

E-Cigarette Aerosol Analysis Report

Report No. : TCT201105C030

Date : Nov. 11, 2020

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Applicant: GEEKVAPE TECHNOLOGY CO., LTD.**Address:** 7th Floor,#3 west Block, LaoBing Building, XingYe Rd#3012, Bao'an District, Shenzhen, Guangdong, China**The following sample was submitted and identified by/on behalf of the client as:**

Sample Name: Wenax C1 kit
Model No.: Wenax C1 kit
MOD: 5-50W
Tank: 3ml PCTG
Coil: 1:0.6ohm KA1; 2:0.8ohm KA1
Power level in testing: Blue light
Adjustable air inlet or not: Yes
Trade Mark: GEEKVAPE
Sample Received Date: 2020.11.05
Testing Period: 2020.11.05—2020.11.11
Test Method: Please refer to the following page(s).
Test Result(s): Please refer to the following page(s).

| Test Items | | Test Requested |
|------------|---|--|
| 1 | Carbonyl Compounds: Formaldehyde, Acetaldehyde, Acrolein, Crotonaldehyde | Emission testing according to Article 20 of Tobacco Product Directive (2014/40/EU) |
| 2 | Metals: Aluminum, Chromium, Iron, Nickel, Tin, Lead, Cadmium, Arsenic, Antimony | |
| 3 | Nicotine consistency | |

Checked by



Noel Yin

Signed for and on behalf of TCT

Kim Zhang
Technical Manager

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Test Results:

Test Condition for test items except Nicotine consistency test:

With reference to the CORESTA RECOMMENDED METHOD N° 81 method parameter, Afnor standardization XP D90-300-3, International Standard ISO 20768:2018 and PD CEN/TR 17236:2018, a smoke machine was used to collect the vapor.

| | |
|--------------------------------|------------------|
| Puff Duration | 3.0s±0.1s |
| Puff Volume | 55mL±0.3mL |
| Puff Frequency | 30s±0.5s |
| Puff of Each Group | 20 |
| Group Interval Time | 300s±120s |
| Maximum Flow | 18.5mL/s±1.0mL/s |
| Pressure Drop | < 50hPa |
| Group | 5 |
| Total Number of Puff | 100 |
| Total Duration of Vaporization | 300s |

The temperature and relative humidity of the test atmosphere during machine preparation and testing were kept within the following limits: temperature $\pm 2^{\circ}\text{C}$, relative humidity $\pm 5\%$

Sample Description:

No.1 Wenax C1 kit with 0.6ohm KA1

No.2 Wenax C1 kit with 0.8ohm KA1

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1. Carbonyl Compounds Content(s)

Method: 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 reverse phase high - performance liquid chromatography and determined using a UV detector.

| Test Item | CAS No. | Unit | LOD | LOQ | Content(s) | |
|----------------|-----------|-------------|-------|-----|------------|------|
| | | | | | No.1 | No.2 |
| Formaldehyde | 50-00-0 | ug/100puffs | 0.667 | 2 | 7.00 | 10.7 |
| Acetaldehyde | 75-07-0 | ug/100puffs | 0.667 | 2 | 4.53 | 3.43 |
| Acrolein | 107-02-8 | ug/100puffs | 0.667 | 2 | ND | ND |
| Crotonaldehyde | 4170-30-3 | ug/100puffs | 0.667 | 2 | ND | ND |

- Note:
- ug = Microgram
 - ND = Not Detected (lower than LOD)
 - LOD = Limit of Detection
 - LOQ = Limit of Quantitation
 - E-Liquid Used: E-liquid B (AFNOR XP D90-300-3)

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2. Metals Content(s)

Method: Wipe the clamp with isopropyl alcohol. Let stand for a minute. 20 ml of nitric acid 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 nitric acid, shaken at 210 rpm for 30 min, and the solution was filtered and analyzed by ICP-MS.

| Test Item | CAS No. | Unit | LOD | LOQ | Content(s) | |
|--------------|-----------|-------------|-------|------|------------|------|
| | | | | | No.1 | No.2 |
| Aluminum(Al) | 7429-90-5 | ug/100puffs | 0.025 | 0.25 | ND | ND |
| Chromium(Cr) | 7440-47-3 | ug/100puffs | 0.005 | 0.05 | ND | ND |
| Iron(Fe) | 7439-89-6 | ug/100puffs | 0.005 | 0.05 | ND | ND |
| Nickel(Ni) | 7440-02-0 | ug/100puffs | 0.025 | 0.25 | ND | ND |
| Tin(Sn) | 7440-31-5 | ug/100puffs | 0.25 | 2.5 | ND | ND |
| Lead(Pb) | 7439-92-1 | ug/100puffs | 0.025 | 0.25 | ND | ND |
| Cadmium(Cd) | 7440-43-9 | ug/100puffs | 0.005 | 0.05 | ND | ND |
| Arsenic(As) | 7440-38-2 | ug/100puffs | 0.025 | 0.25 | ND | ND |
| Antimony(Sb) | 7440-36-0 | ug/100puffs | 0.025 | 0.25 | ND | ND |

- Note:
- ug = Microgram
 - ND = Not Detected (lower than LOD)
 - LOD = Limit of Detection
 - LOQ = Limit of Quantitation
 - E-Liquid Used: E-liquid B (AFNOR XP D90-300-3)

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3. Nicotine Consistency Test

Test Condition: With reference to the CORESTA RECOMMENDED METHOD N° 81 method parameter and Afnor standardization XP D90-300-3, a smoke machine was used to collect the vapor.

| | |
|--------------------|------------------|
| Puff Duration | 3.0s±0.1s |
| Puff Volume | 55mL±0.3mL |
| Puff of Each Group | 20 |
| Maximum Flow | 18.5mL/s±1.0mL/s |
| Pressure Drop | < 50hPa |

The temperature and relative humidity of the test atmosphere during machine preparation and testing were kept within the following limits: temperature $\pm 2^{\circ}\text{C}$, relative humidity $\pm 5\%$

Method: 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.

| Sample No. | Nicotine(CAS No.:54-11-5) Contents(mg/20Puffs) | | | | | | Total (mg/100puffs) |
|--------------|--|---------|----------|---------|----------|------|------------------------|
| | Group 1* | Group 2 | Group 3* | Group 4 | Group 5* | AVG | |
| No.1 | 2.38 | 2.34 | 2.33 | 2.35 | 2.37 | 2.35 | 11.8 |
| Deviation(%) | 1.2 | - | 1.1 | - | 0.5 | - | - |

| Sample No. | Nicotine(CAS No.:54-11-5) Contents(mg/20Puffs) | | | | | | Total (mg/100puffs) |
|--------------|--|---------|----------|---------|----------|------|------------------------|
| | Group 1* | Group 2 | Group 3* | Group 4 | Group 5* | AVG | |
| No.2 | 2.34 | 2.35 | 2.33 | 2.31 | 2.32 | 2.33 | 11.7 |
| Deviation(%) | 0.3 | - | 0.1 | - | 0.4 | - | - |

- Note:
- mg = milligram
 - ND = Not Detected (lower than LOD)
 - LOD = Limit of Detection = 0.01mg/20Puffs
 - LOQ = Limit of Quantitation = 0.1mg/20Puffs
 - 1group = 20puffs
 - * Values used for determination of consistency of nicotine emission
 - E-Liquid Used: E-liquid A (AFNOR XP D90-300-3)
 - Under the conditions of the test and with reference to AFNOR XP D90-300-3, the electronic cigarette delivers a dose of nicotine at consistent levels.

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Photo(s) of the sample(s)



Wenax C1 kit with 0.6ohm KA1/0.8ohm KA1

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

Remark: This report is considered invalidated without the Special Seal for Inspection of the TCT. This report shall not be altered, increased or deleted. The results shown in this test report refer only to the sample(s) tested. Without written approval of TCT, this test report shall not be copied except in full and published as advertisement.