

GLOBAL LABORATORY



Services, Inc.

Report of Analysis

Address: 2107 Black Creek Road Wilson, NC 27893

Country: USA

Phone: 252-234-4950

Fax: 252-234-4959

Report Date: November 4, 2016

Customer : Shenzen Smoore Technology Co. Ltd
2 Floor, Building 8, Dongcai Industrial Park
Gushu Town, Baoan, Shenzhen, China 518102

Requestor: Eve Wang/Peter Beckett

Received Date: October 25, 2016

Test Date: October 20, 2016 – October 31, 2016

Methods Used

LP-717 : Determination of Nicotine, Menthol, Propylene Glycol, Glycerol, Water, and of Diethylene Glycol and Ethylene Glycol Impurities in E-Cigarette Formulations and Smoke/Vapor Samples

Method Synopsis

Diethylene glycol and ethylene glycol were determined by aerosol generated by e-cigarette device. Smoking regime used: 55mL puff, 2 sec duration, and 30 sec interval. Aerosol was collected (a total of 50 inhalations) onto a Cambridge filter pad and extracted with 2-isopropanol containing internal standard. Sample analyzed on GC-FID/TCD.

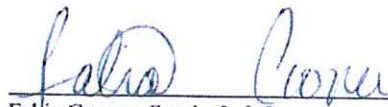
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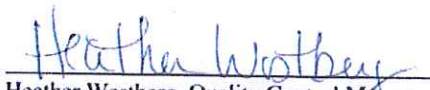
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All analytical methods are performed under controlled conditions to consistently produce accurate and reliable results to the best of our ability.
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Vape E-liquid Basic Constituents Results

GLS#	Sample ID	Ethylene Glycol mg/inhalation	Diethylene Glycol mg/inhalation
16625-16	ESTOC tank fitted with Ceramic SS316 0.6ohm 40W	BQL	BQL
16626-16	Doubloon tank fitted with Traditional Cotton Clapton 0.5ohm 35W	BQL	BQL
16627-16	Drizzle Kit fitted with Ceramic SS316 1.3ohm 13W	BQL	BQL
16628-16	Drizzle Kit fitted with Traditional Cotton Clapton 1.4ohm 13W	BQL	BQL

BQL-Below Quantitation Limit


Fabia Cooper, Smoke Lab Supervisor


Heather Westberg, Quality Control Manager

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Report of Analysis

Address: 2107 Black Creek Road Wilson, NC 27893

Country: USA

Phone: 252-234-4950

Fax: 252-234-4959

Report Date: October 31, 2016

Amended Report Date: November 10, 2016

Customer : Shenzhen Smoore Technology Co. Ltd
2 Floor, Building 8, Dongcai Industrial Park
Gushu Town, Baoan, Shenzhen, China 518102

Requestor: Eve Wang/Peter Beckett

Received Date: October 25, 2016

Test Date: October 20, 2016 – October 31, 2016

Methods Used

LP-721 : Determination of Selected Carbonyls in E-cigarette Related Samples

Method Synopsis

Acrolein, formaldehyde, acetaldehyde, acetyl propionyl, and diacetyl were determined by aerosol generated by e-cigarette device. Smoking regime used: 55mL puff, 2 sec duration, and 30 sec interval. Aerosol was collected (a total of 50 inhalations) into dual impingers containing an acidified solution of 2,4-dinitrophenylhydrazine, which derivatized the carbonyls. An aliquot of impinger solution is combined with Trizma buffer and the sample is analyzed on HPLC-UV.

Amended: Diacetyl was reported previous on vape analysis. Further investigation using GCMS with scan ranges 0-350 amu were used to dispute the Diacetyl results. Below are chromatograms and spectral matches for representation.

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Vape Carbonyls Results

GLS#	Sample ID	Formaldehyde µg/inhalation	Acetaldehyde µg/inhalation	Acrolein µg/inhalation	Acetyl Propionyl µg/inhalation	Diacetyl µg/inhalation
16625-16	ESTOC tank fitted with Ceramic SS316 0.6ohm 40W	0.50	0.15	0.07	BQL	BQL
16626-16	Doublon tank fitted with Traditional Cotton Clapton 0.5ohm 35W	0.40	0.14	0.08	BQL	BQL
16627-16	Drizzle Kit fitted with Ceramic SS316 1.3ohm 13W	0.45	0.60	0.04	BQL	BQL
16628-16	Drizzle Kit fitted with Traditional Cotton Clapton 1.4ohm 13W	0.11	0.03	BQL	BQL	BQL

BQL-Below Quantitation Limit

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Services, Inc.



Report of Analysis

Address: 2107 Black Creek Road Wilson, NC 27893

Country: USA

Phone: 252-234-4950

Fax: 252-234-4959

Report Date: November 2, 2016

Customer : Shenzen Smoore Technology Co. Ltd
2 Floor, Building 8, Dongcai Industrial Park
Gushu Town, Baoan, Shenzhen, China 518102

Requestor: Eve Wang/Peter Beckett

Received Date: October 25, 2016

Test Date: October 20, 2016 – October 31, 2016

Methods Used

LP-731 : Procedure for the Collection of Vapor Generated from Electronic Nicotine Delivery Systems (ENDS) for Metal Analysis

Method Synopsis

Aluminum, chromium, iron, nickel, and tin were determined by aerosol generated by e-cigarette device. Smoking regime used: 55mL puff, 2 sec duration, and 30 sec interval. Aerosol was collected (a total of 50 inhalations) onto a fluoropore membrane filter with dual impingers setup containing 10% nitric acid trapping solution. Sample analyzed on ICP-MS.

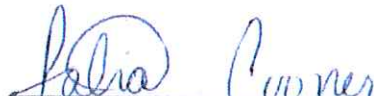
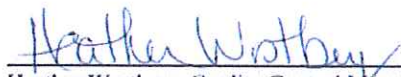
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Vape Metals Results

GLS#	Sample ID	Aluminum ng/inhalation	Chromium ng/inhalation	Iron ng/inhalation	Nickel ng/inhalation	Tin ng/inhalation
16625-16	ESTOC tank fitted with Ceramic SS316 0.6ohm 40W	7.55	7.33	5.69	2.59	BQL
16626-16	Doubloon tank fitted with Traditional Cotton Clapton 0.5ohm 35W	3.32	3.88	10.6	2.25	BQL
16627-16	Drizzle Kit fitted with Ceramic SS316 1.3ohm 13W	1.62	1.21	BQL	3.48	BQL
16628-16	Drizzle Kit fitted with Traditional Cotton Clapton 1.4ohm 13W	BQL	1.91	BQL	3.82	BQL

BQL-Below Quantitation Limit


Fabia Cooper, Smoke Lab Supervisor
Heather Westberg, Quality Control Manager

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