



SCOPE OF ACCREDITATION TO ISO 17034:2016

LGC STANDARDS  
276 Abby Road  
Manchester, NH 03103  
Chuck Goudreau Phone: 603 622 7660  
E-mail: [chuck.goudreau@lgcgroup.com](mailto:chuck.goudreau@lgcgroup.com)

REFERENCE MATERIAL PRODUCER

Valid to: May 31, 2019

Certificate Number: 2848.02

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

Category	Concentration Ranges	Uncertainty	Method	Analytical Technique
<b>Certified Reference Materials</b>				
<b>High Purity Metals – Spectrochemical Solutions</b>				
Single Element Standards	1 to 50 000 µg/mL	< 0.5 % Relative	NIST High Performance ICP-OES	ICP-OES, ICP-MS
Multi Element Standards	1 to 50 000 µg/mL	+/-0.5 % Relative	ICP-OES Aqueous QD, ICP-MS-Aqueous QD	ICP-OES, ICP-MS
<b>Ion Chromatography Standards (Anions and Cations)</b>				
Single-Ion Standards	1 to 10 000 µg/mL	+/- 0.5 % Relative	IC Aqueous QD	IC
Multi-Ion Standards	1 to 10 000 µg/mL	+/- 0.5 % Relative	IC Aqueous QD	IC
<b>Petroleum Products – Fuel and Lubricants</b>				
Acid Number	0.1 to 3.0 mg KOH/g	2 to 30 % Relative	ASTM D664 ASTM D974	Titrimetry
Base Number	6 to 70 mg KOH/g	+/- 4 to 11 % Relative	ASTM D2896 ASTM D4739	Titrimetry
Chlorine (Cl)	1 to 50 000 µg/mL	+/-1 % Relative	ICP-OES-Aqueous QD, XRF QD	ICP-OES, XRF
FT-IR Standard	1 to 100 ABS/cm	+/-10 to 25 % Relative	ASTM E2412	FT-IR

Category	Concentration Ranges	Uncertainty	Method	Analytical Technique
<b>Certified Reference Materials</b>				
<b>Petroleum Products – Fuel and Lubricants (cont)</b>				
Lead (Pb)	0.001 to 5.0 g/gal	+/-1 % Relative	ICP-OES-Aqueous QD, XRF QD	ICP-OES, XRF
Moisture (H <sub>2</sub> O)	0.1 to 1.0 %	5 % Relative	ASTM D6304	Karl Fischer, Titrimetry
C6.2 Viscosity	0 to 1000 cSt	0.32 % Relative	ASTM D445	Viscometry
Sulfur (S)	1 to 50 000 µg/g	+/-1 % Relative	ASTM D4294	XRF
Single Element Standards	1 to 300 000 µg/g	1 % Relative	ASTM D5185	ICP-OES, XRF
Multi Element Standards	1 to 50 000 µg/g	1 % Relative	ASTM D5185	ICP-OES, XRF
<b>Wear Metals in Oils</b>				
Single Element Standards	1 to 300 000 µg/g	1 % Relative	ASTM D5185	ICP-OES
Multi Element Standards in Petroleum Products	1 to 50 000 µg/g	+/-1 % Relative	ASTM D5185	ICP-OES

<b>Reference Materials, Quality Control Reference Materials</b>				
<b>Petroleum Products - Fuels and Lubricants</b>				
Particle Count Reference Materials	0 to 100 000 particles	N/A	ASTM D7596	Particle Counting





## *Accredited Reference Material Producer*

A2LA has accredited

**LGC STANDARDS**

*Manchester, NH*

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 30<sup>th</sup> day of August 2017.



President and CEO  
For the Accreditation Council  
Certificate Number 2848.02  
Valid to May 31, 2019

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



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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CHEMICAL

Valid to: May 31, 2019

Certificate Number: 2848.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on aqueous and organic reference materials, cosmetics, paints and other surface coatings, plastics and polymers, consumer and children's products, wood, petroleum (oil, lubricants), chemicals, and metals:

<u>Tests</u>	<u>Test Methods</u>
Spectroscopy	
ICP-OES Elemental Analysis	Aqueous Quantitative & Semi-Quantitative Determinations; ASTM D5185 (Modified); NIST High Performance ICP-OES
ICP-MS Elemental Analysis	Aqueous Quantitative & Semi-Quantitative Determinations
UV Fluorescence	ASTM D5453
XRF Elemental Analysis	ASTM D4294 (Modified); ASTM D7220; ED-XRF Analysis of PEEK and ETFE; ED-XRF Quantitative Determinations
FTIR Analysis	ASTM E2412

Chromatography

GC-FID

ASTM D7593, D7922

IC

IC Quantitative Determinations

Physical Property

Particle Counting

ASTM D7596

Viscosity

ASTM D445

Wet Chemistry

Titration

ASTM D974, ASTM D2896

Aqueous Determinations by Colorimetric Titration

ASTM D664

Moisture Determination by Karl Fischer Titration

ASTM D6304

A handwritten signature in black ink, appearing to be 'L. S. L.', is located at the bottom center of the page.



## *Accredited Laboratory*

A2LA has accredited

### **LGC Standards**

*Manchester, NH*

for technical competence in the field of

### **Chemical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 30<sup>th</sup> day of August 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 2848.01  
Valid to May 31, 2019

*For the tests to which this accreditation applies, please refer to the laboratory's Chemical Scope of Accreditation.*



SCOPE OF ACCREDITATION TO ISO/IEC 17043:2010

LGC STANDARDS  
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Manchester, NH 03103  
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PROFICIENCY TESTING PROVIDER

Valid to: May 31, 2021

Certificate Number: 2848.03

In recognition of the successful completion of the A2LA evaluation process, this Proficiency Testing Provider has been found to meet the requirements of ISO/IEC 17043:2010, "Conformity assessment – General Requirements for Proficiency Testing". Accreditation is granted to this organization to provide proficiency testing samples in the following analyte/matrix combinations:

<b>Program Name</b>	<b>Frequency</b>	<b>Sample/Artifact Types</b>	<b>Technique for Determination of the Assigned Value and Uncertainty</b>
VHG Performance Testing Program	Continuous, On Demand	Elemental Analysis by ICP, RDE or XRF for Liquid Petroleum Products	Known Values - Results determined by specific proficiency test item formulation
	Continuous, On Demand	Kinematic Viscosity for Liquid Petroleum Products	Known Values - as determined by analysis.
	Continuous, On Demand	Particle Count for Liquid Petroleum Products	Reference Values - as determined by analysis.
	Continuous, On Demand	S in Diesel, Biodiesel, Kerosene and Isooctane	Known Values - Results determined by specific proficiency test item formulation
	Continuous, On Demand	S in Crude, Residual and Mineral Oils	Known Values - Results determined by specific proficiency test item formulation



# *Accredited Proficiency Testing Provider*

A2LA has accredited

**LGC STANDARDS**

*Manchester, NH*

This accreditation covers the specific proficiency testing schemes listed on the agreed upon Scope of Accreditation.

This provider is accredited in accordance with the recognized International Standard ISO/IEC 17043: 2010 *Conformity assessment - General requirements for proficiency testing*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system.



Presented this 30<sup>th</sup> day of August 2017.

President and CEO  
For the Accreditation Council  
Certificate Number 2848.03  
Valid to May 31, 2021

*For the proficiency testing schemes to which this accreditation applies, please refer to the provider's Scope of Accreditation.*



# CERTIFICATE

Management system as per  
**EN ISO 9001 : 2008**

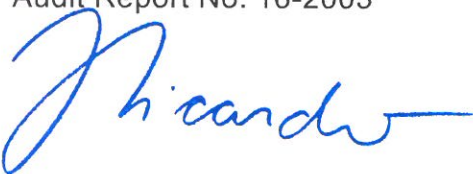
In accordance with TÜV NORD CERT procedures, it is hereby certified that

**VHG Labs Incorporated**  
276 Abby Road  
Manchester, NH 03103  
USA

applies a management system in line with the above standard for the following scope

**Production, manufacturing, and distribution of spectrochemical  
solution standards and supplies.**

Certificate Registration No. 44 100 16560231  
Audit Report No. 16-2003



Certification Body  
at TÜV NORD CERT GmbH

Valid from 2016-05-20  
Valid until 2018-09-14  
(Until 2019-05-19 in case of upgrade to ISO 9001: 2015)

Salem, 2016-05-24

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH

Langemarckstraße 20

45141 Essen

[www.tuev-nord-cert.com](http://www.tuev-nord-cert.com)

