



SCOPE OF ACCREDITATION TO ISO 17034:2016

SPEX CERTIPREP GROUP, LLC.
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REFERENCE MATERIAL PRODUCER

Valid To: January 31, 2021

Certificate Number: 2495.01

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 of the following categories:

Category and sub-category of Certified Reference Material ¹	Concentration Ranges and Uncertainty	Measurement Technique(s)
Category: A2.6 & A4.3: <u>Inorganic Reference Materials:</u> Stock Single Standards, Stock Multi Standards, Custom Single Standards, Custom Multi Standards, Speciation Standards	<u>Trace Metal Standards:</u> <u>Concentration Range:</u> (0.0001 to 100 000) µg/ml (0.0001 to 100 000) µg/g <u>Uncertainty:</u> 0.1 % to 10.0 % <u>Cations Standards:</u> <u>Concentration Range:</u> (0.0001 to 100 000) µg/ml (0.0001 to 100 000) µg/g <u>Uncertainty:</u> 0.1 % to 10.0 % <u>Stoichiometry standards:</u> <u>Concentration Range:</u> 0.1 M to 10 M <u>Uncertainty:</u> 0.1 % to 5.0 %	ICP-OES ICP-MS Titrimetry Gravimetric Ion Chromatography LC-ICP/MS

Category and sub-category of Certified Reference Material ¹	Concentration Ranges and Uncertainty	Measurement Technique(s)
Category: : A2.6 & A 4.3 <u>Inorganic Reference Materials:</u> Stock Single Standards, Stock Multi Standards, Custom Single Standards, Custom Multi Standards	<u>Anions:</u> <u>Concentration Range:</u> (0.002 to 100 000) µg/ml (0.002 to 100 000) µg/g <u>Uncertainty:</u> 0.1 % to 10.0 %	Ion Chromatography Gravimetric Titrimetry
Category A2.6 & A4.3 <u>Inorganic Reference Materials</u>	<u>Organic Acids:</u> <u>Concentration Range:</u> (0.001 to 10 000) µg/mL <u>Uncertainty:</u> 0.1 % to 10 %	Ion Chromatography
Category: A9.1 : <u>pH Standards</u>	<u>pH Buffers:</u> <u>Concentration Range:</u> <1 to 14 S.U. <u>Uncertainty:</u> 0.01 S.U. to 0.2 S.U.	Potentiometry
Category: A9.2 : <u>Ion Selective Electrode Standards</u>	<u>Cyanide Standards:</u> <u>Concentration Range:</u> (0.1 to 20 000) µg/ml (0.1 to 20 000) µg/g <u>Uncertainty:</u> 0.1 % to 10.0%	Ion Selective Electrode Titrimetry
Category: A9.3 : <u>Conductivity Standards</u>	<u>Conductivity:</u> <u>Concentration Range:</u> > 2 µmhos/cm <u>Uncertainty:</u> 0.1 % to 5.0 %	Electrochemical
Category: A9.4 : <u>Buffer Systems</u>	<u>Buffer Solutions:</u> <u>Concentration Range:</u> >0.1 M <u>Uncertainty:</u> 0.1 % to 5.0 %	Gravimetric Titrimetry Ion Selective Electrode

Category and sub-category of Certified Reference Material ¹	Concentration Ranges and Uncertainty	Measurement Technique(s)
Category: A3.1 & A4.3: <u>Organic Reference Materials:</u> Stock Single Compound Standards, Stock Multi-Compound Standards, Custom Single Compound Standards, Custom Multi-Compound Standards	<u>Chromatography Standards:</u> Alkanes Alkenes Acetates Alcohols Aldehydes Anilines Amides Amines Aromatics Carbamates Ethers Esters Pesticides Herbicides Anhydrides <u>Concentration Range:</u> (0.001 to 1 000 000) µg/ml (0.001 to 1 000 000) µg/g <u>Uncertainty:</u> 0.6 % to 10.0 %	GC/MS GC/FID Gravimetric LC/UV LC/RI LC/MS



Category and sub-category of Certified Reference Material ¹	Concentration Ranges and Uncertainty	Measurement Technique(s)
Category: A3.1 & A4.3 (cont): <u>Organic Reference Materials:</u> Stock Single Compound Standards, Stock Multi-Compound Standards, Custom Single Compound Standards, Custom Multi-Compound Standards	<u>Chromatography Standards:</u> Haloethers Ketones Cyanates Nitriles Nitroaromatics Oxides Phenols Phthalates Pyridines Sugars Organic Acids OrganoMetalics Explosives Epoxides Alkynes Herbicide Esters Sulfides Ketones Thiols Carbonyls Silicates Anisoles Silanes Organosulfates Glycerides Bio-Diesel Amino Acids Pharmaceuticals Lubricants Halogenated Ethers Dyes Halogenated Alkanes Halogenated Alkenes Halogenated Aromatics Halogenated Organic Acids High Boiling Point Fuels Low Boiling Point Fuels Carbonyl-DNPH-Derivatives PAH's (Polyaromatic Hydrocarbons) PCB's (Polychlorinated Biphenyls) <u>Concentration Range:</u> (0.001 to 1 000 000) µg/ml (0.001 to 1 000 000) µg/g <u>Uncertainty:</u> 0.6 % to 10.0 %	GC/MS GC/FID Gravimetric LC/UV LC/RI LC/MS

Category and sub-category of Certified Reference Material ¹	Concentration Ranges and Uncertainty	Measurement Technique(s)
Category: A3.1: <u>Solid Organic Reference Materials</u>	Phthalates Lubricants Organic Acids Sugars Pesticides Alcohols PAH's PCB's <u>Concentration Range:</u> (5.0 to 50 000) µg/g <u>Uncertainty:</u> 12 %	GC/MS LC/MS
Category: A5.6 and A5.7: <u>Inorganic Reference Materials:</u>	<u>Trace Metals Filters:</u> <u>Concentration Range:</u> (0 to 200) µg <u>Uncertainty:</u> 0.1 % to 5 %	ICP-OES ICP-MS
Category: C1.3: <u>Spectroscopy</u>	<u>Concentration:</u> (0.1 to 24) Au/mm <u>Uncertainty:</u> 0.5 % to 5.0 %	Slope Spectroscopy
Category: C6.1: <u>Physiochemical Properties</u>	<u>Density:</u> <u>Concentration Range:</u> (0.5 to 5) g/cm ³ <u>Uncertainty:</u> 0.01 % to 1 %	Density Meter
Category: A3.4: <u>Plastics and Rubbers – Identity – Plasticizers</u>	<u>Phthalate Standards:</u> <u>Concentration Range:</u> (0.25 to 2) % <u>Uncertainty:</u> 1 % to 20 %	FTIR

¹ The Reference Material Producer is approved to produce the Certified Reference Materials (CRM) for all items listed.



Accredited Reference Material Producer

A2LA has accredited

SPEX CERTIPREP GROUP, LLC.

Metuchen, NJ

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 8th day of March 2019.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2495.01
Valid to January 31, 2021



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