



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ENTHALPY ANALYTICAL, INC.
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CHEMICAL

Valid To: September 30, 2019

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:

Mainstream Cigarette Smoke	
<u>Test/Technology(ies)</u>	<u>Test Method(s)</u>
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, ISO8454
Cyanide in Smoke by Spectrometer	ENT055
Nicotine & Water in Smoke by GC	ENT181, ISO10315, ISO10362-1
Nitrosamines in Smoke by GC/MS	ENT211, Coresta Recommended Method N°63
PAHs in Smoke by GC/MS	ENT220
Phenolics in Smoke by HPLC	ENT306, HC T-114
Sample Prep for Collection by Cambridge Pad Trapping	ENT502, ISO4387, ISO3402, ISO3308
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

Tobacco, Tobacco Products, and Cigarette Filler	
<u>Test/Technology(ies)</u>	<u>Test Method(s)</u>
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 in Tobacco by GC	ENT182, FR Vol.73, No. 51/Friday, 3/14/2008
Nicotine and Minor Alkaloids in Tobacco by GC/MS	ENT264
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
E-Cigarette Liquid and Aerosol	
<u>Test/Technology(ies)</u>	<u>Test Method(s)</u>
Ammonia in E-Cigarette Aerosol by IC	ENT307
Ammonia in E-Cigarette Liquid by IC	ENT331
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
Ketones in E-Cigarette Liquid by GC/MS	ENT225
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



<u>Test/Technology(ies)</u>	<u>Test Method(s)</u>
Organic Acids in E-Cigarette Liquid by IC	ENT327
Primary Constituents in E-Cigarette Aerosol by GC/FID & GC/TCD	ENT185
Primary Constituents in E-Cigarette Liquid by GC/FID & GC/TCD	ENT184
Volatile Organic Compounds in E-Cigarette Aerosol by GC/MS	ENT208
Volatile Organic Compounds in E-Cigarette Liquid by GC/MS	ENT208

Key:

FR = Federal Register

HC = Health Canada





Accredited Laboratory

A2LA has accredited

ENTHALPY ANALYTICAL, INC.

Durham, NC

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *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 12th day of September 2017.

A handwritten signature in black ink, appearing to read "L. J. ...", written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 3198.01
Valid to September 30, 2019
Revised October 16, 2017

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