

TEST REPORT

Applicant :

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Request date :

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Subject :

Analysis of e-cigarette emissions for notification purpose.

Sample identification :

E-cigarette EK009
Resistance EA012

Reference documents :

EU Directive 2014/40
Standard XP D90-300 part 3 (2016-07-26)

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It contains 6 pages.**

1. SAMPLE DESCRIPTION

Samples were received at the laboratory week 32/2016.

3 e-cigarettes with spare resistances showing the following particulars :

- **E-cigarette EK009**
 - Tank : 2 ml;
 - Power adjustable : 1,3W-60W;
 - Air inflow adjustable.
- **Resistance EA012**
 - 0.5 Ω^* ;
 - 30-60 W



* Using sub ohm coils ($\leq 0.5\Omega$) at maximal recommended values of wattage and/or temperature produce a huge amount of vapor. This amount of vapor can not be vaped during 3s puffs under reasonable use of the device. Furthermore, the device may stop because of security program. In order to follow as much as possible AFNOR XP 90-300-3 standard and provide results as relevant as possible for sub ohm coils, the manufacturer recommends to proceed the test with the lowest wattage recommended for atomizer head in WC (Wattage control) mode.

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 (2016-07-26)
Determination of diacetyl, acetyl propionyl and acetoin content in emissions.	XP D90-300 part 3 (2016-07-26)
Determination of formaldehyde, acetaldehyde and acrolein contents in emissions.	XP D90-300 part 3 (2016-07-26)
Determination of antimony, nickel, chromium, cadmium, lead and arsenic contents in emissions.	XP D90-300 part 3 (2016-07-26)

Table n° 1 : Tests performed

To be followed on next page

3. TESTS

3.1. PROCEDURES

Procedures used by LNE are in conformity with the listed standard.

Emissions tests were carried out using an analytical smoking machine Cerulean CET18 with power of electronic cigarette fixed at 30 W.

Tests were duplicated for each preparation between week 38 and 40/2016.

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	1,64*	7,4
	0,70	
	1,74*	
	1,70	
	1,65*	
2	2,17*	10,7
	2,08	
	2,03*	
	2,16	
	2,28*	

Table 2 : Results

* values used for determination of consistency of nicotine emission.

Measured content of nicotine (CAS# 54-11-5) in emission : $9,1 \pm 0,8$ mg/100 puffs

Under the conditions of the test, the electronic cigarette **EK009** with resistance **EA012** 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

Tests	Diacetyl (µg/200 puffs)	Acetyl propionyl (µg/200 puffs)	Acetoin (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

Tests	Formaldehyde (µg/200 puffs)	Acetaldehyde (µg/200 puffs)	Acrolein (µg/200 puffs)
1	< 40	< 40	< 8
2	< 40	< 40	< 8

Table 4 : Results

Measured contents in emissions :

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

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	< 0,3	< 0,2	< 0,2	< 0,3	< 0,2
2	< 1	< 0,3	< 0,2	< 0,2	< 0,3	< 0,2

Table 5 : Results

Measured contents in emissions :

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

Trappes, 10 October 2016

Le Responsable de l'essai



Laurent DUTERTRE

The results mentioned only apply to samples, products and equipment submitted to LNE and as defined in this document.