Annex 1 Parameters and methods for surface water analyses

Table 1 List of parameters and methods for surface water analyses

Parameters	Standard method	Used analytical method
Dissolved Oxygen	- EPA Method 360.2 Determination of Oxygen, Dissolved, Modified Winkler Method with Full-Bottle Technique - ISO 5813:1983 Water quality – "Determination of dissolved oxygen – Iodometric method " - Standard Methods for the Examination of Water and Wastewater, 20th Edition, p 4-129, Method 4500-O B (1998) - Standard Methods for the Examination of Water and Wastewater, 20th Edition, p 4-134, Method 4500-O G (1998)	- Modified Winkler Method with Full-Bottle Technique - Iodometric method - Membrane Electrode Method
BOD5	- EPA Method 450.1 Determination of Biochemical Oxygen Demand, 5 days at 20°C, Modified Winkler Method with Full-Bottle Technique - ISO 5815:1989 Water quality – "Determination of biochemical oxygen demand after 5 days/ BOD5/Dilution and seeding method" - Standard Methods for the Examination of Water and Wastewater, 20th Edition, p 5-3, Method 5210B (1980)	- Modified Winkler Method with Full-Bottle Technique - Iodometric method
COD permanganate	- ISO 8467:1993 Water quality – "Determination of permanganate index" - Standard Methods for the Examination of Water and Wastewater, 20th Edition, p 4-154, Method 4500-$KMnO_4$ B (1998)	- Titrimetric Method
COD bi chromate	- ISO 8467:1993 Water quality – "Determination of permanganate index" - Standard Methods for the Examination of Water and Wastewater, 20th Edition, p 4-154, Method 4500-$KMnO_4$ B (1998)	- Titrimetric Method
Ammonium - NH_4	- ISO 5664:1984 Water quality - Determination of ammonium - Distillation and titration method - ISO 7150-1:1984 Water quality Determination of ammonium - Part 1: Manual spectrometric method - Standard Methods for the Examination of Water and Wastewater, 20th Edition, p 4-103, Method 4500-NH3 C (1998)	- Spectrometric Method with Indophenol blue (Berthelot's Reaction) - Distillation and titration method
Nitrate NO_3	- EPA Method 410.2 Determination of Chemical Oxygen Demand, Low-Level, Titrimetric Method - ISO 6060:1989 Water quality – "Determination of the chemical oxygen demand" - Standard Methods for the Examination of Water and Wastewater, 20th Edition, p 5-15,Method 5220 C (1998) - Standard Methods for the Examination of Water and Wastewater, 20th Edition, p 5-17, Method 5220 D (1998)	- Spectrometric Method with N-(1-naphthyl) ethylenediaminedihydrochloride
Nitrite - NO_2	- ISO 5664:1984 Water quality - Determination of ammonium - Distillation	- Spectrometric Method with NEDA indicator and

	and titrationmethod - ISO 7150-1:1984 Water quality Determination of ammonium - Part 1: Manual spectrometric method - Standard Methods for the Examination of Water and Wastewater, 20th Edition, p 4-103, Method 4500-NH3 C (1998)	sulphanilamide
Phosphate - PO_4	- Standard Methods for the Examination of Water and Wastewater, 20th Edition, p 4-146, Method 4500-P E (1998)	- Ascorbic Acid Method , UV VIS Cary 1000
Tot. Phosphate	ENISO 11885	EN ISO 11885
Turbidity SiO_2		Analogous to Standard Water Methods 20 edition 4500-SiO_2 B
Temperature	- 13.060.01 JUSH. Z1. 106:1970 - EPA 170.1 - AWWA Method 2550 B [1998], Standard methods for water and wastewater 20th edition p.2-61	13.060.01 JUSH. Z1. 106:1970 EPA 170.1 AWWA Method 2550 B [1998], Standard methods for water and wastewater 20th edition p.2-61
pH-value	- ISO 10523:1994 EPA Metoda 150.1 AWWA-4500 (B) Standard test methods for water and wastewater 20th edition p.4-8713.060.30 JUS H.Z1. 111:1987	ISO 10523:1994 EPA Metoda 150.1 AWWA-4500 (B) Standard test methods for water and wastewater 20th edition p.4-87 13.060.30 JUS H.Z1. 111:1987
Electrical Conductivity	ISO 7888:1985 AWWA-2510 (B) Standard methods for water and wastewater 20th edition p.2-46 EPA Metod 120.1	ISO 7888:1985 AWWA-2510(B) Standard methods for water and wastewater 20th edition p.2-46 EPAMetod120.1
Alkalinity	ISO 9963-1:1994 ISO 9963-2:1994 13.060.30 JUS H. Z1. 124:1974 AWWA 2320 (A-B) Standard methods for water and wastewater 20th edition p 2-27. EPAMetod310.1	ИСО 9963-1:1994 ИСО 9963-2:1994 13.060.30 JUS H. Z1. 124:1974 AWWA 2320 (A-B) Standard methods for water and wastewater 20th edition p.2-27. EPAMetod310.1
Heavy metals - Zn	EPAMetod7000B:2007	AAS flame
Heavy metals - others	**EPAMetod7010:2007**	AAS grafite furnace
Oil and grease	**EPA 5520 B:2001** Determination of oil and grease in water with liquid-liquid extraction, partitional gravimetric method	/
Cl-	**MKC EN ISO 7393-2:2019** Water quality - Determination of free chlorine and total chlorine - Part 2: Colorimetric method using N,N-dialkyl-1,4-phenylenediamine, for routine control purposes	/
Cr_VI	**ASTM D 1687:2002** Water quality - Standard Test Methods for Chromium in Water	
Colour_Pt	**MKC EN ISO 7887:2013** Water quality - Examination and determination of colour	
TOC	**ASTM D 4839:2003** Standard Test Method for Total Carbon and Organic Carbon in Water by Ultraviolet, or Persulfate Oxidation, or Both, and Infrared Detection	

Ca2+	**MKC EN ISO 14911:2013** Water quality - Determination of dissolved Li+, Na+, NH4+, K+, Mn2+, Ca2+, Mg2+, Sr2+ and Ba2+ using ion chromatography - Method for water and waste water
COD_Mn	**ISO 15705:2002 (modified)** Water quality – Spectrophotometric determination of chemical oxygen demand, COD
Total phenols	**MKC ISO 6439:2007 A. -** Water quality determination of phenol index (total phenols) with 4-aminoantipyrine and preliminary distillation of the sample.
Dried residue_filtrable, Dried residue_non-filtrable	**APHA 2540 B:1997** Total solids dried at 103-105 °C
Total PAH	**MKC EN 16691:2016** Water quality - Determination of selected polycyclic aromatic hydrocarbons (PAH) in whole water samples - Method using solid phase extraction (SPE) with SPE-disks combined with gas chromatography mass spectrometry (GC-MS)
SO4_2-	**prMKC EN ISO 787-13:2021** General methods of test for pigments and extenders - Part 13: Determination of water-soluble sulfates, chlorides and nitrates (ISO 787-13:2019)
Hardness_carbonate_CaCO3, Hardness_carbonate_odH, Hardness_non carbonate_CaCO3, Hardness_non-arbonate_odH, Hardness_total_CaCO3, Hardness_total_odH	**SO/TS 15923-2:2017** Water quality — Determination of selected parameters by discrete analysis systems — Part 2: Chromium(VI), fluoride, total alkalinity, total hardness, calcium, magnesium, iron, iron(II), manganese and aluminium with photometric detection
Redox	**IEC 60746-5:1992** ED1 Expression of performance of electrochemical analyzers - Part 5: Oxidation-reduction potential or redox potential