E-Cigarette Aerosol Analysis Report

Applicant: **N0N Inc.**

Address: **601-80 Rue Queen, Montreal, QC, H3C 2N5, CANADA**

The following sample was submitted and identified by/on behalf of the client as:

Sample Name:	NO SAINT Limoncello Pod
Model No.:	N0N01N1
Flavor:	Limoncello
Nicotine Conc.:	20mg/mL
Power level in testing:	Voltage/Wattage of tested sample is un-adjustable
Manufacturer:	Shenzhen Eigate Technology Co., Ltd.
Address:	Floor 1-4, Building 3, No.14 Jian'an Road, Shajing Sub-district, Bao'an District, Shenzhen, Guangdong Province, 518103 China.
Sample Received Date:	2024.11.22
Testing Period:	2024.11.22—2024.12.03
Test Method:	Please refer to the following page(s).
Test Result(s):	Please refer to the following page(s).

Test Items		Test Requested
1	Nicotine consistency	Emission testing according to Article 20 of Tobacco Product Directive (2014/40/EU) and Part 6 of the Tobacco and Related Products Regulations 2016 (TRPR)
2	Carbonyl Compounds: Formaldehyde, Acetaldehyde, Acrolein, Crotonaldehyde	
3	Metals: Aluminum, Chromium, Iron, Nickel, Tin, Lead, Cadmium, Arsenic, Antimony, Mercury, Copper	
4	Diacetyl and Pentane 2,3 dione	
5	Ethylene Glycol and Diethylene Glycol	
6	Specific Nitrosamines: N-nitrosonornicotine(NNN), 4-(N-methylnitrosamino)-1-(3-pyridyl)-1-butanone(NNK), N-nitrosoanatabine(NAT), N-nitrosoanabasine(NAB)	
7	VOC substances: Toluene, Benzene, 1,3-Butadiene, Isoprene	

Checked by

Evan Fang

Approved by

Ryan Zhang

Technical Manager

Test Conditions:

Vaping Regimens

Set vaping machine parameters according to customer requirements.

Puff Duration	3.0s±0.1s
Puff Volume	100mL±0.3mL
Puff Frequency	30s±0.5s
Puff of Each Group	20
Group Interval Time	300s±120s
Maximum Flow	33.3mL/s±1.8mL/s
Pressure Drop	< 1000 Pa±50 Pa
Group	5
Total Number of Puff	100
Total Duration of Vaporization	300s

Temperature & Humidity Conditions

The testing will be performed in a space with relatively stable temperature and humidity environment,

Condition	Vaping Room	Preparation Room	Testing Room
Temperature (°C)	22±2	20-30	20-30
Relative Humidity (%)	60±5	30-70	30-70

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Test Methods and Instruments:

Test Items	Method of Aerosol Testing	Instruments
Nicotine consistency	Afnor XP D90-300-3:2021 Annex A.3	GC-FID
Formaldehyde Acetaldehyde Acrolein Crotonaldehyde	Afnor XP D90-300-3:2021 Annex A.5	HPLC-UV
Aluminum Chromium Iron Nickel Tin Lead Cadmium Arsenic Antimony Mercury Copper	Afnor XP D90-300-3:2021 Annex A.6	ICP-MS
Diacetyl Pentane 2,3 dione	Afnor XP D90-300-3:2021 Annex A.4	GC-MS
Ethylene Glycol Diethylene Glycol	SOP-CL-090	GC-FID
N-nitrosonornicotine(NNN) 4-(N-methylnitrosamino)-1-(3-pyridyl)-1-butanone(NNK) N-nitrosoanatabine(NAT) N-nitrosoanabasine(NAB)	CORESTA Recommended Method No. 75(2022)	LC-MS/MS
Toluene Benzene 1,3-Butadiene Isoprene	CORESTA Recommended Method No.70 (2019)	GC-MS

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Test Results

1. Nicotine consistency

Test Item	CAS No.	LOD mg/100puffs	LOQ mg/100puffs	Result(s) 1	TPM mg/100 puffs
Nicotine	54-11-5	0.00622	0.0198	3.74	224

2. Carbonyl Compounds Content(s)

Test Item	CAS No.	Unit	LOD	LOQ	Result(s)	Limit
Formaldehyde	50-00-0	μg/100puffs	0.252	0.836	4.05	100
Acetaldehyde	75-07-0	μg/100puffs	0.420	1.40	5.74	1600
Acrolein	107-02-8	μg/100puffs	0.392	1.31	N.D.	8
Crotonaldehyde	4170-30-3	μg/100puffs	1.43	4.54	N.D.	-

3. Metals Content(s)

Test Item	CAS No.	Unit	LOD	LOQ	Result(s)	Limit
Aluminum(Al)	7429-90-5	μg/100puffs	0.025	0.080	N.D.	-
Chromium(Cr)	7440-47-3	μg/100puffs	0.0088	0.028	N.D.	1.5
Iron(Fe)	7439-89-6	μg/100puffs	0.017	0.055	N.D.	-
Nickel(Ni)	7440-02-0	μg/100puffs	0.017	0.054	N.D.	2.5
Tin(Sn)	7440-31-5	μg/100puffs	0.028	0.090	N.D.	-
Lead(Pb)	7439-92-1	μg/100puffs	0.0063	0.020	N.D.	2.5
Cadmium(Cd)	7440-43-9	μg/100puffs	0.0095	0.030	N.D.	1.5
Arsenic(As)	7440-38-2	μg/100puffs	0.010	0.032	N.D.	1
Antimony(Sb)	7440-36-0	μg/100puffs	0.0079	0.025	N.D.	10
Mercury(Hg)	7439-97-6	μg/100puffs	0.0056	0.018	N.D.	0.5
Copper(Cu)	7440-50-8	μg/100puffs	0.030	0.095	N.D.	-

4. Diacetyl and Pentane 2,3 dione Content(s)

Test Item	CAS No.	Unit	LOD	LOQ	Result(s)	Limit
Diacetyl	431-03-8	μg/100puffs	3.91	12.4	N.D.	245
Pentane 2,3 dione	600-14-6	μg/100puffs	7.83	24.9	N.D.	-

5. Ethylene Glycol and Diethylene Glycol Content(s)

Test Item	CAS No.	Unit	LOD	LOQ	Result(s)
Ethylene Glycol	107-21-1	μg/100puffs	7.77	24.7	N.D.
Diethylene Glycol	111-46-6	μg/100puffs	9.47	30.1	N.D.

6. Specific Nitrosamines Content(s)

Test Item	CAS No.	Unit	LOD	LOQ	Result(s)
N-nitrosonornicotine(NNN)	80508-23-2	μg/100puffs	0.0026	0.0083	N.D.
4-(N-methylnitrosamino)-1-(3-pyridyl)-1-butanone(NNK)	64091-91-4	μg/100puffs	0.0029	0.0092	N.D.
N-nitrosoanatabine(NAT)	887407-16-1	μg/100puffs	0.0034	0.011	N.D.
N-nitrosoanabasine(NAB)	37620-20-5	μg/100puffs	0.0014	0.0044	N.D.

7. VOCs Content(s)

Test Item	CAS No.	Unit	LOD	LOQ	Result(s)
Toluene	108-88-3	μg/100puffs	1.83	5.84	N.D.
Benzene	71-43-2	μg/100puffs	2.71	8.64	N.D.
1,3-Butadiene	106-99-0	μg/100puffs	3.34	10.6	N.D.
Isoprene	78-79-5	μg/100puffs	2.26	7.19	N.D.

Note:
- mg = milligram
- µg = Microgram
- N.D. = Not Detected (less than LOD)
- LOD = Limit of Detection
- LOQ = Limit of Quantification
- TPM = Total particulate matter
- Limits of the test items refer to Afnor XP D90-300-3:2021

Specimen Description:

No.1 NO SAINT Limoncello Pod

Method Summary

1. **Nicotine in Aerosol**

   According to Afnor XP D90-300-3:2021 Annex A.3, wipe the clamp with isopropyl alcohol. Let stand for a minute. The aerosol generated by the e-cigarette is absorbed by the Cambridge filter. Remove the Cambridge filter and place it into a centrifuge tube, add 20 mL of Isopropyl alcohol and 0.2ml internal standard stock solution. Shaken at 210 rpm for 30 min and the solution was filtered and analyzed by GC-FID.

2. **Carbonyl Compounds in Aerosol**

   According to Afnor XP D90-300-3:2021 Annex A.5, wipe the clamp with isopropyl alcohol. Let stand for a minute. The aerosol generated by the e-cigarette is absorbed by the impactor containing 40mL acidified solution of 2, 4-dinitrophenylhydrazine (DNPH) in acetonitrile. The solution was filtered and analyzed by HPLC-UV.

3. **Metals in Aerosol**

   According to Afnor XP D90-300-3:2021 Annex A.6, Connect two impactors in series with 20 mL nitric acid added in advance to collect aerosols. Set the parameters of the vaping machine and start the test. After aerosols collection is completed, the solution was filtered and analyzed by ICP-MS.

4. **Diacetyl and Pentane 2,3 dione in Aerosol**

   According to Afnor XP D90-300-3:2021 Annex A.4, the aerosol generated by the e-cigarette is absorbed by the impactor containing 20mL methanol. The solution was filtered and analyzed by GC-MS.

5. **Ethylene Glycol and Diethylene Glycol in Aerosol**

   According to SOP-CL-090, wipe the clamp with isopropyl alcohol. Let stand for a minute. 20 ml of methanol was added to the impactor and placed in series with the Cambridge filter to absorb the aerosol. The Cambridge filter was removed and placed in methanol, shaken at 210 rpm for 30 min, and the solution was filtered and analyzed by GC-FID.

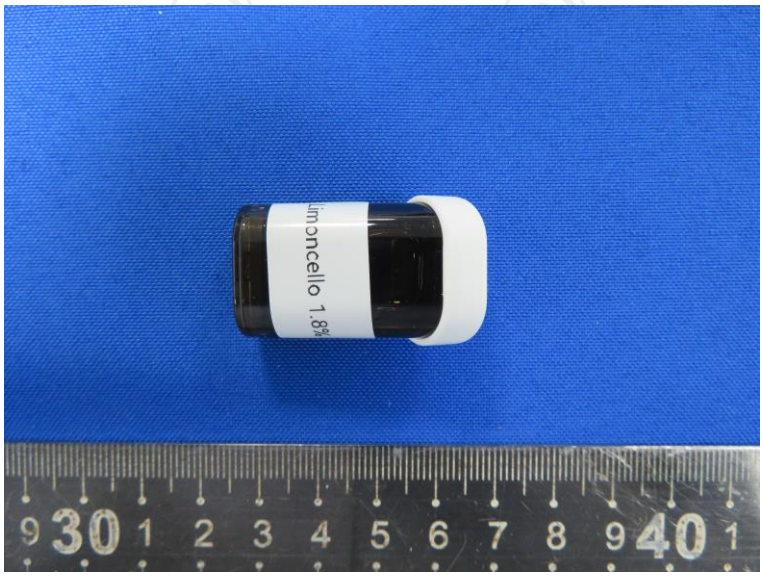
6. **Specific Nitrosamines in Aerosol**

   According to CORESTA Recommended Method No. 75(2022), wipe the clamp with isopropyl alcohol. Let stand for a minute. The aerosol generated by the e-cigarette is absorbed by Cambridge filter, and the Cambridge filter was removed and placed in an Erlenmeyer flask, added to 20 mL of 100 mM ammonium acetate solution, shaken at 210 rpm for 60 min, filtered and analyzed by LC-MS/MS.

7. **VOCs in Aerosol**

   According to CORESTA Recommended Method No.70 (2019), wipe the clamp with isopropyl alcohol. Let stand for a minute. 20 ml of methanol was added to the impactor and placed in series with the Cambridge filter to absorb the aerosol. The Cambridge filter was removed and placed in methanol, shaken at 210 rpm for 30 min, and the solution was filtered and analyzed by GC-MS.

Photo(s) of the sample(s)



***** End of Report *****

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