

## ACCREDITATION CERTIFICATE

### No. LA.01.073

Lithuanian National Accreditation Bureau hereby certifies that

complies with the requirements of

**Quality control center of public company  
„ORLEN Lietuva”**

**LST EN ISO/IEC 17025:2018**

legal entity: Akcinė bendrovė „ORLEN Lietuva”  
legal entity code: 166451720

and is competent to perform:

**testing of petroleum products and environment (physical and chemical testing and analysis of physical factors), and sampling of petroleum products and of environment**

The scope of accreditation below is an integral part of this certificate. Locations of the conformity assessment body are specified in the scope of accreditation

Initial accreditation date: **2005-10-20**

Certificate issued / valid since: **2024-02-28**

Version of: **2024-02-28**

Expiry date: **2025-10-14**

Director



DĀLIA BALEŽENTĒ

The certificate may be changed, its validity suspended or withdrawn by the decision of the National Accreditation Bureau. Information on the actual data of accreditation certificates may be verified at nab.lrv.lt





**SCOPE OF ACREDITATION**  
(flexible)\*

**Quality control center of public company „ORLEN Lietuva”, accredited in accordance with LST EN ISO/IEC 17025:2018**

Location of the conformity assessment body

**Mažeikių str. 75, Juodeikiai, LT-89453 Mažeikiai region, Lithuania**

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)	
<b>TESTS OF PETROLEUM PRODUCTS</b>				
Motor fuels. Gasoline	Volatility index	LST EN 228	Calculation method	
	Lead content	LST EN 237 (basic procedure)	Atomic absorption spectroscopy	
	Copper strip corrosion (3 h at 50 0C)	LST EN ISO 2160	Corrosion test, Visual method	
	Sampling of petroleum products	LST EN ISO 3170	Manual sampling	
	Distillation		LST EN ISO 3405 (automated equipment)	Distillation
			ASTM D 86 (automated method)	Distillation
	Motor Octane Number (MON)	LST EN ISO 5163	Motor method	
	Research Octane Number (RON)	LST EN ISO 5164	Motor method	
	Existent gum content (solvent washed)	LST EN ISO 6246	Evaporation, gravimetry	
	Oxidation stability	LST EN ISO 7536	Oxidation, induction period method	
	Density at 15°C	LST EN ISO 12185	Oscillation-type densimetry (Oscillating U-tube method)	
	Vapour pressure (DVPE)	LST EN 13016-1	Evaporation	
	Sulphur content	LST EN ISO 20846	UV fluorescence	
Organic oxygen compound (oxygenates) content	LST EN ISO 22854 (A procedure)	Gas chromatography (GC)		

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
	Oxygen content	LST EN ISO 22854 (A procedure)	Gas chromatography (GC)
	Hydrocarbon type content	LST EN ISO 22854 (A procedure)	Gas chromatography (GC)
	Benzene content	LST EN ISO 22854 (A procedure)	Gas chromatography (GC)
Motor fuels. Diesel	Cold filter plugging point	LST EN 116 (automated equipment)	Cooling, filtration
	Copper strip corrosion (3 h at 50 °C)	LST EN ISO 2160	Corrosion test, Visual method
	Flash point	LST EN ISO 2719 (A procedure) (automated equipment)	Heating (Pensky-Martens closed cup method)
	Cloud point	LST EN ISO 3015	Cooling
	Kinematic viscosity at 40 °C	LST EN ISO 3104 (B procedure)	Viscosimetry
	Sampling of petroleum products	LST EN ISO 3170	Manual sampling
	Distillation	LST EN ISO 3405 (automated equipment)	Distillation
	Cetane index	LST EN ISO 4264	Calculation method
	Cetane number	LST EN ISO 5165	Motor method
	Ash content	LST EN ISO 6245	Burning, gravimetry
	Carbon residue (on 10% distillation residue)	LST EN ISO 10370	Burning, gravimetry
	Lubricity, wear scar diameter (WSD) at 60°C	LST EN ISO 12156-1	Friction, microscopy
	Density at 15°C	LST EN ISO 12185	Oscillation-type densimetry (Oscillating U-tube method)
	Oxidation stability	LST EN ISO 12205	Oxidation, filtration, gravimetry
	Total contamination	LST EN 12662	Filtration, gravimetry
	Polycyclic aromatic hydrocarbons content	LST EN 12916 (A procedure)	High-performance liquid chromatography (HPLC)
Water content	LST EN ISO 12937	Coulometry	
Fatty acid methyl esters (FAME) content	LST EN 14078 (Range A and B)	IR spectrometry	
Sulphur content	LST EN ISO 20846	UV fluorescence	
Aviation turbine fuels, kerosine	Flash point	ASTM D 56 (automated equipment)	Heating (Tag closed cup method)
	Distillation	ASTM D 86 (automated method)	Distillation
	Copper strip corrosion (2 h at 100°C)	ASTM D 130	Corrosion test, Visual method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
	Kinematic viscosity at minus 20°C	ASTM D 445	Viscosimetry
	Aniline point	ASTM D 611 (E method)	Heating
	Aromatics	ASTM D 1319	Fluorescence adsorption
	Smoke point	ASTM D 1322 (automated procedure)	Thermal radiation
	Naphthalenes	ASTM D 1840 (B procedure)	UV spectrophotometry
	Electrical conductivity	ASTM D 2624	Conductivity
	Sulphur, mercaptan	ASTM D 3227	Potentiometry
	Thermal stability (2.5 h, at control temperature of 260°C), filter pressure drop, tube rating	ASTM D 3241 (Annex A1. VTR)	Oxidation, Visual method
	Acidity	ASTM D 3242	Indicator titration
	Microseparator (MSEP)	ASTM D 3948 (A mode)	Separation
	Density at 15°C	ASTM D 4052	Oscillation-type densimetry (Oscillating U-tube method)
	Sampling of petroleum products	ASTM D 4057	Manual sampling
	Net heat of combustion	ASTM D 4529 (A procedure)	Calculation method
	Lubricity (Wear Scar Diameter)	ASTM D 5001 (automated method)	Friction, microscopy
	Sulphur content	ASTM D 5453	UV fluorescence
	Freezing point	ASTM D 7153	Cooling
	Level of cleanliness	IP 565	Optical method
Refinery gas	Gas Composition: Hydrogen Oxygen Nitrogen Carbon monoxide Carbon dioxide Hydrogen sulphide Methane Ethane Ethene Acetylene Propane Propene Propadiene	LST EN 15984	Gas chromatography (GC)

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
	iso-Butane n-Butane trans-2-Butene 1-Butene iso-Butene cis-2-Butene 1,3-Butadiene iso-Pentane n-Pentane Total Pentenes C6+		
	Carbon Content	LST EN 15984	Calculation method
	Lower Calorific Value	LST EN 15984	Calculation method
Fuel oil	Specific energy (heat of combustion)	ASTM D 4809	Calometry
	Sampling of petroleum products	LST EN ISO 3170	Manual sampling
	Water content	ISO 3733	Distillation
	Sulphur content	LST EN ISO 8754	X-ray fluorescence spectrometry
	Density at 15°C	LST EN ISO 12185	Oscillation-type densimetry (Oscillating U-tube method)

## ENVIRONMENTAL ANALYSIS

### Chemical testing

Air: indoor, ambient, workplace air, and that from fixed sources of pollution	Sampling for volatile organic compounds	LST EN ISO 16017-1, cl. 9	Pumped sampling
Indoor, ambient, workplace air	Benzene content Toluene content Ethylbenzene content Xylene (m-, p-, o-) content	LST EN ISO 16017-1	Gas chromatography (GC)
Air: pollutants emitted to ambient air by fixed sources of pollution	Benzene content n-butane content Cyclopentane content 2,4-dimethylpentane content Ethane content Ethylbenzene content Heptane content Hexane content	LST EN ISO 16017-1	Gas chromatography (GC)

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
	Isobutane content Isopentane content Isopropylbenzene content n-pentane content 1-pentane content Propane content n-propylbenzene content Styrene content Toluene content 1,2,3-trimethylbenzene content 1,3,5-trimethylbenzene content Undecane content Xylene (m-, p-, o-) content		
Air: ambient, workplace	Nitrogen dioxide Sampling for nitrogen dioxide	KTC-SVP-10	Spectrophotometry Sorbent tube sampling
	Sulphur dioxide Sampling for sulphur dioxide	KTC-SVP-13	Spectrophotometry Sorbent tube sampling
Workplace air	Carbon monoxide	KTC-SVP-8	Gas chromatography (GC)
	Hydrogen sulphide	KTC-SVP-6	Spectrophotometry
	Hydrocarbons (C1-C10)	KTC-SVP-11	Gas chromatography (GC)
Air: pollutants emitted to ambient air by fixed sources of pollution	Carbon monoxide Nitrogen oxides Sulphur dioxide Oxygen	KTC-SVP-12	Electrochemistry
	Hydrogen sulphide Sampling for hydrogen sulphide	KTC-SVP-7	Spectrophotometry Sorbent tube sampling
	Aromatic hydrocarbons: Benzene Toluene Ethylbenzene o-, m-, p- xylenes Styrene	KTC-SVP-11	Gas chromatography (GC)
	Ammonia Sampling for ammonia	KTC-SVP-9	Spectrophotometry Pumping through the absorber
	Methane	KTC-SVP-8	Gas chromatography (GC)
	Sampling for volatile organic compounds	KTC-SVP-1	Pumping into elastic bag
	Sampling for volatile organic compounds	KTC-SVP-2	Pumping into a glass syringe

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
Water: surface, waste	pH value	LST EN ISO 10523	Potentiometry
	Total nitrogen	LST EN ISO 11905-1, with exception p.9.6-9.9	Spectrophotometry
	Total phosphorus	LST EN ISO 6878, cl. 7	Spectrophotometry
	Suspended solids	LST EN 872	Gravimetry
	Biochemical oxygen demand (BOD)	LST EN ISO 5815-1, except cl. 9.6.1, Annex A LST EN 1899-2	Potentiometry
	Hydrocarbon oil index	LST EN ISO 9377-2	Gas chromatography (GC)
	Hydrogen sulfide and sulfides	KTC-SVP-5	Spectrophotometry
	Chemical oxygen demand (COD)	LST ISO 6060	Titrimetric
Surface water	Dissolved oxygen	LST EN ISO 5814	Potentiometry
	Ammonium nitrogen	LST ISO 7150-1	Spectrophotometry
	Nitrite nitrogen	LST EN 26777	Spectrophotometry
	Nitrate nitrogen	LST ISO 7890-3	Spectrophotometry
	Orthophosphates phosphorus	LST EN ISO 6878, cl. 4	Spectrophotometry
	Surface water sampling	LST EN ISO 5667-6	Manual sampling
Waste water	Phenol index	LST EN ISO 14402	Spectrophotometry
	Lead (Pb) Cadmium (Cd) Nickel (Ni) Vanadium (V)	LST EN ISO 11885	Inductively coupled plasma optical emission spectrometry (ICP OES)
	Mercury (Hg)	LST EN ISO 12846, except cl. 6	Atomic absorption spectrometry (AAS)
	Preparation of the sample for the determination of metals	LST EN ISO 15587-2	Mineralization with nitric acid
	Benzene Toluene Ethylbenzene o,m,p-xylene	ISO 11423-1	Gas chromatography (GC)
	Total organic carbon (TOC)	LST EN 1484	IR spectrometry
	Electrical conductivity	LST EN 27888	Conductivity
	Waste sampling	ISO 5667-10	Manual sampling, Automatic sampling

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
Grounds, sludge, soil	Dry matter and water content	ISO 11465	Gravimetry
	Hydrocarbons from C10 to C40 content	LST EN ISO 16703	Gas chromatography (GC)
	Soil sampling	ISO 18400-102	Manual sampling
<b>Analysis of physical factors</b>			
Natural and artificial lighting at workplaces	Natural light level (illuminance) Natural light coefficient Artificial light level (illuminance)	HN 98 KTC-SVP-4	In situ measurements. Calculation based on in situ measurement results
Thermal environment at working premises	Air temperature Relative air humidity Air velocity	HN 69 KTC-SVP-3	In situ measurements
Acoustic noise in working environment	A-weighted equivalent continuous sound pressure level Highest C-weighted peak sound pressure level Daily A-weighted noise exposure level for task General 8 h A-weighted noise exposure level	LST EN ISO 9612	In situ measurements. Calculation based on in situ measurement results
<b>Physical testing</b>			
Air: pollutants emitted to ambient air by fixed sources of pollution	Gas velocity, volume flowrate	LST ISO 10780	Pitot tube pressure difference method
	Temperature in the exhaust gases	KTC-SVP-12	Electrochemistry
Water: surface, waste	Temperature	DIN 38404-4	Physical method

\* One degree of flexibility is defined and applicable for the whole accreditation scope:  
- application of the updated documents of test methods already covered by accreditation or superseding them or application of equivalent documents.

Actual accreditation scope is published on the website at [www.orlenlietuva.lt](http://www.orlenlietuva.lt)

Note. In case of any discrepancies, ambiguities or disputes regarding the subject matter content between the English and Lithuanian versions of the document, the Lithuanian version shall prevail.

The accreditation certificate is signed with a qualified electronic signature as an attachment to the order of the Director of the National Accreditation Bureau, by which it was approved