Hellenic Accreditation System

Annex F1/17 to the Certificate No. **380**-7

SCOPE of ACCREDITATION

of the

NAIAS Scientific Analytical Laboratories S.A.

Tested materials / Products	Types of test / Properties to be measured	Applied methods /Techniques to be used
Physicochemical tests		
1.Petroleum and petroleum products	1. Determination of sulfur content (mg/kg)	Ultraviolet fluorescence method, ELOT EN ISO 20846: 2019
	2. Determination of sulfur (% wt)	X-ray fluorescence method ISO 8754:2003
	3. Determination of carbon and hydrogen (% wt)	Elemental analysis method ASTM D 5291-2021
	4. Determination of carbon residue [MCR] (% wt)	Micro weighing method ISO 10370:2014
	5. Determination of gross calorific value (MJ/kg)	Calorimetry ASTM D 240: 2019
	6. Determination of flash point (°C)	Pensky Martens closed cup method, ISO 2719: 2016/ Amd 1:2021, ASTM D93: 2020, (Procedure A and B)
	7. Total Sediment: Determination using standard procedures for ageing (Thermal) (%m/m)	ISO 10307-2:2009/Cor 1:2010
	8. Determination of density (kg/m^3)	EN ISO 12185 : 1996/Cor 1:2001, ASTM D4052 :2022
1.Petroleum and petroleum products (cont)	9. Determination of kinematic viscosity and calculation of dynamic viscosity (mm^2/s, cSt)	ASTM D445: 2023, ISO 3104: 2023
	10. Determination of ash content (%w/w)	ISO 6245:2001
	11. Determination of Pour Point (°C)	ISO 3016:2019
	12. Determination of Total Acid Number by Potentiometric Titration (mg KOH/g)	ASTM D664 – 18e2

Tested materials / Products	Types of test / Properties to be measured	Applied methods /Techniques to be used
	13. Determination of Al, Si, V, Ni, Na, in residual fuel oil (mg/kg)	IP 501/05(2019)
	14. Determination of distillation characteristics at atmospheric pressure	ISO 3405 : 2019 ASTM D86 : : 2023ae1
	15. Determination of water content by Distillation (%w/w)	ISO 3733:1999
	16. Determination of water by Coulometric K.F.Titration	ASTM D 6304-20
	17. Determination of F.A.M.E. with F.T.I.R.	EN 14078:2014
	18. Determination of contamination	EN 12662:2014
2. Petroleum (Diesel)	1. Cetane Index - Calculated by Four Variable Equation	ASTM D4737:2021 (procedure A)
	2. Lubricity Evaluation by HFRR (μm)	ISO 12156-1: 2023, ASTM D6079 - 2022
3. Aviation / Turbine Fuels	1.Thermal Oxidation Stability	ASTM D 3241: 2023 ae1
4. Lubricating oils (unused used)	1.Determination of Base Number (BN) by potentiometric titration (mg KOH/g)	ASTM D 2896: 2021 (Procedure A)
	2. Determination of Cu, Cr, Fe, Na, V in Used, Unused Lubricating Oils and Base Oils (mg/kg)	ASTM D 5185:18
5. Drinking water from freshwater Generator/ Low pressure evaporator systems of ships	1. Determination of Color (CU)	APHA* 2120 C
	2. Determination of Nitrate (mg/l)	APHA* 4500 NO_3^- B
	3. Determination of Turbidity (NTU)	APHA* 2130
	4. Determination of pH	APHA* 4500-H^+
	5. Determination of conductivity (μS/cm)	APHA* 2510
	6. Determination of Total Hardness ($mgCaCO_3/l$)	ELOT 170:1980
	7. Determination of Chloride (mg/l)	APHA * 4500-Cl^- B

(*)American Public Health Association, American Water Works Association, Water Environment Federation, "Standard Methods for the Examination of Water and Wastewater", 24th Edition, 2022

Site of assessment: **Permanent laboratory premises, 44 Imitou Str.- Piraeus, GREECE**

Approved signatory: **A. Psarros, N. Mpoulieris, G. Gotsis.**

This Scope of Accreditation replaces the previous one dated 18.03.2024.

The Accreditation Certificate No. **380**-7, to ELOT EN ISO/IEC 17025:2017, is valid until 19.09.2028.

Athens, 26.04.2024

Christos Nestoras
CEO of ESYD