stuff production and trading area **- erased from the surface limited by template** **- erased from the surface unlimited template, including hands** **- imprint from the surface**	Taking samples from surfaces with the use of contact plates and swabs	PN-EN ISO 18593:2018-08
Feed	Enumeration of anaerobic spore forming bacteria in a specific sample mass/volume Growing method, test-tube	PN-R-64791:1994
Food products	Net weight, the drained weight, Share of ingredients Range: net weight: (1.00 – 3000.00) g Drained weight: (1.00 – 2500.00) g Gravimetric method The share of ingredients (from calculations)	WES 781 – L/M version 01 dated 19.02.2015 r.
Meat and meat products **Milk and milk products** **Poultry meat and poultry products** **Poultry carcasses: segments**	Enumeration of Campylobacter spp. Plate method (spread plate method)	PN-EN ISO 10272-2:2017-10
Meat and meat products **Fish and fish products** **Milk and dairy products** **Coffee and tea** **Fruits and vegetables** **Fruit, vegetable, vegetable and meat preparations** **Sweets and confectionery** **Raw materials and herbal preparations** **Spices** **Oils, animal and vegetable fats** **Cereals and cereal preparations** **Convenience products** **Food concentrates** **Eggs and egg products** **Food additives** **Frozen food** **Snacks**	Enumeration of Listeria spp. Plate method (spread plate method)	PN-EN ISO 11290-1:2017-07
Meat and meat products **Fish and fish products** **Milk and dairy products** **Coffee and tea** **Fruits and vegetables** **Fruit, vegetable, vegetable and meat preparations** **Sweets and confectionery** **Raw materials and herbal preparations** **Spices** **Oils, animal and vegetable fats** **Cereals and cereal preparations** **Convenience products** **Food concentrates** **Eggs and egg products** **Food additives** **Frozen food** **Snacks**	Presence of Listeria spp. up to 25g / ml Growing method complemented with biochemical tests	PN-EN ISO 11290-2:2017-07
Environmental samples from the food stuff production and trading area: **-Swab**	Presence of Listeria spp. Growing method complemented with biochemical tests	PN-EN ISO 11290-1:2017-07

Materials/Product tested	Properties measured/ Range of measurement/ Equipment/ Techniques used	Standards and documented procedures
Flexible scope of accreditation [1), 2)]		
Food [1)]	Presence of Salmonella bacilli Growing method complemented with biochemical and serological tests	PN-EN ISO 6579[2)]
	Enumeration of coagulase-positive staphylococcus (Staphylococcus aureus and other species) Plate method (spread plate method)	PN-EN ISO 6888[2)]
	Enumeration of coagulase-positive staphylococcus (Staphylococcus aureus and other species) Plate method (pour plate method)	
	Presence of coagulase-positive staphylococcus (Staphylococcus aureus and other species) Growing method	
	Enumeration of bacteria from the coli group Plate method (pour plate method)	PN-EN ISO 4832[2)]
	Enumeration of β-glucuronidase - positive Escherichia coli Plate method (pour plate method)	PN-EN ISO 16649[2)]
	Enumeration of Listeria monocytogenes Plate method (spread plate method)	PN-EN ISO 11290[2)]
	Presence of Listeria monocytogenes Growing method complemented with biochemical tests	
	Enumeration of Enterobacteriaceae Plate method (pour plate method)	PN-ISO 21528[2)]
	Enumeration of Clostridium perfringens Plate method (pour plate method)	PN-EN ISO 7937[2)]
	Enumeration of sulphate reducing bacteria (IV) growing in anaerobic conditions Plate method (pour plate method)	PN-EN ISO 15213[2)]
	Enumeration of mesophilic milk fermentation bacteria Plate method (pour plate method)	PN-EN ISO 15214[2)]
	Presence of presumptive Escherichia coli Growing method	PN-ISO 7251[2)]
	Presence of bacteria from the coli group Growing method	PN-ISO 4831[2)]

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2) Use of updated methods described in the standards / procedures developed by the laboratory

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Materials/Product tested	Properties measured/ Range of measurement/ Equipment/ Techniques used	Standards and documented procedures
Flexible scope of accreditation [1), 2)]		
Food [1)]	Enumeration of presumptive Bacillus cereus Plate method (spread plate method)	PN-EN ISO 7932[2)]
	Presence of Salmonella bacilli PCR method, BAX system	WES 480 - PPO PB 05 [2)]
	Presence of Listeria monocytogenes PCR method, BAX system	WES 481 - PPO PB 06 [2)]
	Enumeration of presumptive Pseudomonas spp. Plate method (spread plate method)	PN-EN ISO 13720[2)]
	Enumeration of aerobic microorganisms In 30°C Plate method (spread plate method)	PN-EN ISO 4833[2)]
	Enumeration of aerobic microorganisms In 30°C Plate method (pour plate method)	
	Content of gluten Range: (5-80)mg/kg Immunoenzymatic method ELISA	WES 920 – PPO PB 14 [2)]
Food stuffs with water activity exceeding 0.95[1)]	Enumeration of yeasts and moulds Plate method (spread plate method)	PN ISO 21527[2)]
Food stuffs with water activity below 0.95[1)]	Enumeration of yeasts and moulds Plate method (spread plate method)	PN ISO 21527[2)]
Food [1)] **Poultry carcasses: segments**	Presence of Salmonella Enteritidis and Salmonella Typhimurium bacillis Growing method complemented with biochemical and serological tests	PN-EN ISO 6579[2)] White-Kauffmann-Le Minor scheme[2)]
Feed	Presence of Salmonella bacilli in a specific sample mass/volume Growing method complemented with biochemical and serological tests	PN-EN ISO 6579[2)]
	Enumeration of coagulase-positive staphylococcus (Staphylococcus aureus and other species) Plate method (spread plate method)	PN-EN ISO 6888[2)]
	Enumeration of coagulase-positive staphylococcus (Staphylococcus aureus and other species) Plate method (pour plate method)	
	Enumeration of bacteria from the coli group Plate method (pour plate method)	PN-EN ISO 4832[2)]

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Materials/Product tested	Properties measured/ Range of measurement/ Equipment/ Techniques used	Standards and documented procedures
Flexible scope of accreditation [1), 2)]		
Feed	Enumeration of β-glucuronidase - positive Escherichia coli Plate method (pour plate method)	PN-EN ISO 16649 [2)]
	Enumeration of Enterobacteriaceae Plate method (pour plate method)	PN-ISO 21528 [2)]
	Enumeration of Clostridium perfringens Plate method (pour plate method)	PN-EN ISO 7937 [2)]
	Enumeration of sulphate reducing bacteria (IV) growing in anaerobic conditions Plate method (pour plate method)	PN-ISO 15213 [2)]
	Enumeration of mesophilic milk fermentation bacteria Plate method (pour plate method)	PN-ISO 15214 [2)]
	Enumeration of presumptive Bacillus cereus Plate method (spread plate method)	PN-EN ISO 7932 [2)]
	Presence of Salmonella bacilli PCR method, BAX system	WES 480 – PPO PB 05 [2)]
	Enumeration of yeasts and moulds Plate method (spread plate method)	PN-ISO 21527 [2)]
	Enumeration of aerobic microorganisms Plate method (pour plate method)	PN-EN ISO 4833 [2)]
Environmental samples from the food stuff production and trading area [1)]	Presence of coagulase-positive staphylococcus (Staphylococcus aureus and other species) Growing method	PN-EN ISO 6888 [2)]
	Presence of Escherichia coli Growing method	PN-ISO 7251 [2)]
	Presence of bacteria from the coli group Growing method	PN-ISO 4831 [2)]
	Presence of Salmonella bacillis Growing method complemented with biochemical and serological tests	PN-EN ISO 6579 [2)]
	Presence of Salmonella bacillis PCR method, BAX system	WES 480 – PPO PB 05 [2)]
	Presence of Listeria monocytogenes PCR method, BAX system	WES 481 – PPO PB 06 [2)]

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Materials/Product tested	Properties measured/ Range of measurement/ Equipment/ Techniques used	Standards and documented procedures
Flexible scope of accreditation [1), 2)]		
Environmental samples from the food stuff production and trading area [1)]	Presence of Listeria monocytogenes Growing method complemented with biochemical tests	PN-EN ISO 11290 [2)]
	Enumeration of aerobic microorganisms Plate method (pour plate method)	PN-EN ISO 4833 [2)]
	Enumeration of Enterobacteriaceae Plate method (pour plate method)	PN-ISO 21528 [2)]
Environmental samples from the food stuff production and trading area [1)]	Enumeration of aerobic microorganisms Contact plate method	PN-EN ISO 4833 [2)] PN-ISO 18593 [2)]
	Enumeration of Enterobacteriaceae Contact plate method	PN-ISO 21528 [2)] PN-ISO 18593 [2)]
Swabs from carcasses of animals for slaughter	Presence of Salmonella bacillis PCR method, BAX system	WES 480 - PPO PB 05 [2)]
	Presence of Salmonella bacillis Growing method complemented with biochemical and serological tests	PN-EN ISO 6579 [2)]
Carcasses of slaughter animals [1)]	Enumeration of anaerobic microorganisms in 30°c Plate method (pour plate method)	PN-EN ISO 4833 [2)]
	Enumeration of Enterobacteriaceae Plate method (pour plate method)	PN-ISO 21528 [2)]
Water **Water for human consumption**	Enumeration of Legionella sp. Membrane filtration method	PN-EN ISO 11731 [2)]
	Enumeration of Clostridium perfringens Membrane filtration method	WES 476 – PPO PB 02 [2)]
	Enumeration of coagulase-positive staphylococcus Membrane filtration method	WES 477 – PPO PB 04 [2)]
	Enumeration of Pseudomonas aeruginosa Membrane filtration method	PN-EN ISO 16266 [2)]
	Enumeration of total microorganisms in 22°C Plate method (pour plate method)	PN-EN ISO 6222 [2)]
	Enumeration of total microorganisms in 36°C Plate method (pour plate method)	
	Enumeration of enterococcus faecium Membrane filtration method	PN-EN ISO 7899 [2)]

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Materials/Product tested	Properties measured/ Range of measurement/ Equipment/ Techniques used	Standards and documented procedures
Flexible scope of accreditation [2)]		
Water **Water for human consumption**	Enumeration of coliform bacteria Membrane filtration method	PN-EN ISO 9308[2)]
	Enumeration of Escherichia coli Membrane filtration method	
Water in swimming pools	Enumeration of Legionella sp. Membrane filtration method	PN-EN ISO 11731[2)]
	Enumeration of coagulase-positive staphylococcus Membrane filtration method	WES 477 – PPO PB 04[2)]
	Enumeration of Pseudomonas aeruginosa Membrane filtration method	PN-EN ISO 16266[2)]
	Enumeration of total microorganisms in 36°C Plate method (pour plate method)	PN-EN ISO 6222[2)]
	Enumeration of Escherichia coli Membrane filtration method	PN-EN ISO 9308[2)]

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