

TEST REPORT

Applicant : JOYETECH (SHENZHEN) ELECTRONICS CO., LTD.
1F,9th Blvd,Changxing High Tech Industry Zone
Shajing Town
Baoan District
Shenzhen, China

Request date : *Quote signed 1 July 2016*

Subject : Analysis of e-cigarette emissions for notification purpose.

Sample identification : E-cigarette JK029
Resistance JC001

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 23/2016.

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

- **E-cigarette JK029**
 - Tank : 2 ml;
 - Air inflow adjustable.
- **Resistance JC001**
 - 0.5 Ω .
 - 15-30 W



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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 (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

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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 CETI8.

Tests were duplicated for each preparation between week 31 and 37/2016.

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	2,61*	14,2
	2,73	
	2,60*	
	4,18	
	2,09*	
2	2,50*	13,1
	3,35	
	2,73*	
	2,39	
	2,16*	

Table 2 : Results

* values used for determination of consistency of nicotine emission.

Measured content of nicotine (CAS# 54-11-5) in emission : $13,7 \pm 1,2$ mg/100 puffs

Under the conditions of the test, the electronic cigarette **JK029** with resistance **JC001** 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 ($\mu\text{g}/200$ puffs)	Acetyl propionyl ($\mu\text{g}/200$ puffs)	Acetoin ($\mu\text{g}/200$ puffs)
1	< 6	< 50	< 50
2	< 6	< 50	< 50

Table 3 : Results

Measured contents in emissions :

- diacetyl (CAS# 431-03-8) < 6 $\mu\text{g}/200$ puffs;
- acetyl propionyl (CAS# 600-14-6) < 50 $\mu\text{g}/200$ puffs;
- acetoin (CAS# 513-86-0) < 50 $\mu\text{g}/200$ puffs.

3.2.3 Determination of formaldehyde, acetaldehyde and acrolein contents in emissions

Tests	Formaldehyde ($\mu\text{g}/200$ puffs)	Acetaldehyde ($\mu\text{g}/200$ puffs)	Acrolein ($\mu\text{g}/200$ puffs)
1	< 40	217	11
2	< 40	269	11

Table 4 : Results

Measured contents in emissions :

- formaldehyde (CAS #50-00-0) < 40 $\mu\text{g}/200$ puffs;
- acetaldehyde (CAS #75-07-0) 243 ± 20 $\mu\text{g}/200$ puffs;
- acrolein (CAS #107-02-8) 11 ± 1 $\mu\text{g}/200$ 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	< 0,3	< 0,3	< 0,3
2	< 1	< 0,3	< 0,2	< 0,3	< 0,3	< 0,3

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) < 0,3 µg/200 puffs;
- lead (CAS #7439-92-1) < 0,3 µg/200 puffs;
- arsenic (CAS #7440-38-2) < 0,3 µg/200 puffs.

Trappes, 19 September 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.