# E-Cigarette Aerosol Analysis Report



**Applicant:** **Shenzhen Geekvape Technology Co.,Ltd**

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

| | |
|---|---|
| Sample Name: | GEEKVAPE U1.1 Cartridge |
| Model No.: | GEEKVAPE U1.1 Cartridge |
| Tank: | 2ml |
| Coil: | 1.1ohm FeCrAl (9-12W) |
| Power level in testing: | Voltage/Wattage of tested sample is un-adjustable |
| Adjustable air inlet or not: | No |
| Trade Mark: | GEEKVAPE |
| Sample Received Date: | 2022.06.17 |
| Testing Period: | 2022.06.17—2022.06.24 |
| Test Method: | Please refer to the following page(s). |
| Test Result(s): | Please refer to the following page(s). |
| Remark: | Test data of this report was extracted from report No.TCT220617C007. |

| 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

Justin

Approved by

Ryan 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 Nº 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 ±2℃, relative humidity ±5%

**Specimen Description:**
No.1 OBELISK U with 1.1ohm FeCrAl (9-12W)

## 1. Carbonyl Compounds Content(s)

Test method: According to XP D90-300-3:2016. 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 | MDL | Content(s) |
|---|---|---|---|---|
| | | | | No.1 |
| Formaldehyde | 50-00-0 | μg/100puffs | 0.5 | 7.30 |
| Acetaldehyde | 75-07-0 | μg/100puffs | 0.5 | 1.56 |
| Acrolein | 107-02-8 | μg/100puffs | 0.5 | ND |
| Crotonaldehyde | 4170-30-3 | μg/100puffs | 0.5 | ND |

Note:
- μg = Microgram
- ND = Not Detected (less than MDL)
- MDL = Method Detection Limit
- E-Liquid Used: E-liquid B (AFNOR XP D90-300-3)

**2. Metals Content(s)**

Test method: According to Afnor XP D90-300-3:2016 Annex A.6, 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 | MDL | Content(s) |
|---|---|---|---|---|
| | | | | No.1 |
| Aluminum(Al) | 7429-90-5 | μg/100puffs | 0.01 | ND |
| Chromium(Cr) | 7440-47-3 | μg/100puffs | 0.01 | ND |
| Iron(Fe) | 7439-89-6 | μg/100puffs | 0.01 | ND |
| Nickel(Ni) | 7440-02-0 | μg/100puffs | 0.01 | ND |
| Tin(Sn) | 7440-31-5 | μg/100puffs | 0.01 | ND |
| Lead(Pb) | 7439-92-1 | μg/100puffs | 0.01 | ND |
| Cadmium(Cd) | 7440-43-9 | μg/100puffs | 0.01 | ND |
| Arsenic(As) | 7440-38-2 | μg/100puffs | 0.01 | ND |
| Antimony(Sb) | 7440-36-0 | μg/100puffs | 0.01 | ND |

Note:
- μg = Microgram
- ND = Not Detected (less than MDL)
- MDL = Method Detection Limit
- E-Liquid Used: E-liquid B (AFNOR XP D90-300-3)

### 3. Nicotine Consistency Test

Test Condition: With reference to the CORESTA RECOMMENDED METHOD Nº 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 |

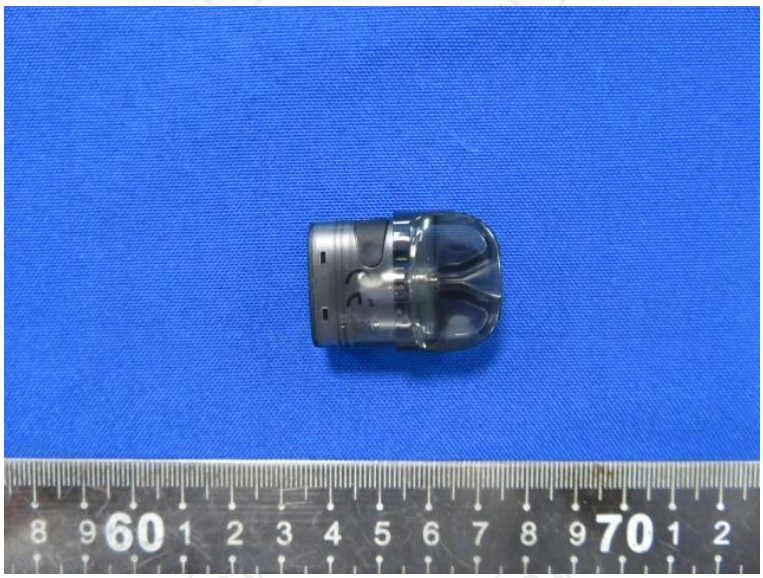
The temperature and relative humidity of the test atmosphere during machine preparation and testing were kept within the following limits: temperature ±2℃, relative humidity ±5%

Test method: According to Afnor XP D90-300-3:2016 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.

| 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 | 1.84 | 1.83 | 1.80 | 1.77 | 1.75 | 1.80 | 8.99 |
| Deviation(%) | 2.5 | - | 0.2 | - | 2.7 | - | - |

Note:
- mg = milligram
- ND = Not Detected (less than MDL)
- MDL = Method Detection Limit = 0.05mg/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.

# Photo(s) of the sample(s)




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

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