SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ALTRIA CLIENT SERVICES (ALCS)
CENTER FOR RESEARCH AND TECHNOLOGY
Attn: Analytical Sciences (AS)
601 East Jackson Street
Richmond, Virginia 23219
Tammy Blake Phone 804-335-2336

CHEMICAL

Valid To: March 31, 2018 Certificate Number: 0660.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following types of tests on cigarettes, cigarette smoke, related cigarette components (filters, paper, tobacco, adhesives, flavors, smoke, and packaging materials) and various research materials:

Test Description	**Referenced Published Procedures**	**Test Procedures**
Smoke Analysis:		
Nicotine Free Dry Particulate Matter (NFDPM, or Tar)	ISO 3308, 4387 Massachusetts 105 CMR 660.500 and HC T-115	095-2203, 095-4405
Nicotine	ISO 10315 Massachusetts 105 CMR 660.500 and HC T-115	095-4405
Puff Count	ISO 3308, 3402, 4387 Massachusetts 105 CMR 660.500 and HC T-115	095-2203
Carbon Monoxide	ISO 8454 Massachusetts 105 CMR 660.500 and HC T-115	095-2203
Total Particulate Matter (TPM)	ISO 8454, 3308, 3402, 4387 Massachusetts 105 CMR 660.500 and HC T-115	095-2203
Water	ISO 10362-1 Massachusetts 105 CMR 660.500 and HC T-115	095-4405
Determination of Select Carbonyls in Mainstream Smoke by UPLC-UV	CORESTA Recommended Method N°74	095-4012
Determination of Menthol in Cigarette Components and TPM by Gas Chromatography	----------	095-4410

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Test Description	**Referenced Published Procedures**	**Test Procedures**
Determination of Volatile Organic Compounds in Mainstream Smoke by GC-MS	CORESTA Recommended Method N°70	095-4430
Determination of Tobacco Specific N-Nitrosamines in Mainstream Smoke by LC-MS/MS	ISO 19290:2016	095-4434
Determination of Aromatic Amines in Mainstream Smoke by GC-MS	----------	095-4435
Determination of Ammonia in Mainstream Smoke by Ion Chromatography	----------	095-4436
Determination of Benzo[a]Pyrene in Mainstream Smoke by GC-MS	CORESTA Recommended Method N°58	095-4437
Tobacco and Tobacco Products Analysis:		
Analysis of Cadmium and Arsenic in Tobacco Products by ICP-MS	----------	095-5507
Determination of Ammonia in Tobacco and Tobacco Products by Ion Chromatography	CORESTA Recommended Method N°79	095-5019
Determination of Benzo[a]Pyrene in Tobacco Products by GC-MS	----------	095-5021
Determination of Tobacco Specific N-Nitrosamines in Tobacco and Tobacco Products by LC-MS/MS	CORESTA Recommended Method N°72	095-5519
Determination of Select Carbonyls in Tobacco by UPLC / MS /MS	----------	095-5020
Determination of 1,2-Propylene Glycol and Glycerol in Tobacco and Tobacco Products by Gas Chromatography	CORESTA Recommended Method N°60	095-5527
Determination of Nicotine in Tobacco and Tobacco Products by Gas Chromatography	FR Vol. 74, No. 4, 01/07/2009 pp. 712-719	095-5529
Product and Materials Analysis:		
Determination of Nicotine and Nicotine Degradants in Verve® Products by LC-MS	----------	095-6051
Determination of Benzo[a]Pyrene in Verve® Products by GC-MS	----------	095-6052
Determination of Tobacco Specific N-Nitrosamines in Verve® Products by LC/MS/MS	----------	095-6053

Test Description	**Referenced Published Procedures**	**Test Procedures**
Determination of Carbonyls in Verve® Chews and Discs by UPLC-MS	----------	095-6054
Analysis of Materials by Purge and Trap by GC-MS	----------	095-6511
Analysis of Materials by Pyrolysis by GC-MS	----------	095-6513
Analysis of Materials by Fourier Transform Infrared (FTIR) Spectrometry	----------	095-6820
Analysis of Materials by X-Ray Fluorescence (XRF)	----------	095-6830
Analysis of Materials by GC-MS	----------	095-6850
Physical Properties Analysis:		
Determination of Tobacco Products Portion Weight	----------	095-1004
Resistance-to-Draw	ISO 6565:2002	095-3310
Ventilation	ISO 9512:2002	095-3310
Oven Volatiles	CORESTA Recommended Method N°76	095-3330
Tobacco Weight	----------	095-3340
Determination of pH by the Center for Disease Control Method	FR Vol. 74, No. 4, 01/07/2009 pp. 712-719	095-3370
Determination of Total Moisture by the Center for Disease Control Method	FR Vol. 74, No. 4, 01/07/2009 pp. 712-719	095-3371
Ignition Propensity	ASTM E2187-04; E2187-09	095-391

Accredited Laboratory

A2LA has accredited

ALTRIA CLIENT SERVICES (ALCS)

Richmond, VA

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 28th day of March 2016.

President and CEO
For the Accreditation Council
Certificate Number 660.01
Valid to March 31, 2018
Revised March 24, 2017

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