Hellenic Accreditation System

Annex F1/15 to the Certificate No. **232-**6

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 Cl^- anions	ISO 9297:1989
	2. Determination of total and composite alkalinity	ELOT EN ISO 9963.01:1996
	3. Electrometric determination of pH	ELOT 658:1983
	4. Determination of electrical conductivity	ELOT EN 27888:1993
	5. Determination of total calcium and magnesium content (total hardness)	ELOT 170:1980
	6. Determination of calcium, magnesium, sodium, and potassium	Internal method based on ISO 14911:1998, by ion chromatography (OE.046)
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 25:2019
	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	ISO 11265:1994
	3. Determination of water-soluble calcium, magnesium, sodium, potassium	Internal method based on ISO 11265:1994 (extraction) and ISO 14911:1998, by ion chromatography (OE.044, 046)

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 15959:2011 (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 ISO 5316:1977 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 water-soluble potassium content by flame atomic absorption spectrometry	Internal method based on ISO 5317:1983 EN 15477:2009 APHA 3111 B (OE.027)
	6. 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 Escherichia *Coli*	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 ºC and at 36 ± 2 ºC	ISO 6222:1999
Surface water, drinking water, swimming water, coolers' water	Detection and enumeration of *Legionella* spp.	ISO 11731: 2017, § 8.2.2, §8.2.3
Environmental waters (water from cooling towers, process water, water from dental units, water from air condition etc)	Detection and enumeration of *Legionella* spp.	ISO 11731:2017 §8.2.3
Processed Wastewater	1.Enumeration of Total Coliforms	ISO 9308-1:2014/ Amd1 :2016
	2.Enumeration of Escherichia Coli	ISO 9308-1:2014/ Amd1 :2016
Food and animal feeding stuffs	Detection of Salmonella spp. (except S. Typhi and S. Paratyphi)	ISO 6579-1:2017
Fertilizing products	Detection of Salmonella spp.	CEN/TS 17780:2022

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 16.12.2021.
The Accreditation Certificate No **232-6**, to ELOT EN ISO/IEC 17025:2017, is valid until 11.10.2025.

Athens, 12.01.2023

Christos Nestoras
CEO of ESYD