



# Test Report 20160516CHE-4

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China  
Tel: +86-755-28230888 Fax: +86-755-28230886 E-mail: [info@uttlab.com](mailto:info@uttlab.com) <http://www.uttlab.com>

# TEST REPORT

The following samples were submitted and identified on behalf of the clients as

**Sample Name:** E-cigarette Atomizer Mate tank

**Internal Reference No.:** AT002

**Applicant :**

**Shenzhen Artery Technology Co., Ltd.**

**Room 510-512, Building C, Bao'an New Generation Information Industry  
Park, Chuangye 2 Road West, Bao'an 28 District, Shenzhen.**

**Sample Received Date:** 2016-5-14

**Test Period:** 2016-5-16 to 2016-5-18

**Test Method:** EU Directive 2014/40  
Standard XP D90-300 part 3 (Working draft 2016-03-25)

**Test Result:** Please refer to next page(s).

**Test Requested:** EU Battery Directive (2006/66/EC&2013/56/EU)on  
Mercury,Cadmium,Lead Content and Labelling.

Tested by:

*Sophie Shi*

Sophie Shi  
Chemical Engineer

Reviewed by:

*Rain Xi*

Rain Xi  
Senior Chemical Engineer

Approved by:

*Billy Li*

Billy Li  
Technical Director

Date:



**Approved Date: 2016-5-16**

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## 2. LIST OF TESTS

Tests performed are summarized in table1.

Tests performed	Standards
Determination of nicotine content in emissions. Consistency of the emissions	XP D90-300 part 3 (Working draft 2016-03-25)
Determination of diacetyl, acetyl propionyl and acetoin content in emissions.	XP D90-300 part 3 (Working draft 2016-03-25)
Determination of formaldehyde, acetaldehyde and acrolein contents in emissions.	XP D90-300 part 3 (Working draft 2016-03-25)
Determination of antimony, nickel, chromium, cadmium, lead and arsenic contents in emissions.	XP D90-300 part 3 (Working draft 2016-03-25)

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### 3. TESTS

#### 3.1. PROCEDURES

Procedures used by UnionTrust are in conformity with the listed standard. Emissions tests were carried out using an analytical smoking machine Cerulean CR20. Tests were duplicated for each preparation week 16 and 17/2016.

#### 3.2. RESULTS

The results are shown in the tables on the following pages.

##### 3.2.1 Determination of nicotine content in emissions and consistency of the emissions

Tests	Nicotine (mg/20 puffs)	Nicotine (mg/100 puffs)
1	2.54*	11.41
	2.15*	
	2.54*	
	2.32*	
	1.86	
2	1.96	10.46
	2.54*	
	2.11*	
	1.89	
	1.96	

Table 2 : Results \* values used for determination of consistency of nicotine emission.

Measured content of nicotine (CAS# 54-11-5) in emission :  $11.6 \pm 1.0$  mg/100 puffs

Under the conditions of the test, the electronic cigarette "Mate tank" delivers a dose of nicotine at consistent levels.

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### 3.2.2 Determination of diacetyl, acetyl propionyl and acetoin content in emissions

	<b>Diacetyl</b> (µg/200 puffs)	<b>Acetyl propionyl</b> (µg/200 puffs)	<b>Acetoin</b> (µg/200 puffs)
1	< 6	< 50	< 50
2	< 6	< 50	< 50

Table 3 : Results

Measured contents in emissions :

- diacetyl (CAS# 431-03-8) < 6 µg/200 puffs;
- acetyl propionyl (CAS# 600-14-6) < 50 µg/200 puffs;
- acetoin (CAS# 513-86-0) < 50 µg/200 puffs.

### 3.2.3 Determination of formaldehyde, acetaldehyde and acrolein contents in emissions

<b>Tests</b>	<b>Formaldehyde</b> (µg/200 puffs)	<b>Acetaldehyde</b> (µg/200 puffs)	<b>Acrolein</b> (µg/200 puffs)
1	20	< 40	< 8
2	24	< 40	< 8

Table 4 : Results

Measured contents in emissions :

- formaldehyde (CAS #50-00-0) 22 ± 2 µg/200 puffs;
- acetaldehyde (CAS #75-07-0) < 40 µg/200 puffs;
- acrolein (CAS #107-02-8) < 8 µg/200 puffs.

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### 3.2.4 Determination of antimony, nickel, chromium, cadmium, lead and arsenic contents in Emissions

Tests	Antimony (Sb) (µg/200 puffs)	Nickel (Ni) (µg/200 puffs)	Chromium (Cr) (µg/200 puffs)	Cadmium (Cd) (µg/200 puffs)	Lead (Pb) (µg/200 puffs)	Arsenic (As) (µg/200 puffs)
1	< 1	< 2	< 0.1	< 0.1	< 0.4	< 0.4
2	< 1	< 2	< 0.1	< 0.1	< 0.4	< 0.4

Table 5 : Results

Measured contents in emissions :

- antimony (CAS #7440-36-0) < 1 µg/200 puffs;
- nickel (CAS #7440-02-0) < 2 µg/200 puffs;
- chromium (CAS #7440-47-3) < 0.1 µg/200 puffs;
- cadmium (CAS #7440-43-9) < 0.1 µg/200 puffs;
- lead (CAS #7439-92-1) < 0.4 µg/200 puffs;
- arsenic (CAS #7440-38-2) < 0.4 µg/200 puffs.

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# TEST REPORT

## Photo of the Submitted Sample

### **E-cigarette Mate tank**

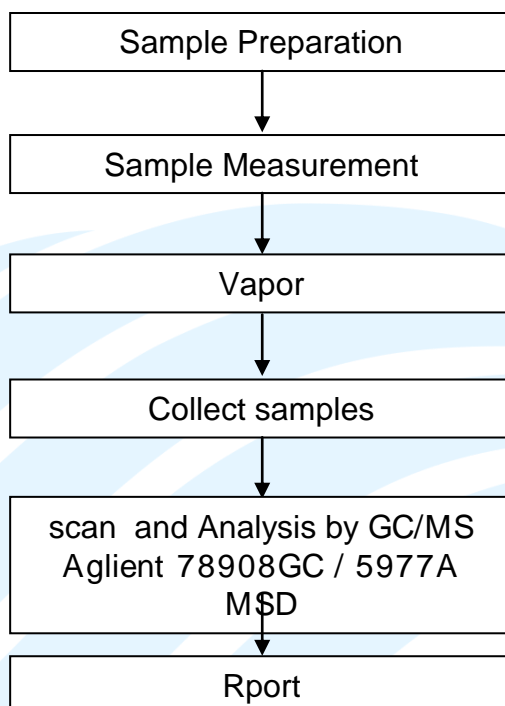
- Tank : 2 ml;
- Diameter : 22mm;
- Voltage:5.0 V
- Resistance kanthal 0.5  $\Omega$
- Power: 30-50W;
- Air inflow adjustable.



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# TEST REPORT



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

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