

Hellenic Accreditation System



Annex F1/19 to the Certificate No. 232-7

SCOPE of ACCREDITATION of the Laboratory of Agricultural and Chemical Analyses of ARAL Co Ltd

Tested materials/ products	Types of test/ Properties to be measured	Applied standards/ Techniques to be used
Chemical testing		
Drinking Water and Groundwater whether or not for human consumption	1. Determination of total and composite alkalinity	ELOT EN ISO 9963.01:1996
	2. Electrometric determination of pH	ELOT 658:1983
	3. Determination of electrical conductivity	ELOT EN 27888:1993
	4. Determination of total hardness by calculation	APHA 2340 B
	5. Determination of calcium, magnesium, sodium, and potassium	Internal method based on ISO 11885:2007 with ICP-OES (OE.067)
	6. Determination of F, Cl, NO ₃ , SO ₄	Internal method based on ISO 10304-1:2007 by ion chromatography (OE.047)
Wastewater	1. Electrometric determination of pH	ELOT 658:1983
	2. Determination of electrical conductivity	ELOT EN 27888:1993

Tested materials/ products	Types of test/ Properties to be measured	Applied standards/ Techniques to be used
Dolomites and other calcareous minerals-Liming materials	1. Determination of calcium oxide	ASTM C 25: 2024
	2. Determination of magnesium oxide	
	3. Determination of loss on ignition (1000 °C)	
Anhydrous or hydrate sodium carbonate (soda ash)	Sodium carbonate for industrial use. Determination of total soluble alkalinity. Titrimetric method	ISO 740 -1976
Glass hollow ware and Ceramic ware	Determination of the release of lead and cadmium	Internal method based on ISO 7086-1:2019 and method of Greek Food Code (art.25) by AAS(OE.016)
Glasses of soda-lime-magnesia- silica type	1. Determination of sodium oxide	Internal method based on a) BS 2649-1:1988 b) Analysis of glasses using atomic absorption and atomic emission spectrometry, Report by International Commission on Glass, Technical Committee 2, (Glass Technology, Vol. 60, No 5 -1987) with FAAS (OE.040)
	2. Determination of potassium oxide	
	3. Determination of calcium oxide	
	4. Determination of magnesium oxide	
	5. Determination of aluminum oxide	
	6. Determination of iron oxide	
	7. Determination of chromium oxide	
Soil	1. Determination of pH	ISO 10390:2021
	2. Determination of electrical conductivity	Internal method based on ISO 11265:1994(OE.043)
	3. Determination of water-soluble calcium, magnesium, sodium, potassium	Internal method based on ISO 11265:1994 (extraction) and ISO 11885:2007 with ICP-OES (OE.044, 068)

Tested materials/ products	Types of test/ Properties to be measured	Applied standards/ Techniques to be used
Fertilizers	1. Determination of ammoniacal nitrogen	In house method based on EN 15475:2009(OE.28)
	2. Determination of nitrate nitrogen and total nitrate and ammoniacal nitrogen	In house method based on EN 15476:2009(OE.29)
	3. Determination of extracted phosphorus, by Quinoline phosphomolybdate gravimetric method	Internal method based on ISO 6598:1985 EN 15959:2023 (OE.22)
	A. Extraction of phosphorus soluble in mineral acids	Internal method based on ISO 7497:1984 & EN 15956:2011(OE.019)
	B. Extraction of phosphorus soluble in neutral ammonium citrate	Internal method based on EN 15957:2011 (OE.020)
	C. Extraction of phosphorus soluble in water	Internal method based on EN 15958:2011(OE.021)
4. Determination of water-soluble potassium - potassium tetraphenylborate method	Internal method based on EN 15477:2009 (OE.023)	
5. Determination of total magnesium by atomic absorption spectrometry	Internal method based on EN 15960:2011 EN 16197:2012 (OE.026)	

Tested materials/ products	Types of test/ Properties to be measured	Applied standards/ Techniques to be used
Microbiological Testing		
Drinking Water, surface and swimming pool water	1.Enumeration of Total Coliforms	ISO 9308-1:2014/ Amd1 :2016
	2.Enumeration of <i>Escherichia Coli</i>	ISO 9308-1:2014/ Amd1 :2016
	3.Detection and enumeration of intestinal enterococci	ISO 7899-2:2000
	4. Enumeration of culturable microorganisms at 22 ± 2 °C and at 36 ± 2 °C	ISO 6222:1999
	5. Detection and enumeration of <i>Clostridium perfringens</i> (including spores)	ISO 14189:2013
	6. Detection and enumeration of <i>Pseudomonas aeruginosa</i>	ISO 16266:2006
Water with low background, Matrix A (e.g. potable water, potable water from drinking water coolers)	Enumeration of <i>Legionella</i>	ISO 11731: 2017, (Annex J, Figure j.1: Procedures 5,7,8,9,10, Medium A-BCYE & C – GVPC)
Water with high background, Matrix B (e.g. Water from cooling towers, effluent water after biological treatment process, water from air condition, water from dental units)	Enumeration of <i>Legionella</i>	ISO 11731:2017 (Annex J, Figure j.1: Procedures 8,9,10, Medium C – GVPC)
Processed Wastewater	1.Enumeration of Total Coliforms	ISO 9308-1:2014/ Amd1 :2016
	2.Enumeration of <i>Escherichia Coli</i>	ISO 9308-1:2014/ Amd1 :2016
Fertilizing products	Detection of <i>Salmonella</i> spp.	CEN/TS 17780:2022
Animal faeces and environmental samples from the primary production stage	Detection of <i>Salmonella</i> spp. (except <i>S. typhi</i> and <i>S. paratyphi</i>)	ISO 6579-1: 2017/ Amd 1:2020
Products for human consumption and animal feeding stuffs	1.Detection of <i>Salmonella</i> spp. (except <i>S. Typhi</i> and <i>S. Paratyphi</i>)	ISO 6579-1:2017
	2.Enumeration of beta-glucuronidase-positive <i>Escherichia coli</i>	ISO 16649-2:2001
	3. Enumeration of total coliforms	ISO 4832:2006

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	4. Enumeration of Enterobacteriaceae	ISO 21528-2:2017
	5. Enumeration of coagulase positive Staphylococcus	ISO 6888-2:2021
	6. Enumeration of microorganisms -- Colony-count technique at 30° C	ISO 4833-1:2013 & ISO 4833-2:2013
	7. Detection and enumeration of Listeria monocytogenes	ISO 11290-1,2:2017
Food and animal feeding stuffs with $a_w > 0,95$	Enumeration of yeasts and moulds	ISO 21527-1:2008
Food and animal feeding stuffs with $a_w \leq 0,95$	Enumeration of yeasts and moulds	ISO 21527-2:2008

Site of assessment: **Laboratory permanent premises, Aghios Joannis, Stefani, Aspropyrgos.**
Approved signatories: **K. Vasilopoulou, N. Vlastaras, M. Panteli.**

This scope of Accreditation replaces the previous one dated 08.10.2025.
The Accreditation Certificate No **232-7**, to ELOT EN ISO/IEC 17025:2017, has been renewed according to ESYD's decision and it is valid until 10.10.2030.

Athens, 05.03.2026


Konstantinou Evangelos Apostolos
CEO of ESYD