



**CENTRE OF TESTING SERVICE  
INTERNATIONAL**

**OPERATE ACCORDING TO ISO/IEC 17025**

# **TEST REPORT**

**RoHS 2011/65/EU**

**Test Report Number : CNB3151012-04739-C**



**CTS (Ningbo) Testing Service Technology Co., Ltd.**

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## TEST REPORT

REPORT No. : CNB3151012-04739-C  
DATE : Oct. 28, 2015  
PAGE : 1 of 11

### Table of contents

<b>1</b>	<b>General Information</b>	<b>2</b>
1.1	Application Details	2
1.2	Manufacturer & Buyer	2
1.3	Description of the Test Item	2
<b>2</b>	<b>Test results</b>	<b>3</b>
2.1	Sample Receiving Date	3
2.2	Testing Period	3
2.3	Test Requested	3
2.4	Test Method	3
2.5	Chemical Test Method Flow Chart	4
2.6	Conclusion	5
2.7	Test Results	6
2.7.1	Test results of all parts by EDXRF and chemical confirmation	6
2.7.2	Test results by chemical analysis	9
<b>3</b>	<b>Sample Reference Photo</b>	<b>11</b>

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## TEST REPORT

REPORT No. : CNB3151012-04739-C  
DATE : Oct. 28, 2015  
PAGE : 2 of 11

### 1 General Information

#### 1.1 Application Details

Name : Ningbo Zhongdi Industry & Trade Co.,Ltd.  
Address : NO.247-257,Industry-Trading road, Jishigang Industry Development Area, Ningbo, China.  
Contact : MR.FEI  
Telephone : +86-574-88036108  
Fax : +86-574-88036107  
Mobile telephone : 13454716998  
Email : zdec@cnool.net

#### 1.2 Manufacturer & Buyer

Manufacturer name : Ningbo Zhongdi Industry & Trade Co.,Ltd.  
Address : NO.247-257,Industry-Trading road, Jishigang Industry Development Area, Ningbo, China.  
Contact : MR.FEI  
Telephone : +86-574-88036108  
Fax : +86-574-88036107  
Mobile telephone : 13454716998  
Email : zdec@cnool.net  
Buyer name : /

#### 1.3 Description of the Test Item

Sample name : HOT AIR GUN  
Model No. : ZD-508  
ZD-509, ZD-510  
Brand name : /  
Condition of sample(s) : EFFECTIVE

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## TEST REPORT

REPORT No. : CNB3151012-04739-C  
DATE : Oct. 28, 2015  
PAGE : 3 of 11

### 2 Test results

#### 2.1 Sample Receiving Date

Oct. 12, 2015

#### 2.2 Testing Period

Oct. 12, 2015 to Oct. 27, 2015

#### 2.3 Test Requested

In accordance with the RoHS Directive 2011/65/EU Annex II.

#### 2.4 Test Method

1. X-Ray Fluorescence Spectrometry method in reference to IEC 62321-3-1:2013.
2. Chemical test method

Test Item(s)	Test Method	Test Instrument
Lead (Pb)	With reference to IEC 62321-5:2013	ICP-AES
Cadmium (Cd)	With reference to IEC 62321-5:2013	ICP-AES
Mercury (Hg)	With reference to IEC 62321-4:2013	ICP-AES
Chromium VI (Cr VI)	With reference to IEC 62321:2008	UV-Vis
PBBs	With reference to IEC 62321:2008	GC-MS
PBDEs		

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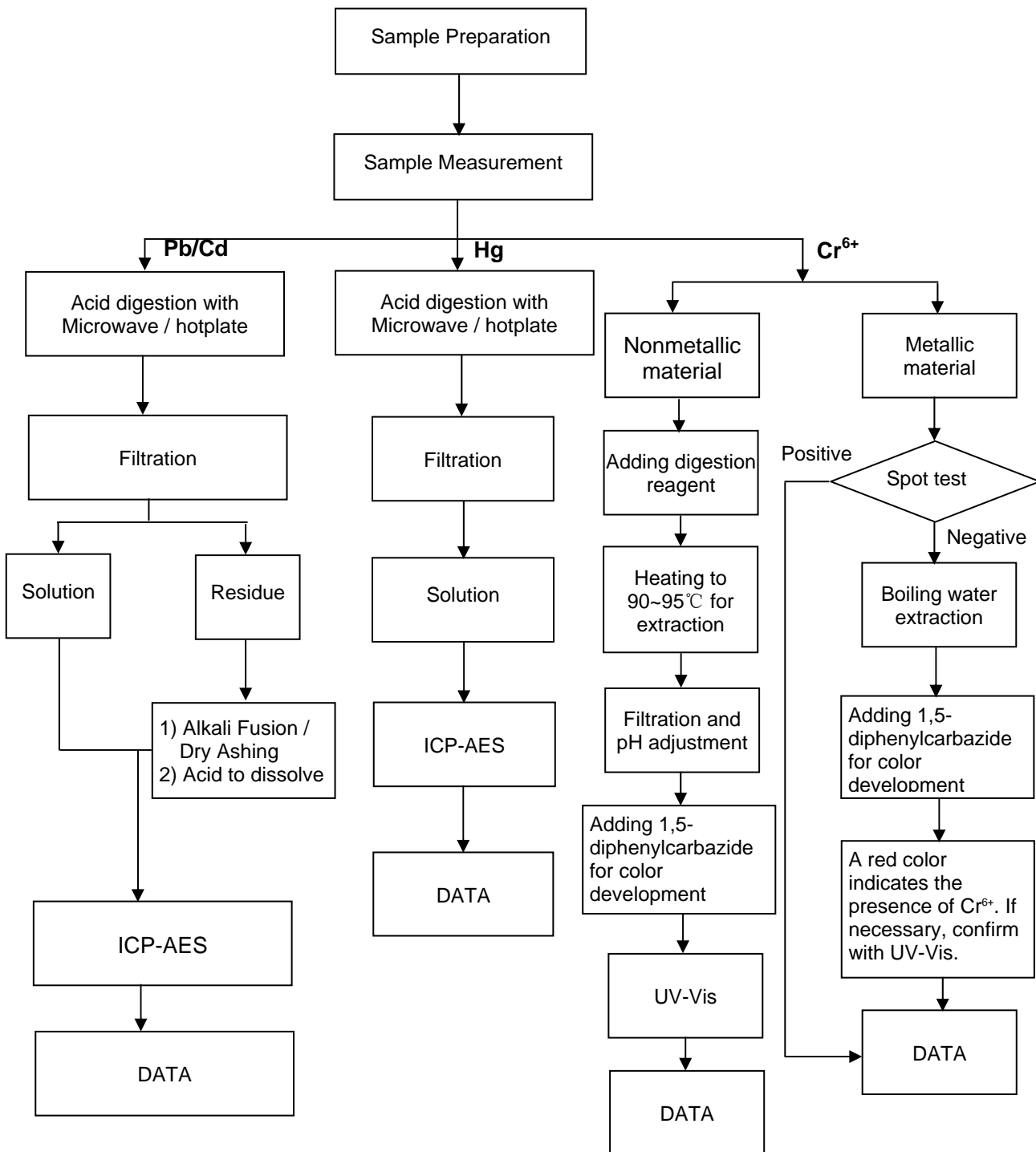
E-mail: cts@cts-lab.com

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## TEST REPORT

REPORT No. : CNB3151012-04739-C  
 DATE : Oct. 28, 2015  
 PAGE : 4 of 11

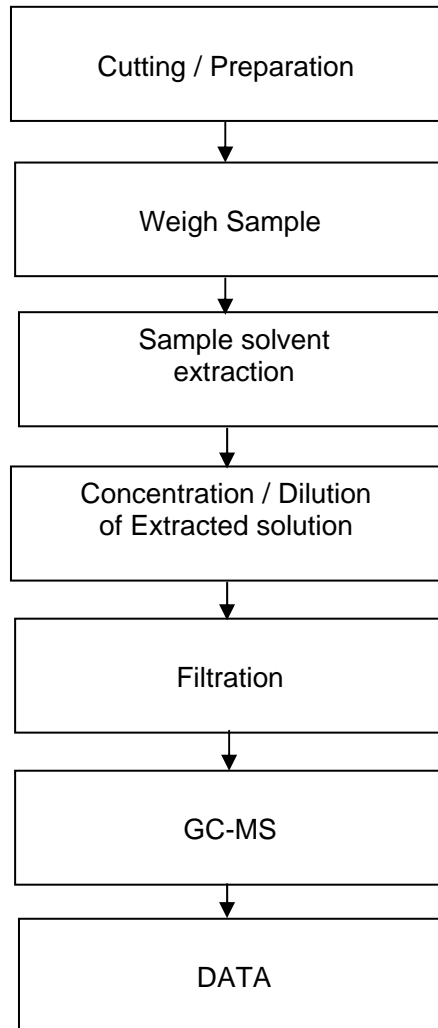
### 2.5 Chemical Test Method Flow Chart



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**TEST REPORT**

REPORT No. : CNB3151012-04739-C  
DATE : Oct. 28, 2015  
PAGE : 5 of 11

**PBBs / PBDEs****2.6 Conclusion**

Based on the performed tests on submitted samples, the results of Lead, Cadmium, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

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## TEST REPORT

REPORT No. : CNB3151012-04739-C  
 DATE : Oct. 28, 2015  
 PAGE : 6 of 11

### 2.7 Test Results

#### 2.7.1 Test results of all parts by EDXRF and chemical confirmation

No.	Sample Description	Results					Chemical Confirmation Result (Unit=mg/kg)	
		Pb	Cd	Hg	Cr	Br		
1	Black plastic cover	P	P	P	P	P	/	
2	Blue plastic cover	P	P	P	P	P	/	
3	Silvery metal cover	P	P	P	P	/	/	
4	CE sticker	P	P	P	P	P	/	
5	Sticker with printing	P	P	P	P	P	/	
6	White coating	P	P	P	P	P	/	
7	Black plastic button	P	P	P	P	P	/	
8	Silvery metal gasket	P	P	P	P	/	/	
9	Silvery metal hexagonal nut	P	P	P	P	/	/	
10	Silvery metal flat screw	P	P	P	P	/	/	
11	Self tapping screw	P	P	P	P	/	/	
12	Black pyrocondensation tube	P	P	P	P	P	/	
13	Power wire with plug	Silvery plug pole	X	P	P	P	/	Pb: 2.4x10 <sup>4*</sup>
14		White plastic frame	P	P	P	P	X	PBBs: N.D. PBDEs: N.D.
15		Black plug material	P	P	P	P	P	/
16		Black jacket	P	P	P	P	P	/
17		Coffee cable jacket	P	P	P	P	P	/
18		Blue cable jacket	P	P	P	P	P	/
19	Power wire with plug	Yellow green cable jacket	P	P	P	P	P	/
20		Copper-colored wire	P	P	P	P	/	/
21	Blue fiberglass sleeve	P	P	P	P	P	/	
22	Red fiberglass sleeve	P	P	P	P	P	/	
23	White fiberglass sleeve	P	P	P	P	P	/	
24	Blue cable jacket	P	P	P	P	P	/	

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## TEST REPORT

REPORT No. : CNB3151012-04739-C  
 DATE : Oct. 28, 2015  
 PAGE : 7 of 11

No.	Sample Description		Results					Chemical Confirmation Result (Unit=mg/kg)
			Pb	Cd	Hg	Cr	Br	
25	Yellow cable jacket		P	P	P	P	P	/
26	Gray cable jacket		P	P	P	P	P	/
27	White cable jacket		P	P	P	P	P	/
28	Copper-colored wire		P	P	P	P	/	/
29	Silvery wire		P	P	P	P	/	/
30	Silver-grey paperboard		P	P	P	P	P	/
31	Leaden spring		P	P	P	P	/	/
32	Rectifier diode	Black solid with silvery printing body	P	P	P	P	X	PBBs: N.D. PBDEs: N.D.
33		Pin	P	P	P	P	/	/
34	Ship-shaped switch	Black plastic cover	P	P	P	P	P	/
35		Silver-white pole	P	P	P	P	/	/
36		Spring	P	P	P	P	/	/
37		Silver-white contact bridge	P	P	P	P	/	/
38	Motor	Black plastic back cover	P	P	P	P	X	PBBs: N.D. PBDEs: N.D.
39		Copper-colored limit bearing	P	P	P	P	/	/
40		U-shaped spring	P	P	P	P	P	/
41		Magnet	P	P	P	P	P	/
42		Leaden metal cover	P	P	P	P	/	/
43		Enamelled wire	P	P	P	P	P	/
44		Silvery metal shaft	P	P	P	P	/	/
45		Copper-colored metal brush piece	P	P	P	P	/	/
46		Copper-colored metal wafer of commutator	P	P	P	P	/	/
47		Laminations	P	P	P	P	/	/
48		Red washer	P	P	P	P	P	/
49		Black washer	P	P	P	P	P	/
50		White plastic fan blade	P	P	P	P	P	/
51	Copper-colored metal rivet		P	P	P	P	/	/

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## TEST REPORT

REPORT No. : CNB3151012-04739-C  
 DATE : Oct. 28, 2015  
 PAGE : 8 of 11

No.	Sample Description	Results					Chemical Confirmation Result (Unit=mg/kg)
		Pb	Cd	Hg	Cr	Br	
52	Semi-transparent plastic	P	P	P	P	P	/
53	Mica plate	P	P	P	P	P	/
54	Orange ceramic	P	P	P	P	P	/
55	Black soft plastic sleeve	P	P	P	P	P	/

Note : P = Below Limit (Pass)  
 F = Over Limit (Fail)  
 X = Inconclusive  
 N.D. = not detected (less than MDL)  
 1mg/kg=1ppm=0.0001%  
 Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;  
 (The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed)  
 Boiling-water-extraction:  
 Negative = Absence of CrVI coating  
 Positive = Presence of CrVI coating; The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50cm<sup>2</sup> sample surface area.

Remarks:

(1) Results are obtained by EDXRF for primary screening, and further chemical testing is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013.

Element	Polymer Materials	Metallic Materials	Electronic Materials
Pb	P ≤ 500 < X < 1300 ≤ F	P ≤ 500 < X < 1300 ≤ F	P ≤ 500 < X < 1300 ≤ F
Cd	P ≤ 50 < X < 130 ≤ F	P ≤ 50 < X < 130 ≤ F	X < 130 ≤ F
Hg	P ≤ 500 < X < 1300 ≤ F	P ≤ 500 < X < 1300 ≤ F	P ≤ 500 < X < 1300 ≤ F
Cr	P ≤ 700 < X	P ≤ 700 < X	P ≤ 500 < X
Br	P ≤ 250 < X	/	P ≤ 250 < X

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## TEST REPORT

REPORT No. : CNB3151012-04739-C  
 DATE : Oct. 28, 2015  
 PAGE : 9 of 11

(2) Chemical Confirmation Result acceptable Limit:

Test items	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium (CrVI)	PBBs	PBDEs
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Acceptable Limit	1000	100	1000	1000	1000	1000

### 2.7.2 Test results by chemical analysis

Test items	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium (CrVI)	PBBs	PBDEs
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Acceptable Limit	1000	100	1000	1000	1000	1000
56 Soldering tin and solder	51	N.D.	N.D.	Negative	N.A.	N.A.

- Note :
- Specimens, which requested to determine Cadmium, Mercury and Lead content, have been dissolved completely.
  - N.D. = not detected (less than MDL)
  - N.A. = not applicable
  - 1 mg/kg=1 ppm=0.0001%
  - Spot –test:**  
 Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;  
 (The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed)  
**Boiling-water-extraction:**  
 Negative = Absence of CrVI coating  
 Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50cm<sup>2</sup> sample surface area.
  - Positive** indicates the presence of CrVI on the tested areas and result be regarded as conflict with RoHS requirement.  
**Negative** indicates the absence of CrVI on the tested areas and result be regarded as no conflict with RoHS requirement.
  - \* According to the declaration from client, the source of lead in the sample could be from the copper alloy material. Lead as a copper alloy containing which is under 4% (40000ppm) is exempted from the requirement of RoHS Directive (2011/65/EU Annex III).

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## TEST REPORT

REPORT No. : CNB3151012-04739-C  
DATE : Oct. 28, 2015  
PAGE : 10 of 11

8. The method detect limit for each hazardous substances, and determined individual PBBs and individual PBDEs are:

Method Detect Limit in mg/kg		
Heavy Metals	Lead (Pb)	2
	Cadmium (Cd)	2
	Mercury (Hg)	2
	Chromium (CrVI)	2
PBBs	Monobromobiphenyl	5
	Dibromobiphenyl	5
	Tibromobiphenyl	5
	Tetrabromobiphenyl	5
	Pentabromobiphenyl	5
	Hexabromobiphenyl	5
	Heptabromobiphenyl	5
	Octabromobiphenyl	5
	Nonabromodiphenyl	5
	Decabromodiphenyl	5
PBDEs	Monobromodiphenyl ether	5
	Dibromodiphenyl ether	5
	Tibromodiphenyl ether	5
	Tetrabromodiphenyl ether	5
	Pentabromodiphenyl ether	5
	Hexabromodiphenyl ether	5
	Heptabromodiphenyl ether	5
	Octabromodiphenyl ether	5
	Nonabromodiphenyl ether	5
Decabromodiphenyl ether	5	

Written by: *Jessie*

Inspected by: *Suzei*

Approved by: *Jan*



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

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## TEST REPORT

REPORT No. : CNB3151012-04739-C  
DATE : Oct. 28, 2015  
PAGE : 11 of 11

### 3 Sample Reference Photo



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