



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ENTHALPY ANALYTICAL, LLC.  
800-1 Capitola Drive  
Durham, NC 27713  
Clifford Baldrige Phone: 919-850-4392

CHEMICAL

Valid To: September 30, 2021

Certificate Number: 3198.01

In recognition of the successful completion of the A2LA evaluation process accreditation is granted to this laboratory to perform the following tests on electronic cigarette aerosol, electronic cigarette liquid, tobacco, and tobacco products:

<u>Test/Technology(ies)</u>	<u>Test Method(s)</u>
<b>Mainstream Cigarette Smoke</b>	
Aldehydes, Ketones, and Acrolein in Smoke by HPLC	ENT302, Coresta Recommended Method N°74
Ammonia in Smoke by IC	ENT304, HC T-101
Benzo(a)pyrene in Smoke by GC/MS	ENT204
Carbon Monoxide in Smoke by ND-IR	ENT508, ISO 8454
Cyanide in Smoke by Spectrometer	ENT055
Nicotine & Water in Smoke by GC	ENT181, ISO 10315, ISO 10362-1
Nitrosamines in Smoke by GC/MS	ENT211, Coresta Recommended Method N°63
PAHs in Smoke by GC/MS	ENT220
pH in Smoke	ENT056
Phenolics in Smoke by HPLC	ENT306, HC T-114
Sample Prep for Collection by Cambridge Pad Trapping	ENT502, ISO 4387, ISO 3402, ISO 3308
Semi-Volatile Organic Compounds in Smoke by GC/MS	ENT206, HC T-112
Volatile Organic Compounds in Smoke by GC/MS	ENT208, HC T-116, Coresta Recommended Method N°70

<u>Test/Technology(ies)</u>	<u>Test Method(s)</u>
<b>Tobacco, Tobacco Products, and Cigarette Filler</b>	
Ammonia in Tobacco by IC	ENT332, HC T-302
Benzo(a)pyrene in Tobacco by GC/MS	ENT 212
Carbonyl Compounds in Tobacco by HPLC	ENT303
Nicotine and Minor Alkaloids in Tobacco by GC/MS	ENT264
Nicotine in Tobacco by GC	ENT182, FR Vol.73, No. 51/Friday, 3/14/2008
Nitrate and Nitrite in Tobacco by IC	ENT334
Nitrosamines in Tobacco by GC/MS	ENT210, Coresta Recommended Method N°63
Oven Volatiles in Tobacco by Gravimetric	ENT046
pH Measurement in Tobacco	ENT058
<b>E-Cigarette Liquid and Aerosol</b>	
Aerosol Particle Size Analysis of ENDS	ENT520
Ammonia in E-Cigarette Aerosol by IC	ENT307
Ammonia in E-Cigarette Liquid by IC	ENT307
Benzo(a)pyrene in E-Cigarette Aerosol by GC/MS	ENT217
Benzo(a)pyrene in E-Cigarette Liquid by GC/MS	ENT217
Carbonyls in E-Cigarette Aerosol by HPLC/UV	ENT305
Carbonyls in E-Cigarette Liquid by HPLC/UV	ENT301
Collection of E-Cigarette Aerosol Using an Analytical Smoking Machine	ENT518
Esters in E-Liquids by GC/MS	ENT209
Esters in E-Cigarette Aerosol by GC/MS	ENT218
Glycidol in E-Cigarette Aerosol by GC/MS	AM ENT203
Glycidol in E-Cigarette Liquid by GC/MS	AM ENT203
Karl Fischer Titration of E-Cigarette Liquids	ENT072T, ASTM D-4017-02

<u>Test/Technology(ies)</u>	<u>Test Method(s)</u>
<b>E-Cigarette Liquid and Aerosol (cont.)</b>	
Karl Fischer Titration of Water in E-Cigarette Liquids and Aerosol	AM ENT073
Ketones in E-Cigarette Liquid by GC/MS	ENT225
Long Chain Acids in E-Liquids by GC/FID	ENT121
Nitrosamines in E-Cigarette Aerosol by GC/MS	ENT211
Nitrosamines in E-Cigarette Liquid by GC/MS	ENT211
Organic Acids in E-Cigarette Aerosol by IC	ENT327
Organic Acids in E-Cigarette Liquid by IC	ENT327
pH in E-Cigarette Aerosol	ENT056
pH in E-Cigarette Liquid	ENT058
Primary Constituents in E-Cigarette Aerosol by GC/FID & GC/TCD	ENT185
Primary Constituents in E-Cigarette Liquid by GC/FID & GC/TCD	ENT184
Steric Acid in E-Cigarette Aerosol by GC/FID	ENT123
Volatile Organic Compounds in E-Cigarette Aerosol by GC/MS	ENT208
Volatile Organic Compounds in E-Cigarette Liquid by GC/MS	ENT208
Volatile Organic Compounds in E-Cigarette Aerosol Collected on Sorbent Media (Low-Level) by GC/MS	ENT208A
Volatile Organic Compounds in E-Cigarette Liquids (Low-Level) by GC/MS	ENT208A
<b>Other Testing</b>	
Nicotine in the Gel by GC/MS	ENT265

Key:

FR = Federal Register

HC = Health Canada



# Accredited Laboratory

A2LA has accredited

**ENTHALPY ANALYTICAL, LLC.**

*Durham, NC*

for technical competence in the field of

**Chemical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *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 April 2017).



Presented this 23<sup>rd</sup> day of September 2019.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 3198.01  
Valid to September 30, 2021  
Revised August, 19 2020

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