



SCOPE OF ACCREDITATION TO ISO 17034:2016

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REFERENCE MATERIAL PRODUCER

Valid To: May 31, 2026

Certificate Number: 7668.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this Reference Material Producer¹ for the production of the following certified reference materials and reference materials:

<u>Certified Reference Material/ Matrix or Artifact</u>	<u>Property Value(s)/ Property Identity/ Range/ Uncertainty</u>	<u>Approach Used to Assign Property Values</u>
Single and Multi-Component Organic and Inorganic Materials in Solution: • Metals • Anions • Cations • Alcohols • Carbonyls and Derivatives • Carbamates • Conazoles • Heterocyclic Compounds • Hydrocarbons • Nitrogen Containing Organic Compounds • Organic Acids • Organochlorine Pesticides • Phenols • Phenoxyacetates • Phosphorus Containing Organic Compounds • Phthalates • Polyaromatic Hydrocarbons (PAHs) • Polybrominated/Polychlorinated biphenyls (PBBs and PCBs) • Pyrethroids • Synthetic Oils • Triazines • Volatile Organic Compounds	Concentration: 0.1 µg/L - 800 000 mg/L; Uncertainty range: 0.2 % - 2.0 % Concentration: 0.1 µg/L - 800 000 mg/L; Uncertainty range: 1.3 % - 5.0 %	ICP OES; ICP MS Ion chromatography Gravimetry; HPLC; HPLC-MS; GC/MS

Certified Reference Material/ Matrix or Artifact	Property Value(s)/ Property Identity/ Range/ Uncertainty	Approach Used to Assign Property Values
Single and Multi-Component Organic and Inorganic Materials in Solution (cont): • pH Standards • Conductivity Standards • Volumetric Solutions • Alcohol • Total Acid Number (TAN) • Total Base Number (TBN) • Total Organic Carbon • Potassium Dichromate for UV/VIS • Water Content • Turbidity • Chemical Oxygen Demand (COD) • Color • Osmolality	pH: 1.679 - 12.000; Uncertainty range: 0.010 - 0.020 Conductivity: 5.00 $\mu\text{S}/\text{cm}$ - 111 303 $\mu\text{S}/\text{cm}$; Uncertainty range: 1 % - 5 % Concentration: 0.001 mol/l – 20 mol/l; Uncertainty range: 0.2 % - 2.0 % Ethanol content: 1 % v/v -100 % v/v; Uncertainty range: 0.01 % v/v -0.05 % v/v Concentration: 0.1 mgKOH/g - 100 mgKOH/g; Uncertainty range: 1.0 % - 5.0 % Concentration: 1 mg/L - 80 000 mg/L; Uncertainty range: 1.0 % - 5.0 % Concentration: 1 mg/L - 600 mg/L; Uncertainty range: 1.0 % - 5.0 % Concentration: 21 mg/kg - 100000 mg/kg; Uncertainty range: 0.5 % - 1.5 % Turbidity: 1 NTU - 4000 NTU; Uncertainty range: 0.2 % - 2.0 % COD: 1 mg/l O₂ - 80000 mg/l O₂; Uncertainty range: 1.0 % - 5.0 % Hazen: 5 mg/l Pt - 500 mg/l Pt; Uncertainty range: 0.5 % - 5.0 % Osmolality: 0 mosmol/kg -2000 mosmol/kg; Uncertainty range: 0.5 % - 2.0 %	pH meter; Primary measurement method-harned cell Conductivity meter Titrimetry Density meter Titrimetry TOC analyzer UV/VIS Karl Fischer coulometric titrator Turbidimeter Titrimetry; UV/VIS Gravimetry; UV/VIS Osmometer
High Purity Inorganic Compounds: • Metals • Salts	Purity: 1 % w/w – 100 % w/w; Uncertainty range: 0.001 % w/w -1.0 % w/w	ICP OES/ICP MS Ion chromatography Karl Fischer coulometric titrator

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High Purity Organic Compounds: - Alcohols - Carbonyls and Derivatives - Carbamates - Conazoles - Heterocyclic Compounds - Hydrocarbons - Notrogen Containing Organic Compounds - Organic Acids - Organochlorine Pesticides - Phenoles - Phenoxyacetates - Phosphorus Containing Organic Compounds - Phthalates - Polyaromatic Hydrocarbons (PAHs) - Polybrominated/Polychlorinated Biphenyls (PBBS and PCBs) - Pyrethroids - Synthetic Oils - Triazines - Volatile Organic Compounds	Purity: 1 % w/w – 100 % w/w; Uncertainty range: 0.1 % w/w -5.0 % w/w	HPLC/HPLC-MS GC/MS Karl Fischer coulometric titrator qNMR
Solution for Determination of Density: Density	Density: 0.655 g/cm³ - 2.000 g/cm³; Uncertainty range: 0.00010 g/cm³ – 0.00050 g/cm³	Density meter
Solutions for Determination of Physical Properties of Petroleum Products: - Cold Filter Plugging Point (CFPP) - Pour Point - Viscosity	Temperature: -1°C to – 40 °C; Uncertainty range: 1.0 % - 3.0 % Viscosity: 0.5mm²/s to 50mm²/s; Uncertainty range: 0.2 % - 1.0 %	Cold filter plugging point analyzer Pour point analyzer Viscometer

Certified Reference Material/ Matrix or Artifact	Property Value(s)/ Property Identity/ Range/ Uncertainty	Approach Used to Assign Property Values
Solutions for Determination of Physical Properties of Petroleum Products (cont): • Distillation • Flash Point • Cloud Point	Temperature: 30°C to 400 °C; Uncertainty range: 0.2 % - 2.0 % Temperature: 40°C to 200 °C; Uncertainty range: 0.2 % - 2.0 % Temperature: -1°C to – 30 °C; Uncertainty range: 1.0 % - 3.0 %	Automatic distiller Flash point analyzer Cloud point analyzer



Accredited Reference Material Producer

A2LA has accredited

CPACHEM LTD.
Bogomilovo, BULGARIA

This accreditation covers the specific materials listed on the agreed upon Scope of Accreditation.

This producer meets the requirements of ISO 17034:2016 *General Requirements for the Competence of Reference Material Producers*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system.

Presented this 18th day of December 2025.

A blue ink signature of Trace McInturff, written in a cursive style.

Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7668.01
Valid to May 31, 2026



For reference materials to which this accreditation applies, please refer to the reference material producer's Scope of Accreditation.